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Financing housing property in an inflationary environment

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A. The problem

B. Booming housing markets and differing inflation rates in „Euroland“

C. Insufficient saving activity and balance of payments inequilibria

D. Asymmetric impacts of the common monetary policy

E. Summary

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A. The problem

Central issues

1.) How have the real estate markets within the Euro system developed, taking into account differing inflation rates?

2.) How could real estate investments be funded, given insufficient saving activities in parts?

3.) To which extent was the common monetary policy of the European Central Bank responsible for this?

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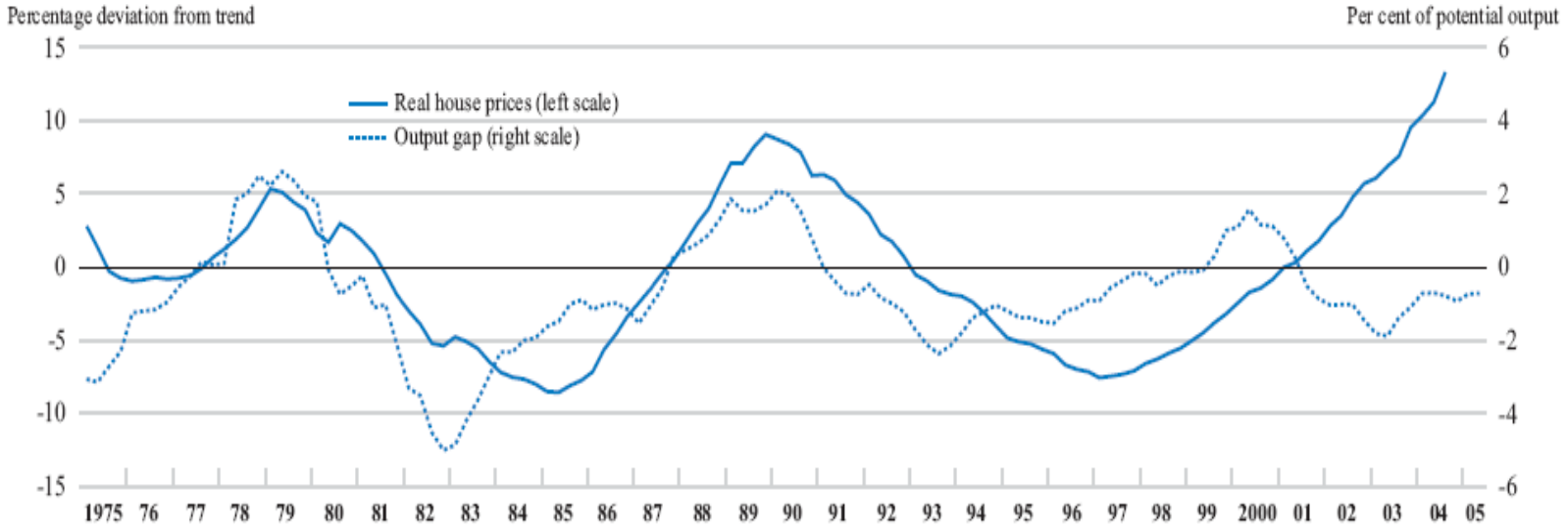
B. Booming housing markets and differing in inflation rates in „Euroland“

I. Booming housing markets

a) The development of house prices in the member states of the EURO system

Figure 1:



Note: Real house prices have been detrended using a linear trend. The OECD aggregate has been computed using GDP weights in 2000 in purchasing power parities.
Source: OECD Economic Outlook 78 database and OECD calculations.

Source: OECD Economic Outlook 78, p. 126

b) Different market developments

Table 1:	1999 bis 2005 (kumuliert)	2001	2002	2003	2004	2005
Belgium	64,2	6,7	7,7	6,1	10,7	17,2
Germany	- 4,3	0,2	- 1,2	- 1,3	- 1,5	- 1,6
Finland	41,5	0,7	6,1	6,3	7,3	6,1
France	74,3	7,9	8,3	11,7	15,2	15,3
Greece	55,3	14,5	13,0	5,7	2,6	...
Ireland	93,0	8,1	10,1	15,2	11,4	11,5
Italy	59,9	8,4	9,8	10,2	10,3	8,1
Luxemburg	64,3	13,8	11,7	12,9	10,0	...
Netherlands	66,4	11,2	8,5	5,0	4,2	4,8
Austria	2,6	2,1	0,2	0,3	- 2,1	5,2
Portual	21,1	3,6	1,1	1,6	0,4	...
Spain	90,8	9,9	15,7	17,6	17,4	13,9
Euro countries	**44,7**	**5,8**	**6,8**	**6,8**	**7,2**	**7,7**

Source: ECB, 2006, p. 56

- ⇨ „Bubbles“ in
  Spain, Ireland, Greece
- ⇨ Boom in
  France, Belgium, Luxemburg and the Netherlands
- ⇨ Stagnation in
  Germany, Austria, Portugal

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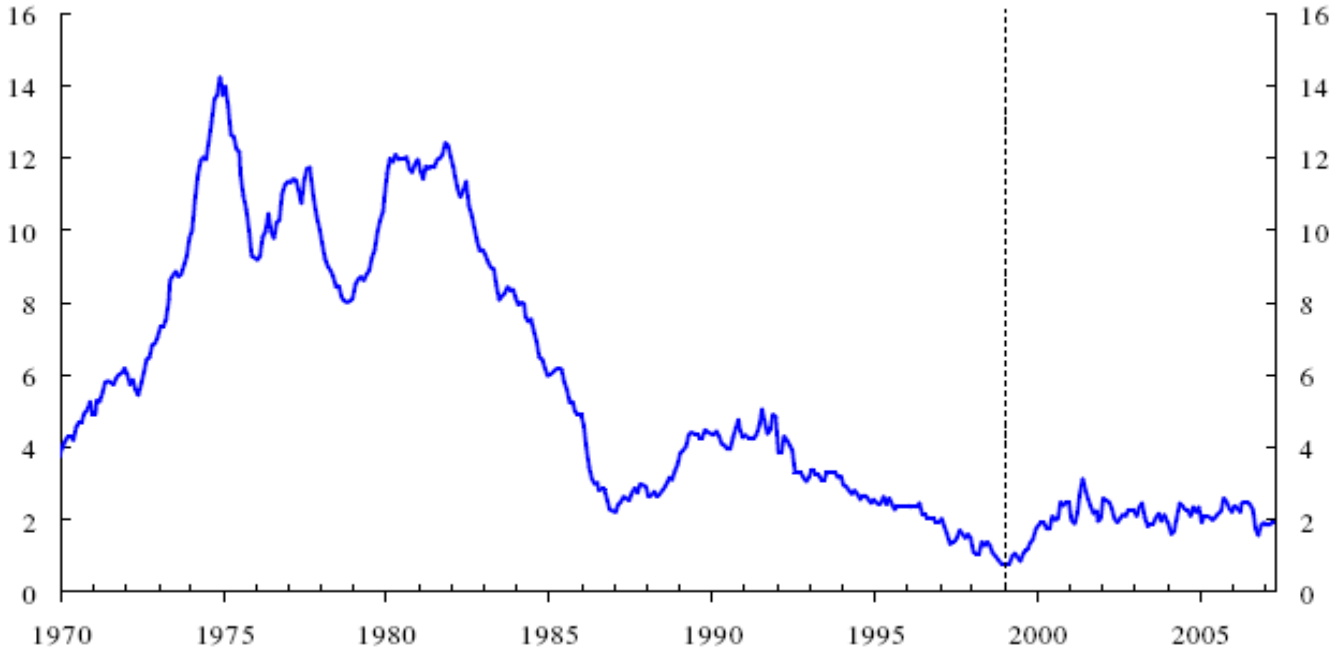
II. Convergence und divergence of inflations rates

a) Development of the inflation rate in the EURO system (HVPI), change year-over-year*

Figure 2:



Sources: BIZ, Eurostat and ECB calculations **) harmonized consumer price index*

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Inflation and inflation volatility

Table 2:

	Inflation rate	Volatility
	Annual average (in %)	Percentage points
1970ies	8.1	2.4
1980ies	6.4	3.6
1990-1998	2.8	1.1
1999-2006	2.0	0.5

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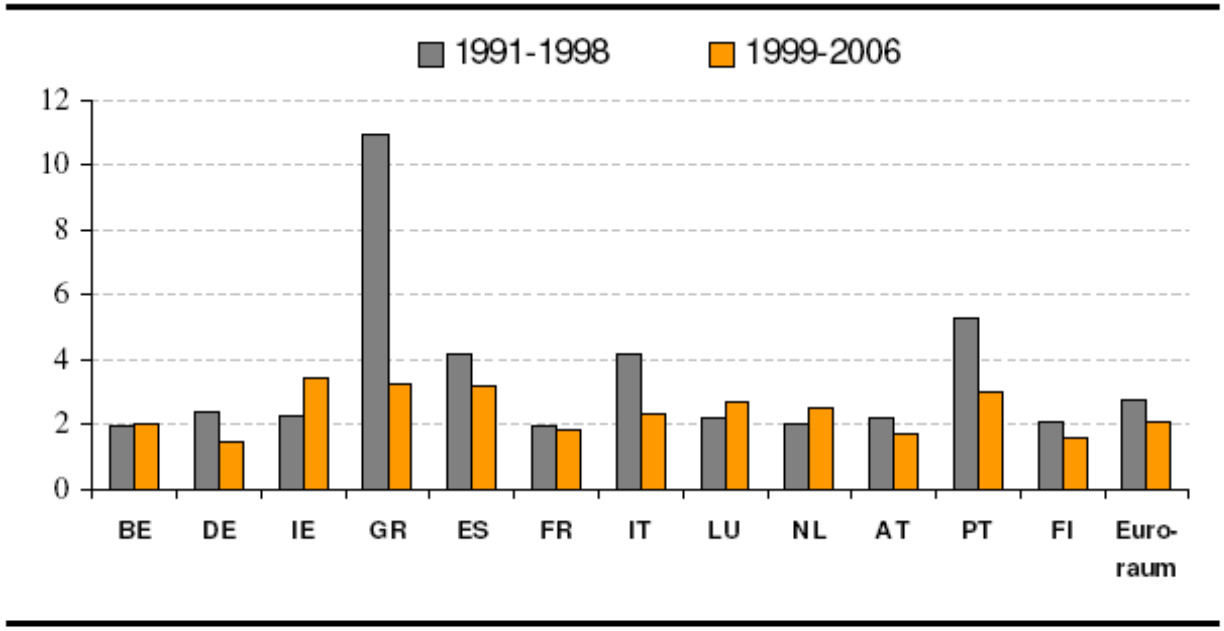
b) The development of the inflation rates in different member states (average change year-over-year)

Figure 3:



Sources: Eurostat and ECB calculations

Note: harmonized consumer price index for Belgium from 1992, for Germany from 1996, for Ireland and Greece from 1995, for Spain from 1993 and for Luxemburg from 1996. Formerly consumer price index.

⇨ Inflation rates above average in:
Spain, Ireland, Greece, Portugal

⇨ Inflation rates below average in :
Germany, Austria, France, Finland

c) Changed manifestation of inflation

⇨ From consumer price inflation to asset price inflation

⇨ Real estate prices respond more vigorously than stock prices and have a more lasting effect on economic activity

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III. Real estate prices, mortgages and growth in the money supply

a) Growth in the money supply as cause or consequence of house price inflation?

— First hypothesis: growth in the money supply pushes real estate prices

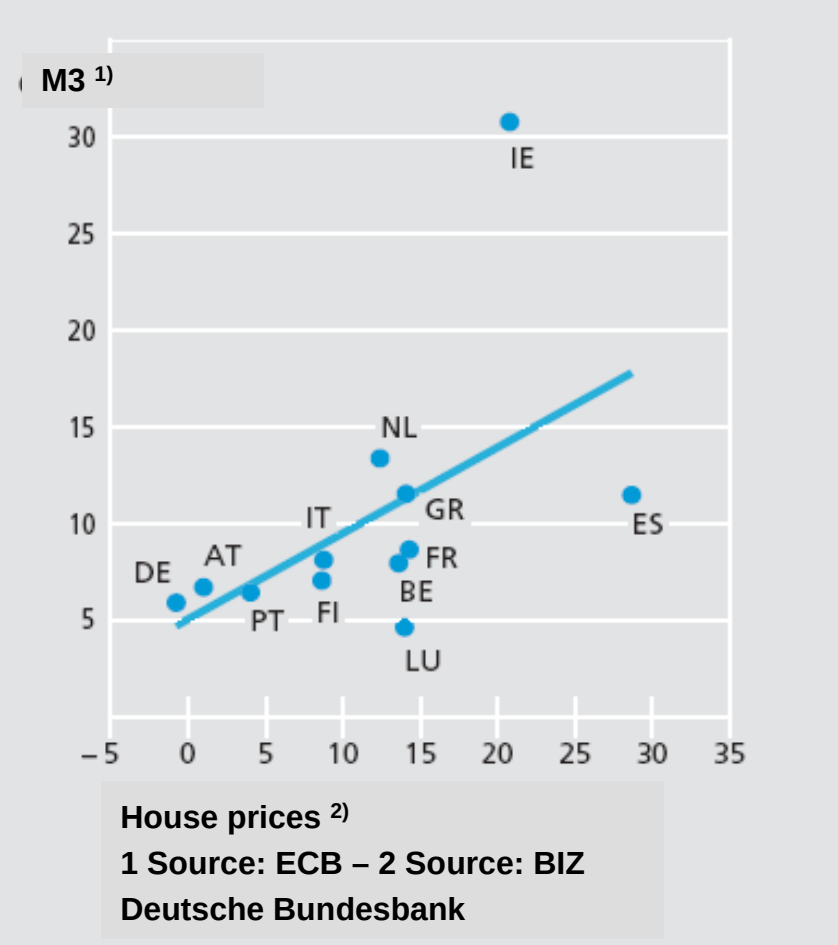
$$wM_3 > w(Y/P) \rightarrow N_{im} \rightarrow \dot{P}_{im}$$

— Second hypothesis: Real estate demand pushes growth in the money supply

$$wN_{im} \uparrow \rightarrow wKr \uparrow \rightarrow wM_3 \uparrow$$

b) Empirical correlation in the EURO system

Figure 4a:



Source: Deutsche Bundesbank
Monthly report July 2007, p. 22

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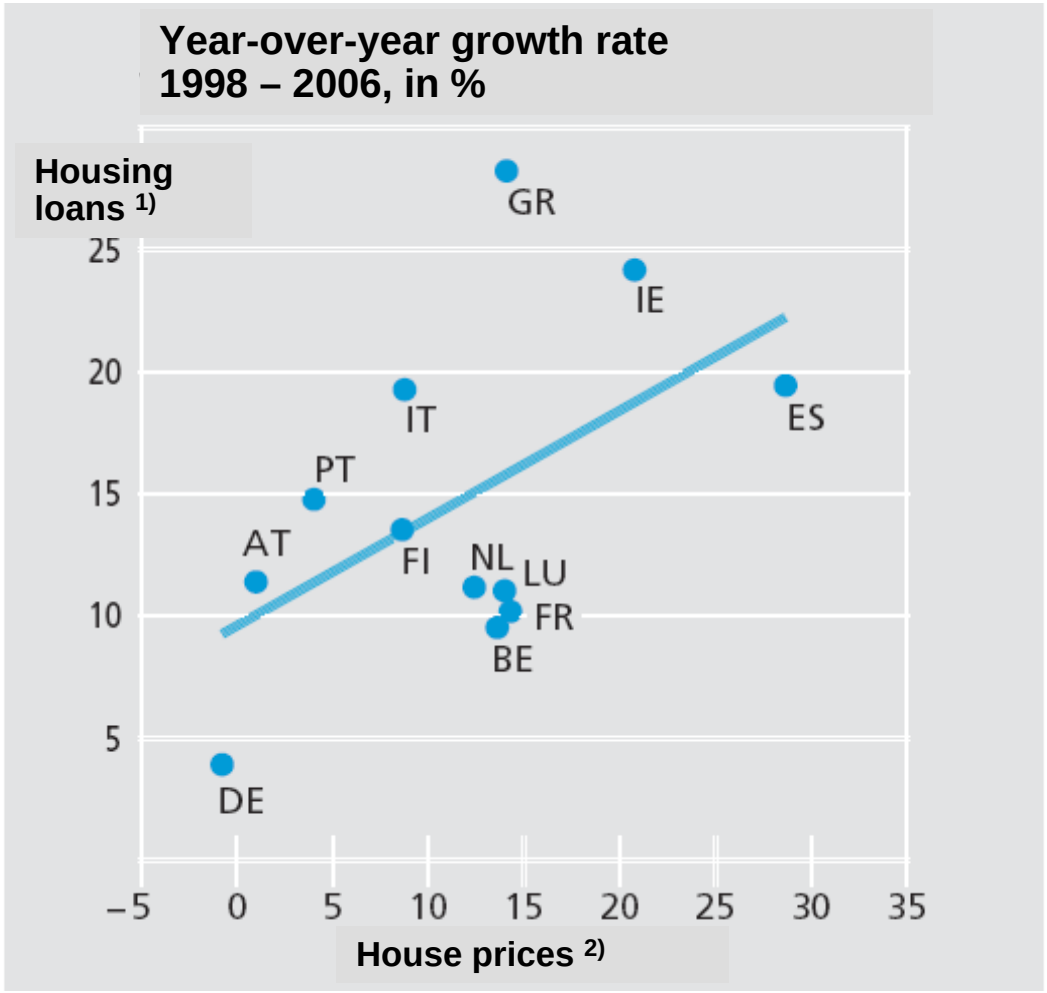
Figure 4b:



Source: Deutsche Bundesbank
Monthly report July 2007, p. 22

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c) Global empirical correlation

➔ **over-production of „High powered money“**

- **in the USA (national debt)**
- **in China (by the Central Bank purchasing foreign currency)**

C. Insufficient saving activity and current account imbalances

I. Relation between investment, savings and trade balance

GDP (Y) = consumption (C) + investments (I) + $\underbrace{Exp - \mathrm{Im}}$

Trade balance (AB)

$$Y = C + I + AB$$

$$Y - C - AB = \text{S (Savings)}$$

⇨ $\boxed{S = I + AB}$

⇨ $\boxed{S - I = AB}$

If $S > I \rightarrow AB$ *positive*

⇨ Balance of payments surplus (current account balance)

If $S < I \rightarrow AB$ *negative*

⇨ Balance of payments deficit (current account balance)

II. Correlation between net balances of payments

Current account balance (goods and services)	Exports	Imports
Capital account (credits and direct investments)	Capital imports	Capital exports
Foreign exchange account (gold and foreign exchange of the central bank)	Foreign exchange currency imports	Foreign exchange currency exports

In total, the balance of payments is always in equilibrium!

Trade balance (AB - net) of the current account balance

= net capital account + net foreign exchange account

If the net foreign exchange account = O, the following applies :

AB = capital imports – capital exports

AB = S – I = C exp – C imp

If S > I → Exp > Imp → C exp > C imp

→ <u>Domestic savings premium to fund savings abroad</u>

(abroad, investments exceed savings)

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If S < I → Exp < Imp → C exp < C imp

→ Foreign savings premium to fund domestic savings

(domestic investments exceed savings)

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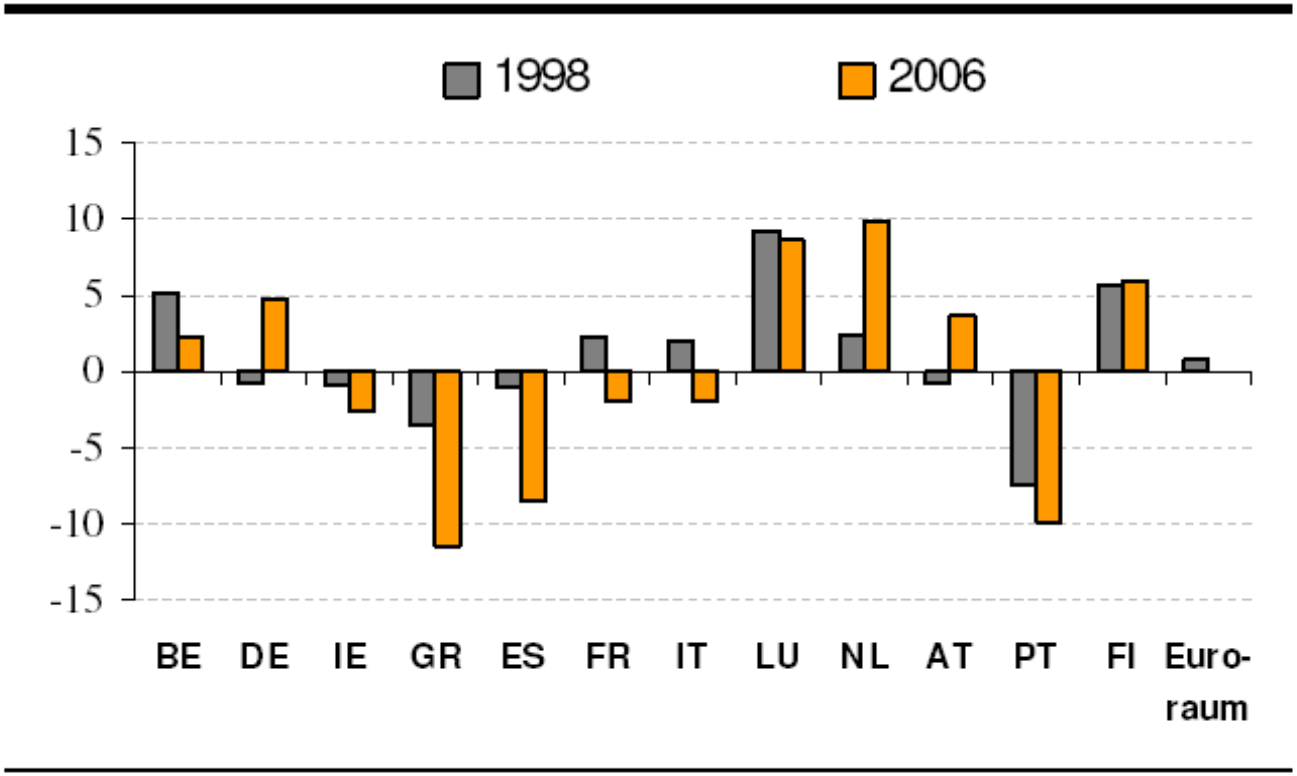
III. Net current account balances of the EURO member states

Figure 5:



Sources: Eurostat, European Commission

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1st thesis: Because of the fixed nominal exchange rates (single currency) in the EURO system, the imbalances in the account of payments have increased.

2nd thesis: Member states with a booming real estate market had negative trade balances, i.e. the domestic savings were not sufficient to fund investments.

3rd thesis: The real estate boom in some member states of the EURO system was funded by a positive trade balance or capital exports of other member states.

D. Asymmetric impacts of the common monetary policy within the EURO system

I. Different real interest rates

a) Relation between nominal and real interest rates and inflation

— **ex ante:**

nominal interest rate = real interest rate + expected inflation rate

⇨ **within the EURO system, nominal interest rates are identical**

⇨ **national inflation rates differ**

— **ex post:**

national real interest rate = nominal interest rate – national inflation rate

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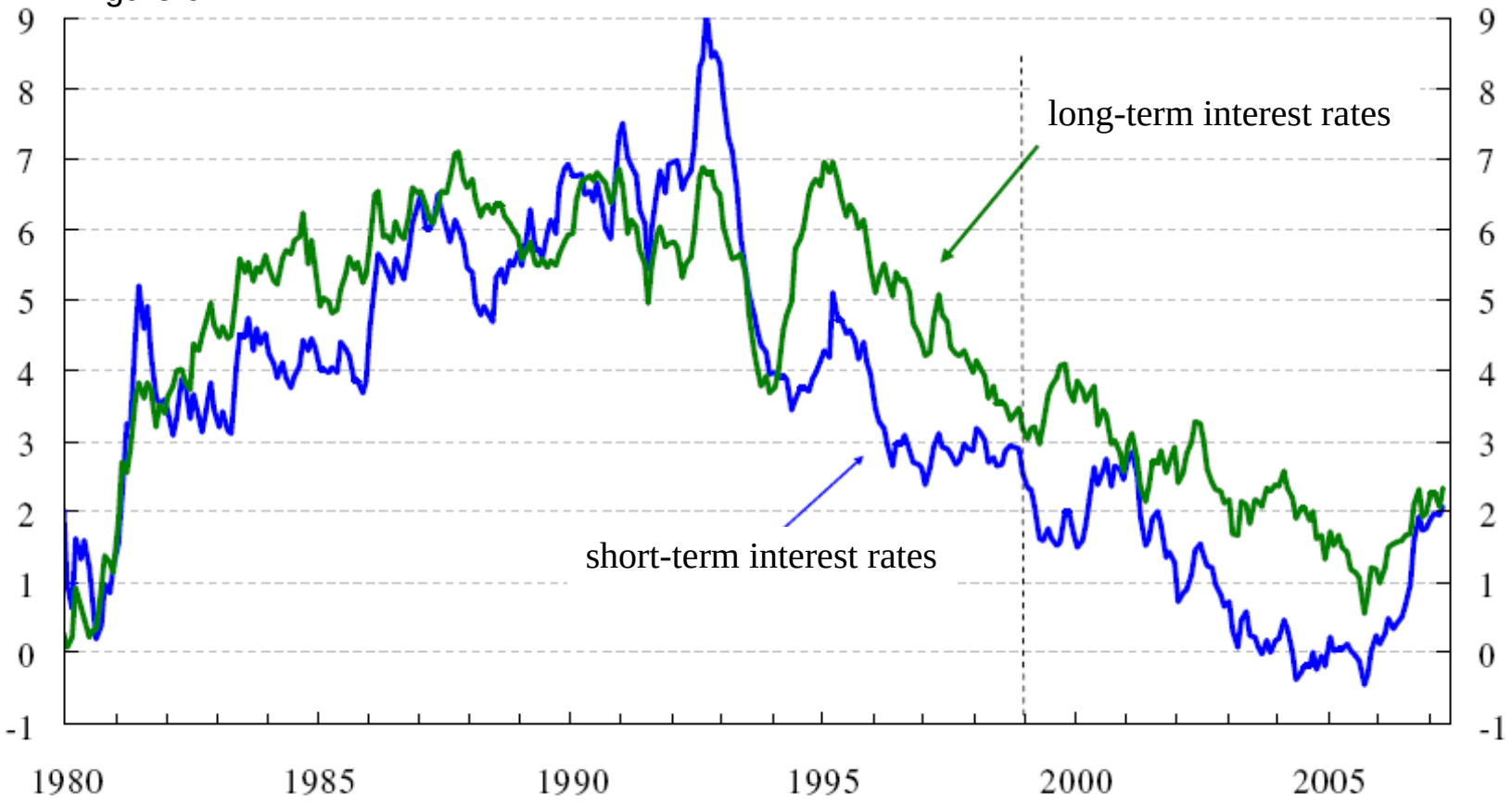
b) Real interest rates within the EURO system

Figure 6:



Sources: NZB, Global Financial Data, BIZ, Reuters, ECB

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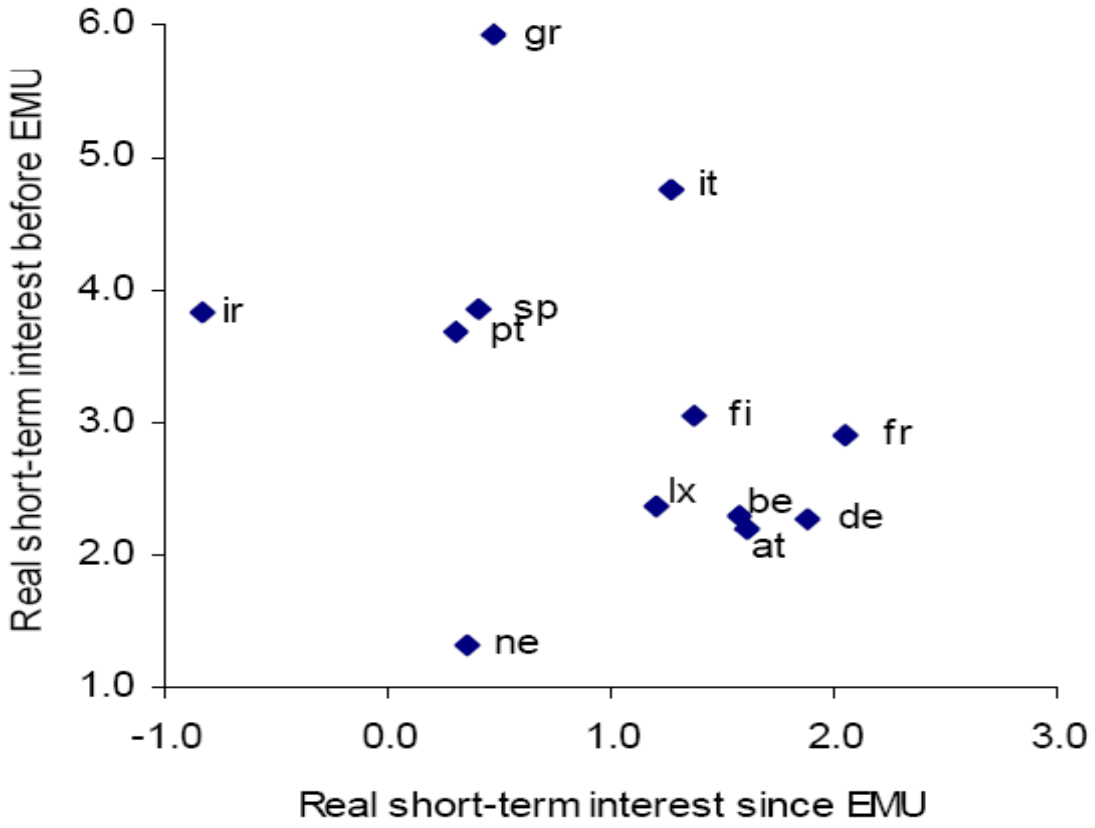
c) Real interest rates in the member states before and after the introduction of the EURO system

Figure 7:



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Thesis: In countries with booming real estate markets, real interest rates were lowest, because the inflation rate in those countries was highest.

Thesis: Within the EURO system, the stabilizing effect of interest rate variations is disturbed because of the unified nominal interest rates.

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II. The dilemma of monetary policy

a) Burden of inflation versus unemployment?

b) Employment versus foreign trade imbalance?

c) Prime rate cut or prime rate increase?

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E. Summary

→ **In countries with a booming real estate market, the inflation rate was higher.**

→ **In these cases, the consumer prices inflation turned into a property price inflation.**

→ **The insufficient saving activity in countries with booming real estate markets was compensated by capital imports from countries with current account surplus and low domestic inflation rates.**

→ **The common monetary policy resulted in unified nominal interest rates, but – due to differing national inflation rates – different real interest rates.**

→ **Currently, the monetary policy of the ECB is faced with a dilemma between the stabilization of monetary value and the necessity to secure employment.**