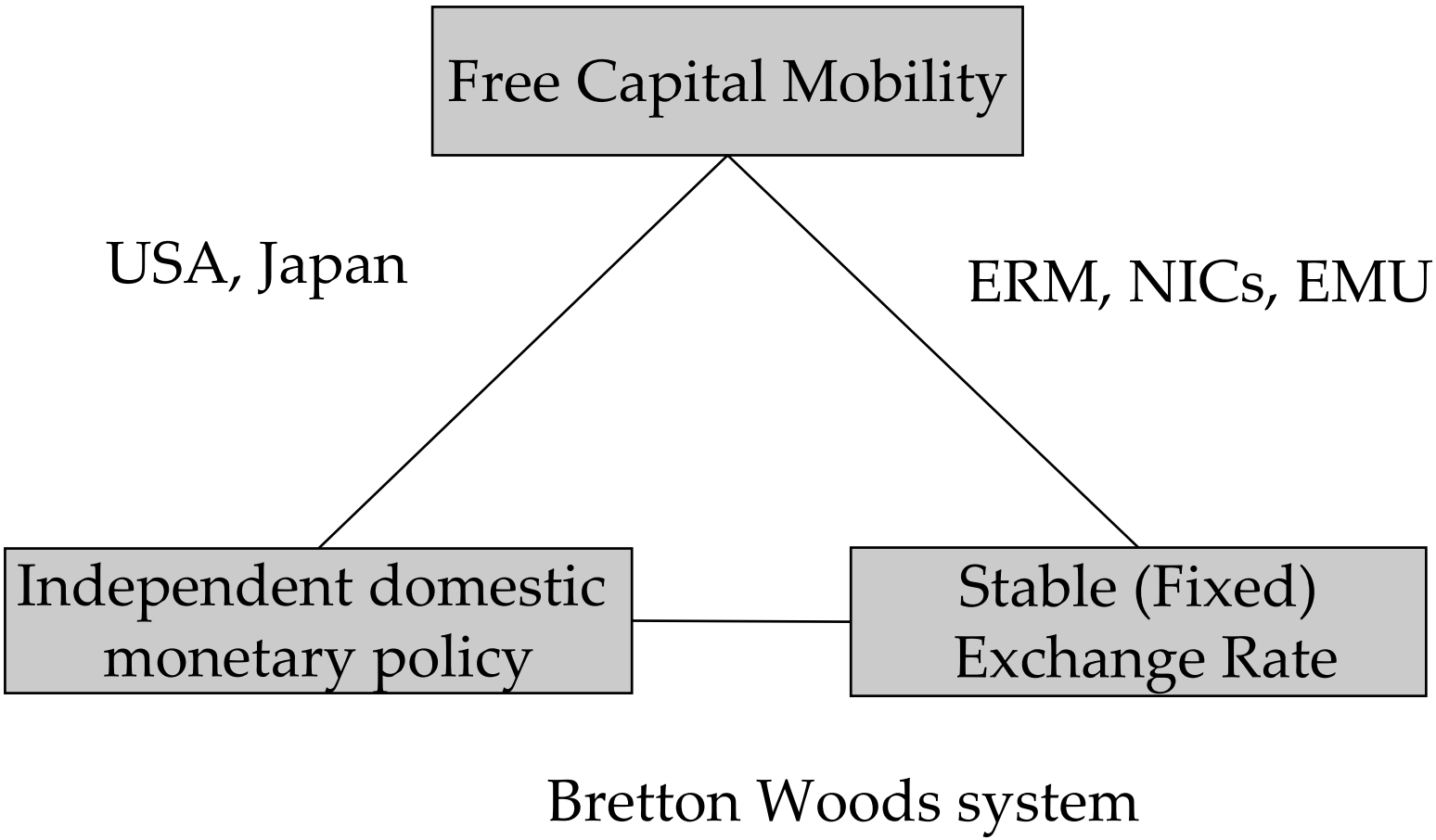
OECD III:
EMU

Gavin Cameron
Lady Margaret Hall

Michaelmas Term 2004

the Trinity


Free Capital Mobility
USA, Japan
ERM, NICs, EMU
Independent domestic monetary policy
Stable (Fixed) Exchange Rate
Bretton Woods system

optimal currency areas

- An optimal currency area (OCA) should have the following characteristics:
  - Lots of trade within the area;
  - Similar industrial structures, housing and financial markets;
  - Symmetric shocks;
  - Flexible labour markets (i.e. when wages change, labour relocates);
  - Fiscal federalism (i.e. fiscal transfers to depressed regions);
  - Similar monetary transmission mechanisms.

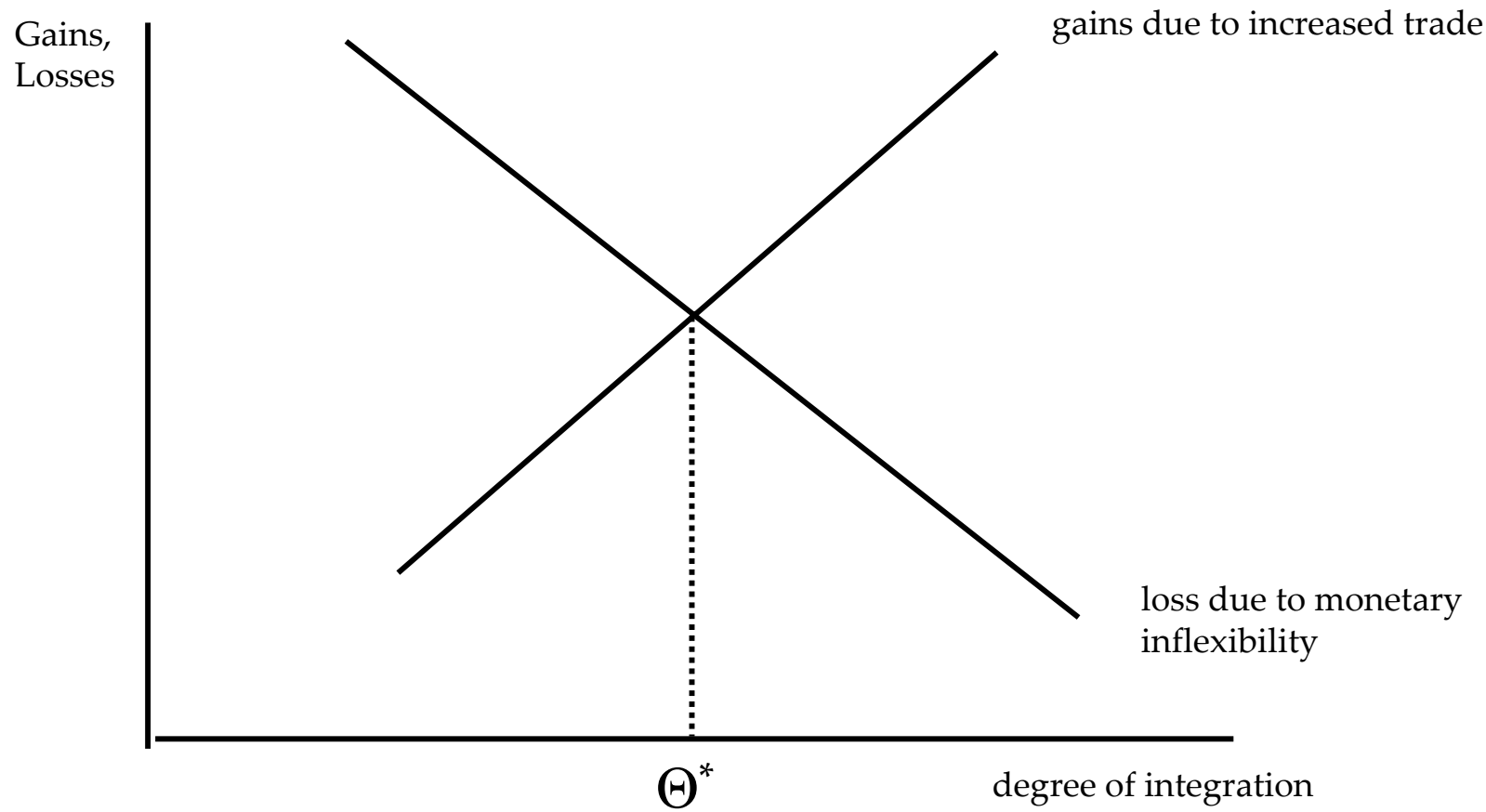
benefits of EMU

- Direct and Indirect Trade Effects
  - Lower transactions costs;
  - Less uncertainty in trade;
  - Price transparency; less segmentation of markets;
  - Capital market integration;
  - Economies of scale due to larger market size.
- Macroeconomic Benefits
  - No overshooting;
  - Commitment to Euroland inflation rate;
  - Seignorage.

costs of EMU

- Loss of monetary independence: cannot use exchange rate to offset region-specific shocks;
- ECB anti-inflationary credentials unknown (asymmetric target, no transparency of decision making, Stability Pact);
- 'One size fits all' monetary policy inappropriate for different industrial structures and financial systems;
- Countries may differ in their preferences and relationship between inflation and unemployment.
- In the long-run, *endogenous convergence* may make these factors less important (but cf. with Krugman's argument that Europe will become more specialized).

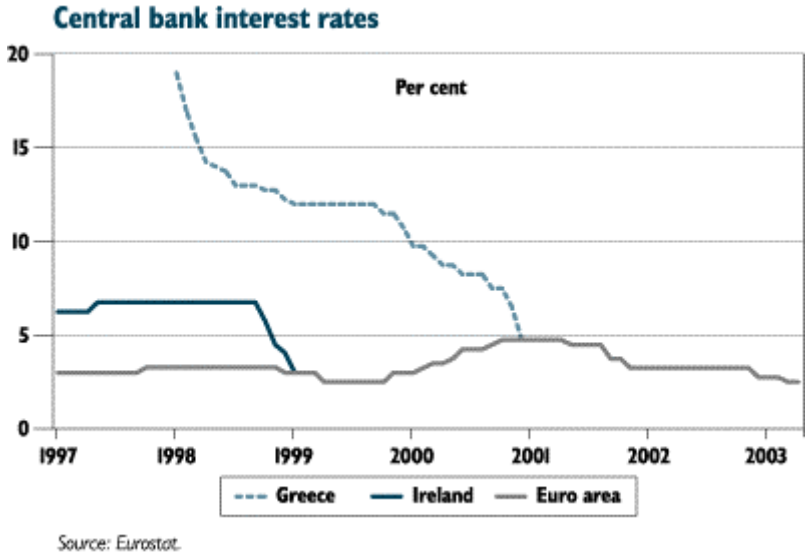
gains & losses from single currency

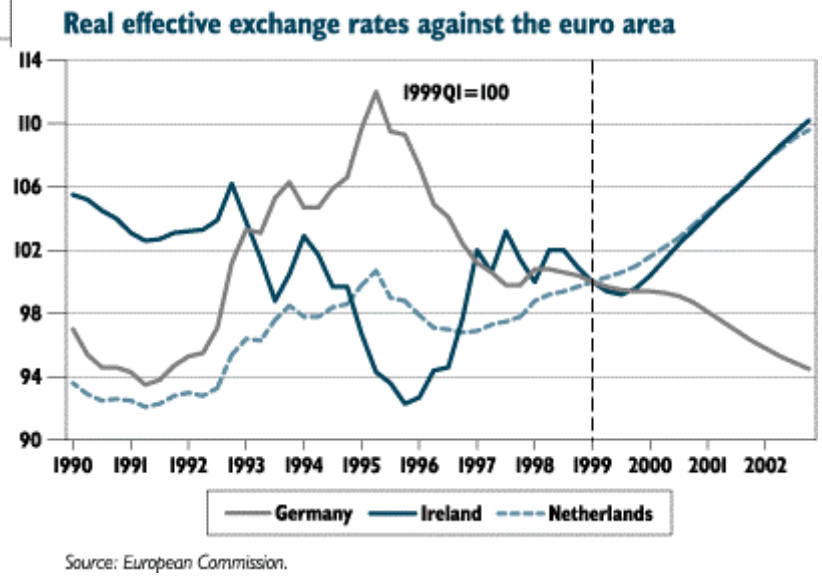


the development of EMU

- April 1972: The Snake.
  - 6 EC founders plus UK, Ireland, Denmark, Norway agreed to keep within ±2¼% bands. Sterling left in June 1972, Italy in February 1973.
- March 1979: EMS.
  - Core countries used ±2¼% bands while Italy, Ireland, Spain, Portugal, UK had 6%.
  - No realignments after January 1987; phased reduction of capital controls;
- September 1992: Crisis.
  - Stress caused by misalignments of Italy, UK and Germany.
- August 1993: Wide bands.
  - All EMS bands widened to ±15% except DM: Guilder.
- November 1993: Maastricht Treaty.
  - Convergence conditions: ERM membership, inflation rate (<1.5% higher than best 3), public debt <60%, public deficit <3%.
- January 1999: EMU.
- January 2002: Euro notes and coins in circulation.

transitions to EMU I

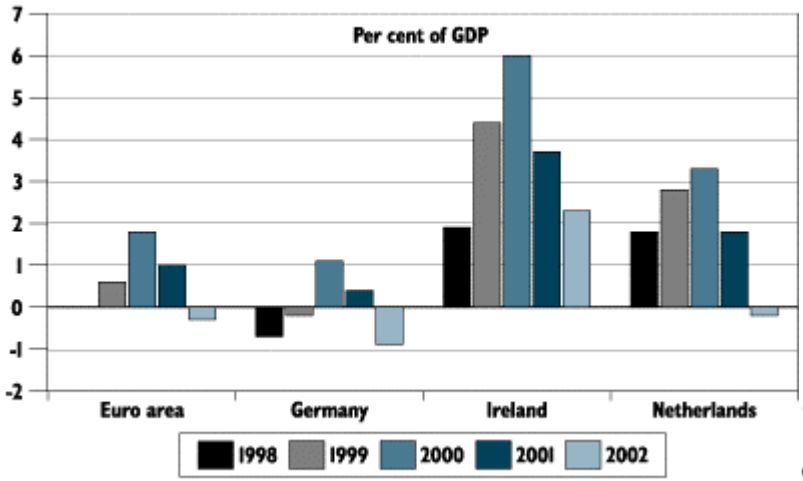




Source: H.M.Treasury EMU Studies, 2004.

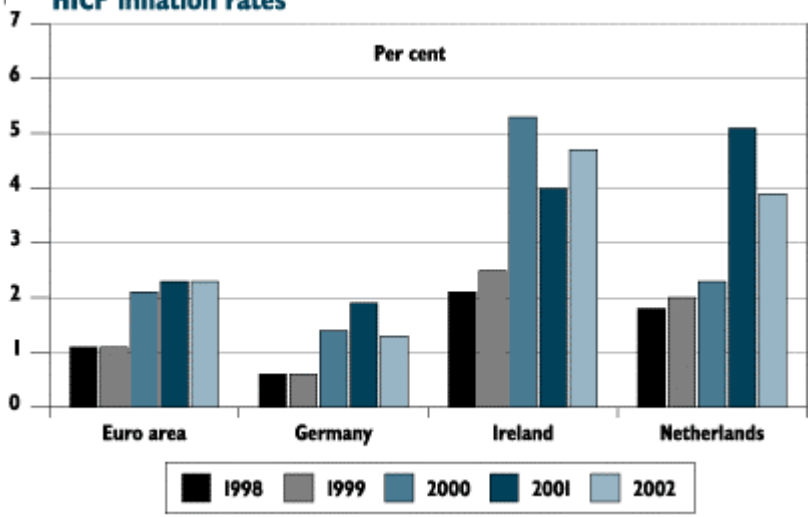
transitions to EMU II

Output gaps



Source: European Commission, spring 2003 estimates.

HICP inflation rates



Source: Eurostat.

Source: H.M.Treasury EMU Studies, 2004.

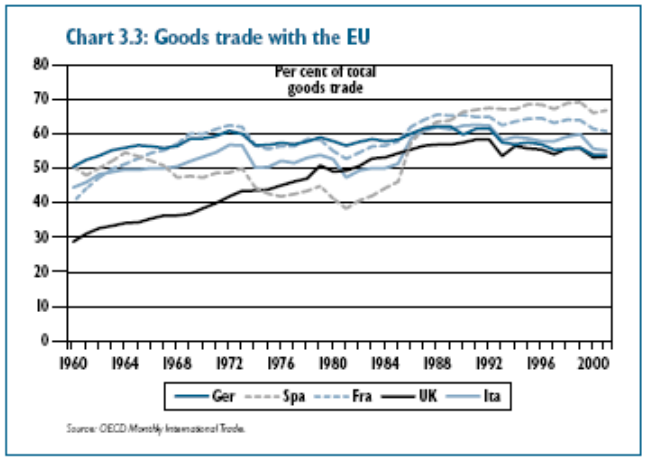
trade effects

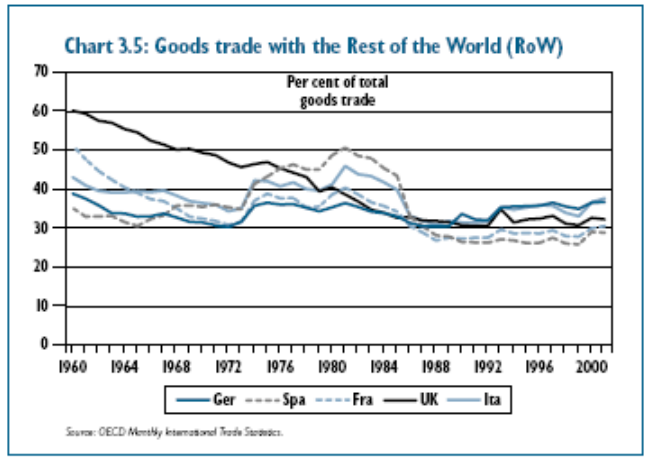
- Direct and Indirect Trade Effects
  - Lower transactions costs: trade creation vs trade diversion;
  - Less uncertainty in trade;
  - Price transparency; less segmentation of markets;
  - Capital market integration;
  - Economies of scale due to larger market size.

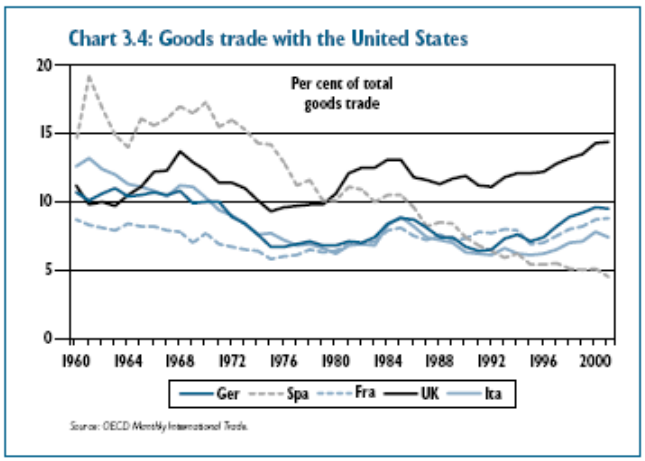
trade creation, trade diversion

- The absence of currency fluctuations and increased price transparency might be expected to lead to increased trade.
- What is the price elasticity of trade? The fall in the cost of trade is between 0.25% and 0.5%.
- Trade Creation takes place when relatively high-cost domestic production is replaced with lower cost imports from a partner country.
- Trade Diversion takes place when a country switches its source of imports from a more efficiently-producing country to a less efficient one because of a change in trade barriers. Welfare falls.

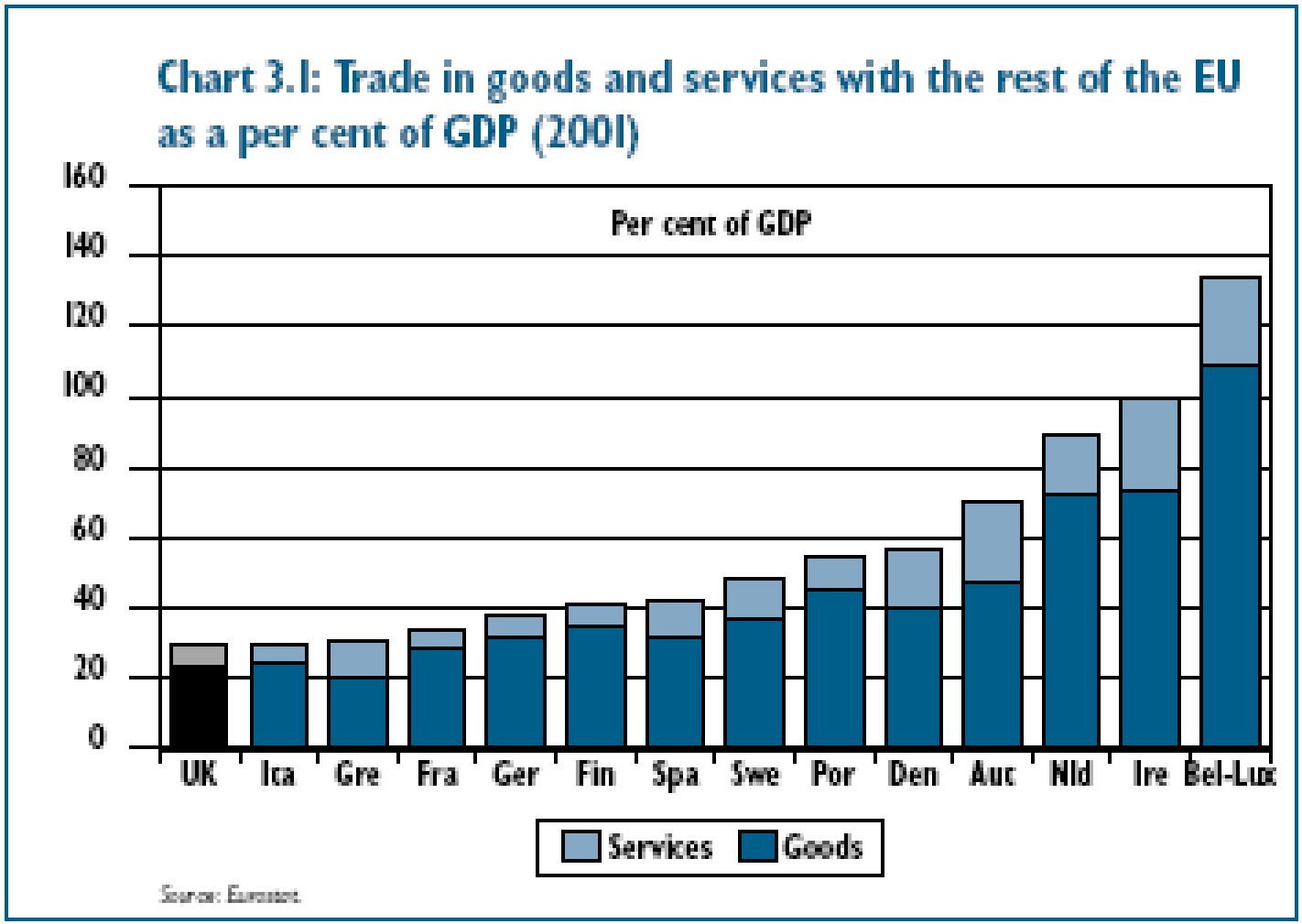
trade in goods



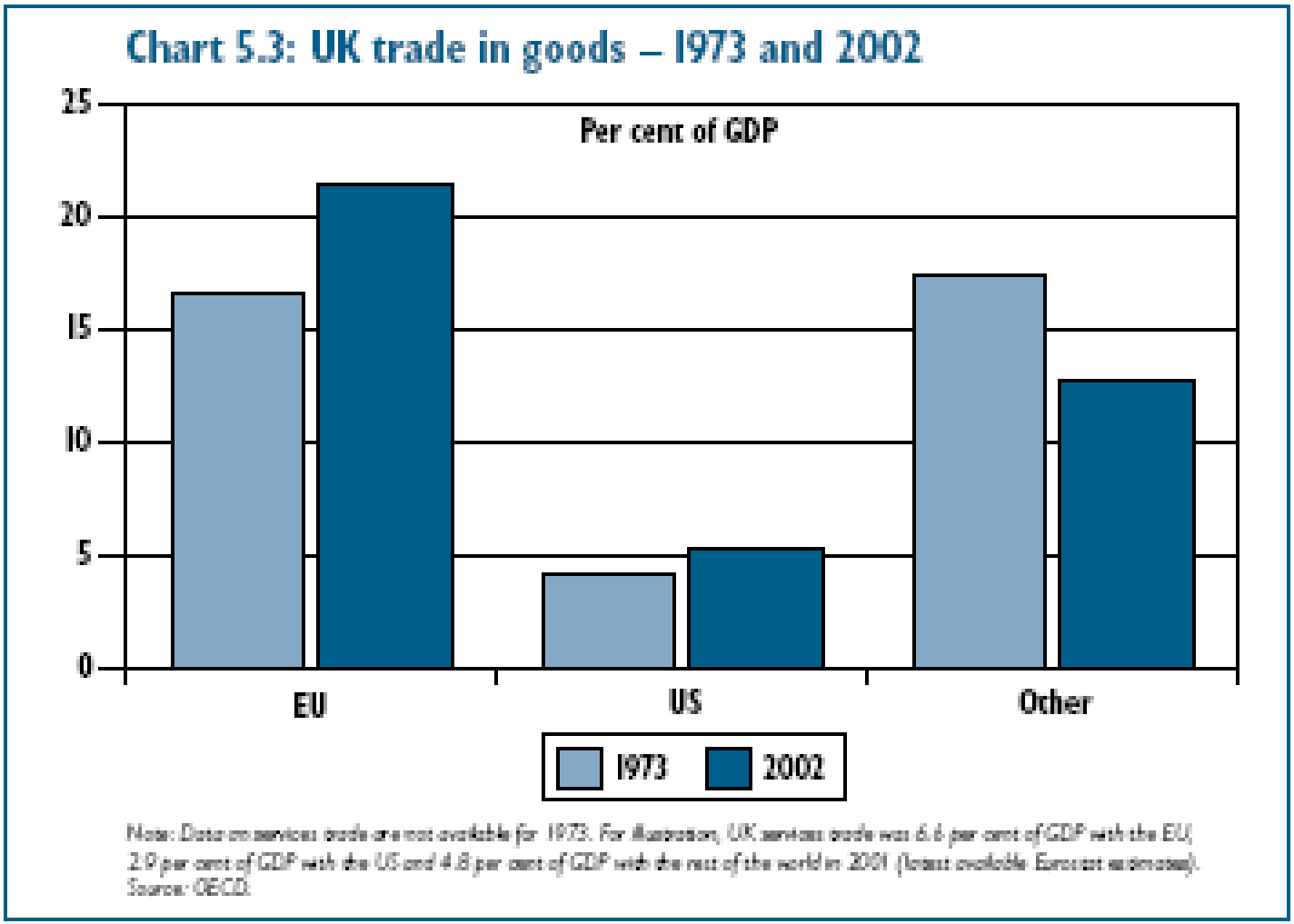




Source: H.M.Treasury EMU Studies, 2004.



Source: H.M.Treasury EMU Studies, 2004.



Source: H.M.Treasury EMU Studies, 2004.

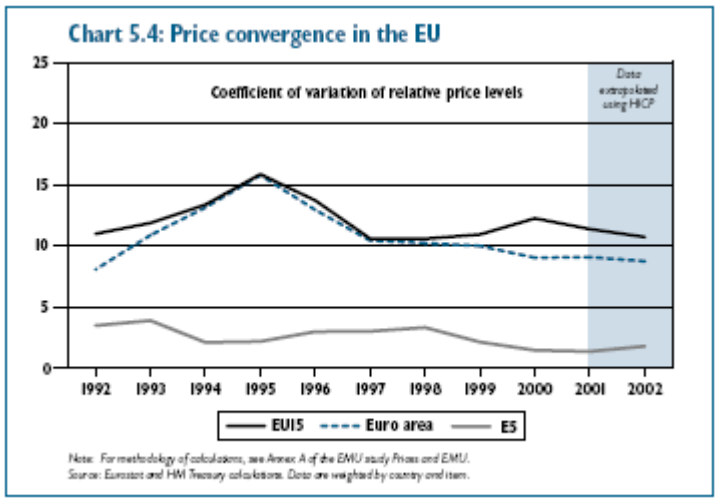
evidence on EU trade

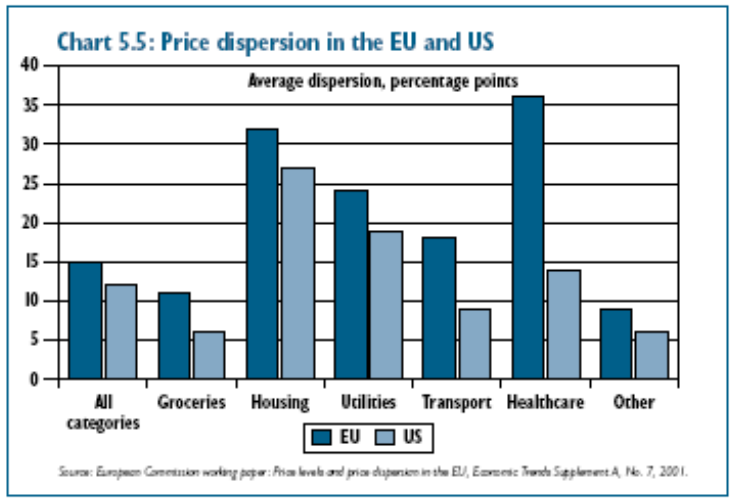
- Direct estimates of the overall financial savings from reduced transaction costs are relatively modest, and accrue mostly to small firms.
- However, there could be more significant dynamic effects from broadening of capital markets, and increased market size.
- A recent study by Micco, Stein and Ordonez (1993) argues that EMU has raised trade within the euro area by between 3 and 20 per cent.
- However, we also need to think about the effect of reduced uncertainty and increased price transparency.

currency volatility and trade

- Aristotelious & Fountas, 1999
  - "Exchange rate volatility had no statistically significant long-run or short-run effect of the volume of intra-EU exports in the majority of countries in our study"
- Calmfors, 1997 (Swedish Government commission on EMU)
  - "Many empirical studies have been done on the effects of exchange-rate fluctuations on the volume of foreign trade. The somewhat surprising, but fairly unanimous, conclusion is that these fluctuations seem to influence foreign trade very little, if at all. This conclusion must be regarded as fairly robust, because the various studies have been done with different methods."

price convergence





Source: H.M.Treasury EMU Studies, 2004.

currency union effects

- Andrew Rose (2000) found that countries in currency unions trade three times as much with each other, as one might expect given their other characteristics.
- However, most of the currency unions he examined were small developing countries.
- In addition, his model may have omitted other factors that are important in determining both bilateral trade flows and membership of a currency union.
- Furthermore, countries are clearly not randomly assigned to currency unions, so there is a question of selection bias.

Table 7.1: Summary of currency union trade effects from academic studies

Study and focus	Currency union effect (per cent)	Statistically significant
Rose (2000). Cross-country regression. After controlling for other key determinants of trade, do countries with a common currency trade more? Contains some widely recognised statistical deficiencies.	200	5%
Rose and Glick (2001). Guards against omitted variable bias. What is the impact of entering/exiting a currency union?	100	5%
Pakko and Wall (2001). Guards against omitted variable bias. What is the impact of entering/exiting a currency union?	Negligible	–
Rose and van Wincoop (2001). Incorporates country/union specific 'multilateral resistance' effects.	Existing euro area gains: +60 UK in EMU: +44	5%
Persson (2001). Matching procedure: compares trade in currency union countries with trade between otherwise 'similar' countries.	+13 to +65	–
Tenreyro (2002). Allows for the possibility that membership of a currency union is not independent of the level of trade or its determinants.	+25 to +60	10%

Source: H.M.Treasury EMU Studies, 2004.

some rough estimates

Table 7.2: Illustrative long-run impact of EMU membership on UK output and growth through increased trade within the euro area

Long-run increase in level of GDP per head, per cent		
	Increase in trade with euro area	
Assuming a long-run impact of a 1pp increase in the trade to GDP ratio on the level of output per head of:	5 per cent	50 per cent
½ per cent[1]	½	4½
⅔ per cent[2]	1	9¼
Increase in long-run annual growth rate of GDP per head (spread over 30 years), percentage points		
	Increase in trade with euro area	
Assuming a long-run impact of a 1pp increase in the trade to GDP ratio on the level of output per head of:	5 per cent	50 per cent
½ per cent[1]	0.02 pp	0.15 pp
⅔ per cent[2]	0.03 pp	0.30 pp

[1] *Frankel and Rose (2000) estimate.*

[2] *Broadly mid-way between Frankel and Rose (2000) and Frankel and Romer (1996) estimates.*

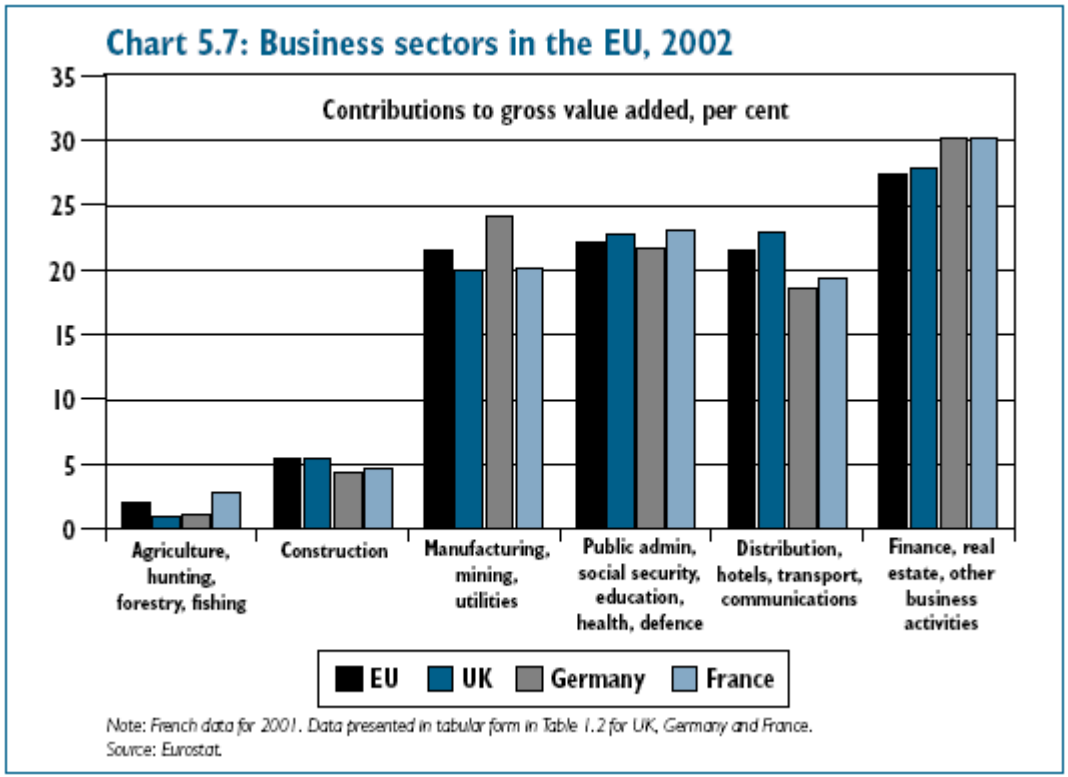
Source: HM Treasury calculations.

Source: H.M.Treasury EMU Studies, 2004.

loss of monetary independence

- The loss of monetary independence will be small when countries have similar:
  - Industrial structures;
  - Growth correlations and shocks;
  - Sacrifice ratios;
  - Housing and financial markets.

industrial structures



Source: H.M.Treasury EMU Studies, 2004.

growth correlations

Table 1.1: Correlations of business cycles over time

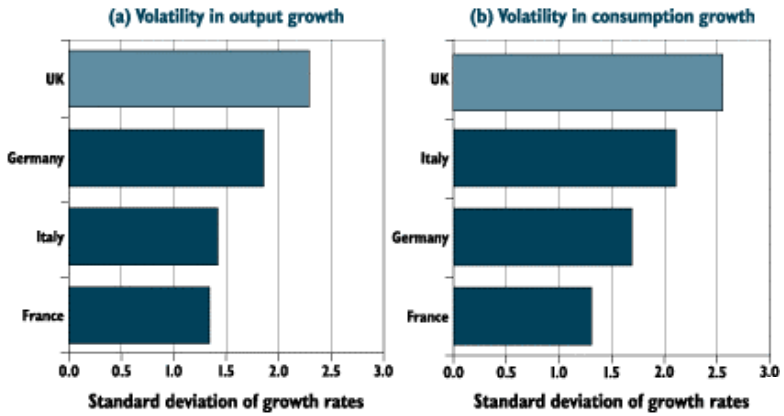
Correlation coefficients	UK/EU15	UK/euro area	UK/Ger	UK/US	Ger/euro area
1970-2002	0.66	0.45	0.12	0.78	0.84
Sub-periods					
1976-1986	0.77	0.61	0.62	0.78	0.98
1986-1997	0.43	0.11	-0.58	0.93	0.72
1997-2002	0.66	0.64	0.79	0.73	0.96

Note: Business cycles calculated using Hodrick-Prescott filtered annual real GDP data
Source: European Commission's AMECO database and HM Treasury calculations.

Source: H.M.Treasury EMU Studies, 2004.

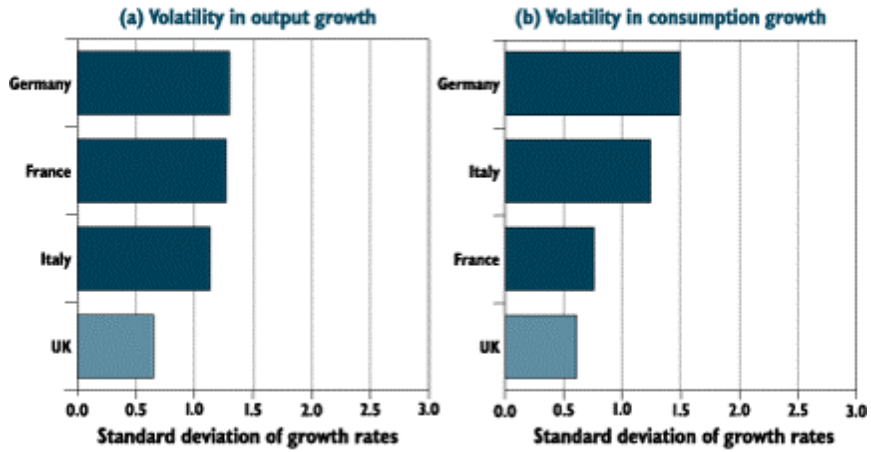
volatility

Chart I.11: Output and consumption volatility, 1980Q1-1998Q2



Note: Data for Germany in 1991 excluded from calculation due to bias imposed by German reunification effects.
Source: Updated versions of Charts 2.1 and 2.2 from HM Treasury, 1998, Delivering Economic Stability: Lessons from Macroeconomic Policy Experience, based on OECD Quarterly National Accounts data.

Chart I.12: Output and consumption volatility, 1998Q1-2002Q4



Source: OECD Quarterly National Accounts and HM Treasury calculations.

Source: H.M.Treasury EMU Studies, 2004.

sacrifice ratios

	1980-4	1980-6	1980-8	1980-92	1980-95
USA	0.64	0.51	0.36	0.05	-0.20
Germany	4.43	3.82	6.73	117.33	14.70
France	1.40	1.55	2.29	3.41	4.64
UK	1.51	2.00	2.69	2.99	3.58
Italy	0.42	0.63	1.01	1.76	2.47

Note: *Ratio of cumulative increase in unemployment to difference in inflation.*
Source: *El-Agraa (2001) table 17.4.*

housing markets

	Owner-Occupation Rate	Mortgage share of GDP	Fixed Rate share
Austria	54	30-33	n/a
Belgium	67	22	25
Denmark	50	65	90
Finland	62	30	n/a
France	54	21	80
Germany	38	51	20
Greece	76	6	30
Ireland	79	27	43
Italy	68	7	60
Netherlands	48	60	25
Portugal	67	26	0
Spain	78	22	20
Sweden	39	51	n/a
UK	67	57	n/a
EU15	56	36	n/a

Source: *Maclennan, Muellbauer and Stephens (1998).*

the stability pact

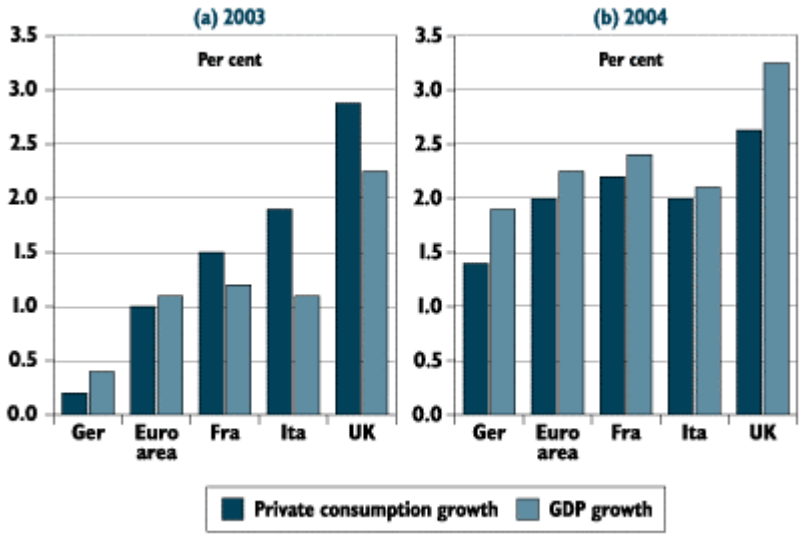
- Nations can default on their debt in two ways: outright default and through surprise inflation and devaluation.
- Within EMU countries cannot use the latter option, but does that make an outright default more likely?
  - No evidence of increased risk of outright default from EU bond differentials with Germany. Post-EMU differentials smaller than between US states.
- The Stability Pact:
  - Countries must aim to achieve budget balances;
  - Deficits of more than 3% of GDP will receive fines of up to ½% of GDP.
  - Fines will not be applied in exceptional circumstances (i.e. natural disasters or a 2% fall in GDP in one year).
- The Pact is neither flexible nor symmetric, but will it ever be applied?

Gordon Brown's five tests

- Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?
- If problems emerge, is there sufficient flexibility to deal with them?
- Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?
- What impact would entry have on the competitive position of the UK's financial services industry, particularly the City's wholesale markets?
- In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

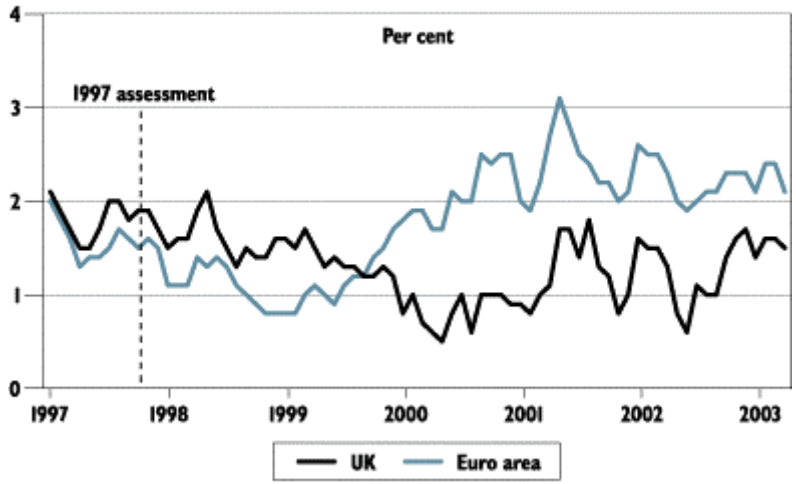
getting the cycle right I

Chart I.4: GDP and private consumption annual growth



Note: GDP and private consumption growth forecasts are the mid-points of HM Treasury's Budget 2003 forecast range.
Source: HM Treasury Budget 2003 forecasts.

Chart I.5: HICP annual inflation rates

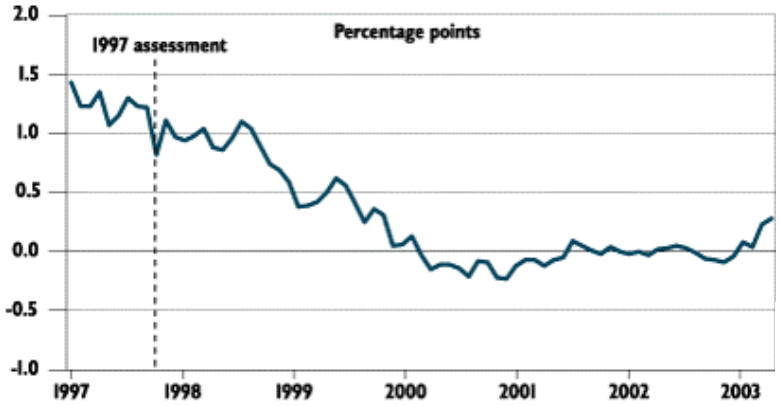


Source: Eurostat.

Source: H.M.Treasury EMU Studies, 2004.

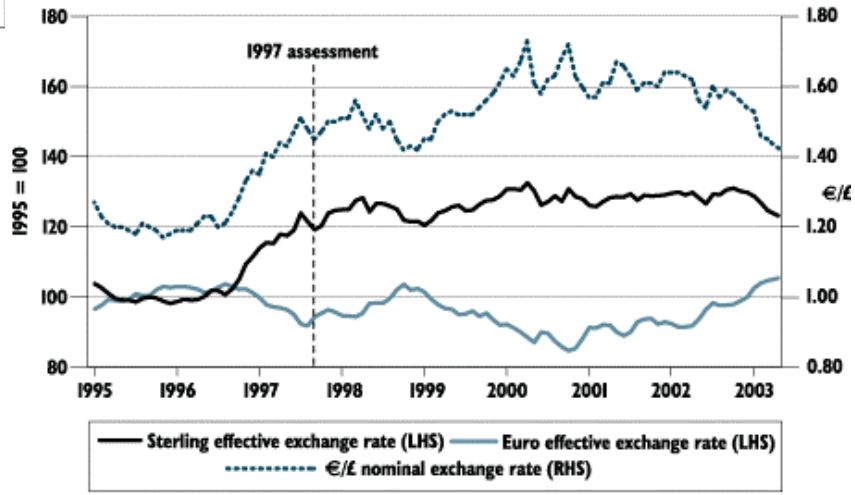
getting the cycle right II

Chart 1.6: UK long-term bond yield differential with the euro area



Note: Long-term bond yields are for 10-year maturity government bonds.
Source: Eurostat and Bank of England.

Chart 1.7: Nominal exchange rates

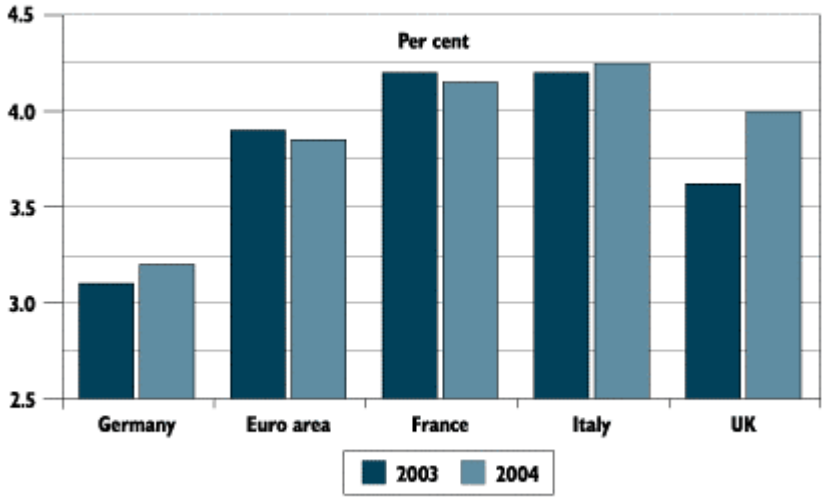


Source: Eurostat.

Source: H.M.Treasury EMU Studies, 2004.

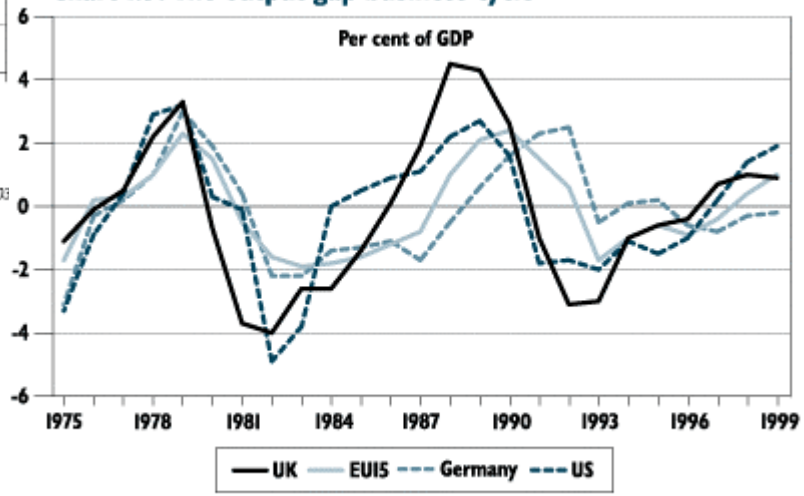
getting the cycle right III

Chart I.8: Taylor rule estimates of the nominal short-term interest rate for the UK and euro area countries



Note: Calculations based on the HICP measure of inflation, assuming an inflation target of 2 per cent; HICP inflation forecasts for 2003 and 2004 refer to the 4th quarter.
Source: HM Treasury calculations based on Budget 2003 forecasts.

Chart I.9: The output gap business cycle



Note: Business cycles calculated using Hodrick-Prescott filtered annual real GDP data.
Source: EMU study Analysis of European and UK business cycles and shocks.

Source: H.M.Treasury EMU Studies, 2004.

summary

- The most important determinant of living standards in a country is domestic productivity. This is largely determined by the quality of the workforce, and domestic investment and innovation.
- No exchange rate system is universally best. Generally, as long as a country is running a responsible domestic policy the choice of regime is unlikely to be important, but when it has large foreign debts or is acting irresponsibly, any exchange rate regime can become unstable.
- Benefits of EMU likely to be small and spread over a long-period of time.
- Upfront cost of entry might be huge if at wrong rate or at wrong point in business cycle (q.v. Britain in 1925, 1946 & 1990).

You can download the pdf files from:

http://www.nuff.ox.ac.uk/Users/Cameron/lmh/