Optimum currency areas

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- The theory of the Optimum Currency Area (OCA) was first developed by Mundell (1961), McKinnon (1963) and Kenen (1969).

- The OCA stresses the importance of international linkages between the members of a monetary union to face the loss of the country-independent monetary policy to smooth output fluctuations.

- **There is ONE single monetary authority (central bank), and potentially elastic supply of interregional means of payment.**

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- When we speak of an optimal currency area, we mean a geographical region which:
  - shares a single currency,
  - such that sharing this currency is optimal from an economic efficiency viewpoint.

- Characteristics of a currency area:
  - common monetary policy,
  - fixed exchange rates within the currency area.

- Efficiency can be assessed via cost-benefit analysis.

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- Benefits: these are seen as rather obvious (no more exchange rate risk, lower transaction costs, etc., just to name a few).

- Potential costs/dangers associated with a currency area:
  - **loss of monetary sovereignty means that national governments can no longer:**
    - control monetary policy (interest rates)
    - influence the exchange rate (devaluations)

- But in the end "currencies are mainly an expression of national sovereignty".

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Why might the loss of monetary autonomy be costly?

One-size-fits-all monetary policy can be disadvantageous, especially when asymmetric shocks occur:

- I.e. not all member countries are affected by a shock in the same way or are subject to different shocks.
- This makes it difficult for a common monetary policy to help one country without harming another.

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Assumptions: - France and Germany form a monetary union
- A demand shift from France to Germany

France

p_F

AS_F

AD_F

Y_F

Germany

p_G

AS_G

AD_G

Y_G
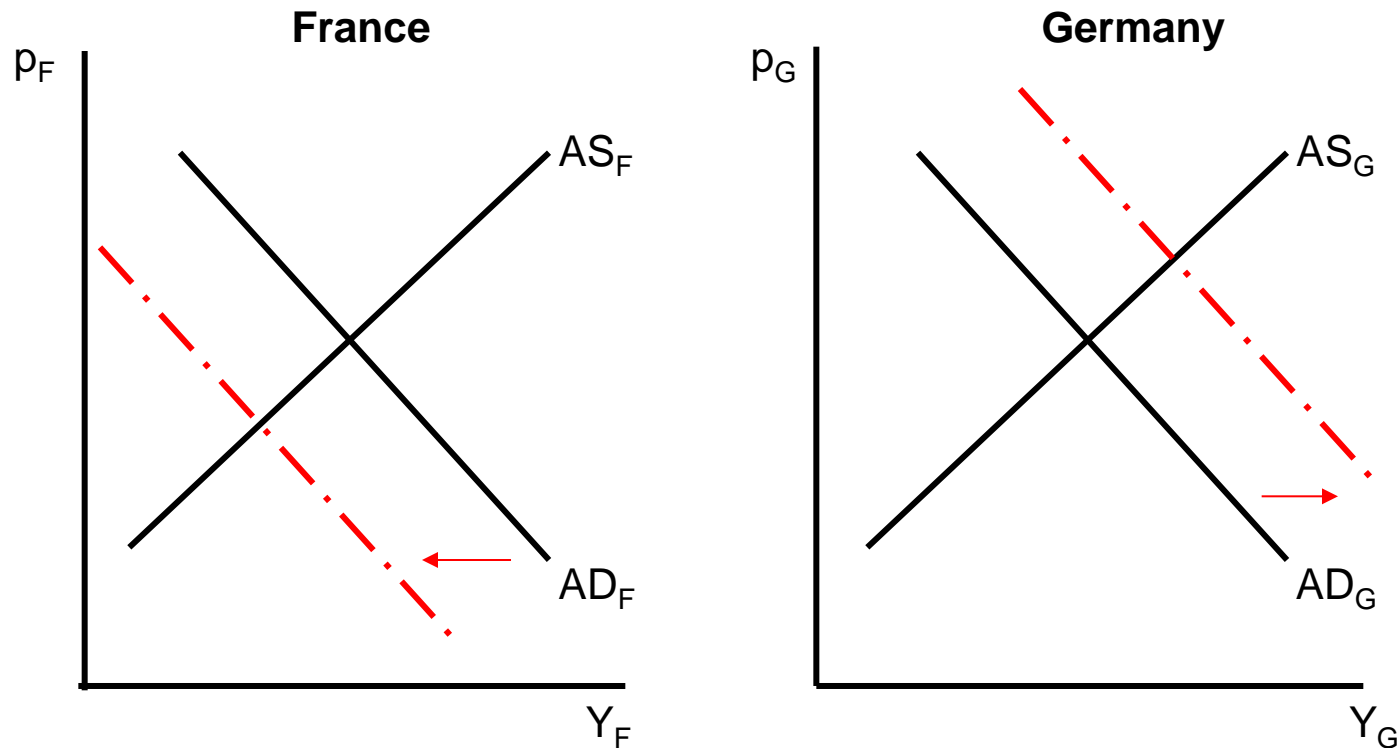
Outcome: - France: unemployment and reduced output;
- Germany: rising output and inflationary pressure;
- Germany: surplus of balance of payments.

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Monetary authority's dilemma

- To correct unemployment in France, the monetary authority can increase the money supply.

- But this aggravates inflationary pressure in Germany.

- "**But it is unfortunate that a simple change in world relative prices is interpreted, in the surplus countries, as inflation**" [Mundell, 1961]

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Is there still possibility for adjustment in spite of missing a country-specific monetary policy?

Prominent criteria for good functioning:

1. Inflation and income convergence
2. Regional trade integration/openness
3. Labour market and wage/price flexibility
4. Product market diversification/flexibility
5. Fiscal transfers
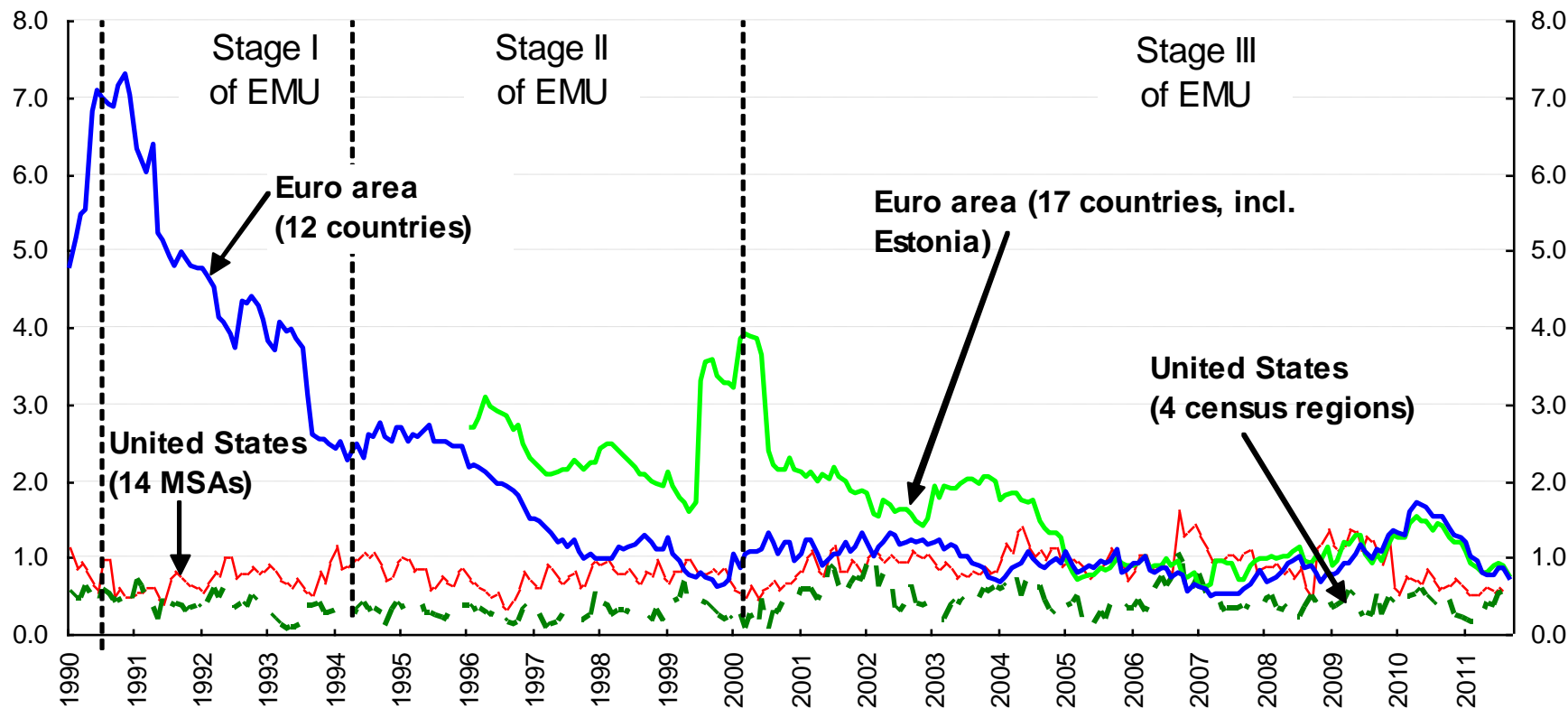6. Homogeneous preferences
7. Solidarity vs. nationalism

In the EU: Convergence criteria.

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1990	**1 July, 1st stage of the EMU.** October, adhesion of the UK to the ERM, with a band of +/-6%.
1991	December, European Council meeting in Maastricht, agreement on the Treaty of the European Union (EU).
1992	Adhesion of Portugal to the ERM, with a band of +/-6%. Speculative attacks force Italy and the UK to exit the ERM.
1993	August, implementation of a band of +/-15% in the ERM for all currencies except for the Dutch florin that kept the band of +/-2.25%.
1994	**1 January, setting up of the European Monetary Institute (EMI), 2nd stage of the EMU.**
1995	Adhesion of Austria, Finland and Sweden to the EU.
1996	Italy returns to the ERM.
1997	Adoption of the new mechanism of exchange rates: EMR II. Adoption of the Stability and Growth Pact, reinforcing fiscal discipline in the EMU.
1998	1 June, starting date of the European Central Bank.
1999	**1 January, launching of the euro. Beginning of the 3rd stage of the EMU**, locking of exchange rates of the initial 11 members of the EMU.

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Dispersion of annual inflation across euro area countries, the 14 US Metropolitan Statistical Areas (MSAs) and the 4 US census regions

Inflation and income convergence (1/4)

(Jan 1990 – Sep 2011; unweighted standard deviation in percentage points)

Stage I of EMU

Stage II of EMU

Stage III of EMU

Euro area (12 countries)

Euro area (17 countries, incl. Estonia)

United States (4 census regions)

United States (14 MSAs)

Sources: Eurostat and US Bureau of Labor Statistics.
Notes: Euro area data up to Sep 2011. US 4 regions and US 14 MSAs up to Aug 2011.

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Dispersion of real GDP growth rates (annual averages) within the euro area and US

Legend:
- Euro area (17 countries)
- Euro area (12 countries)
- US (50 States & D. Columbia)
- US (8 regions)

(1990 – 2010; un-weighted standard deviation in percentage points)
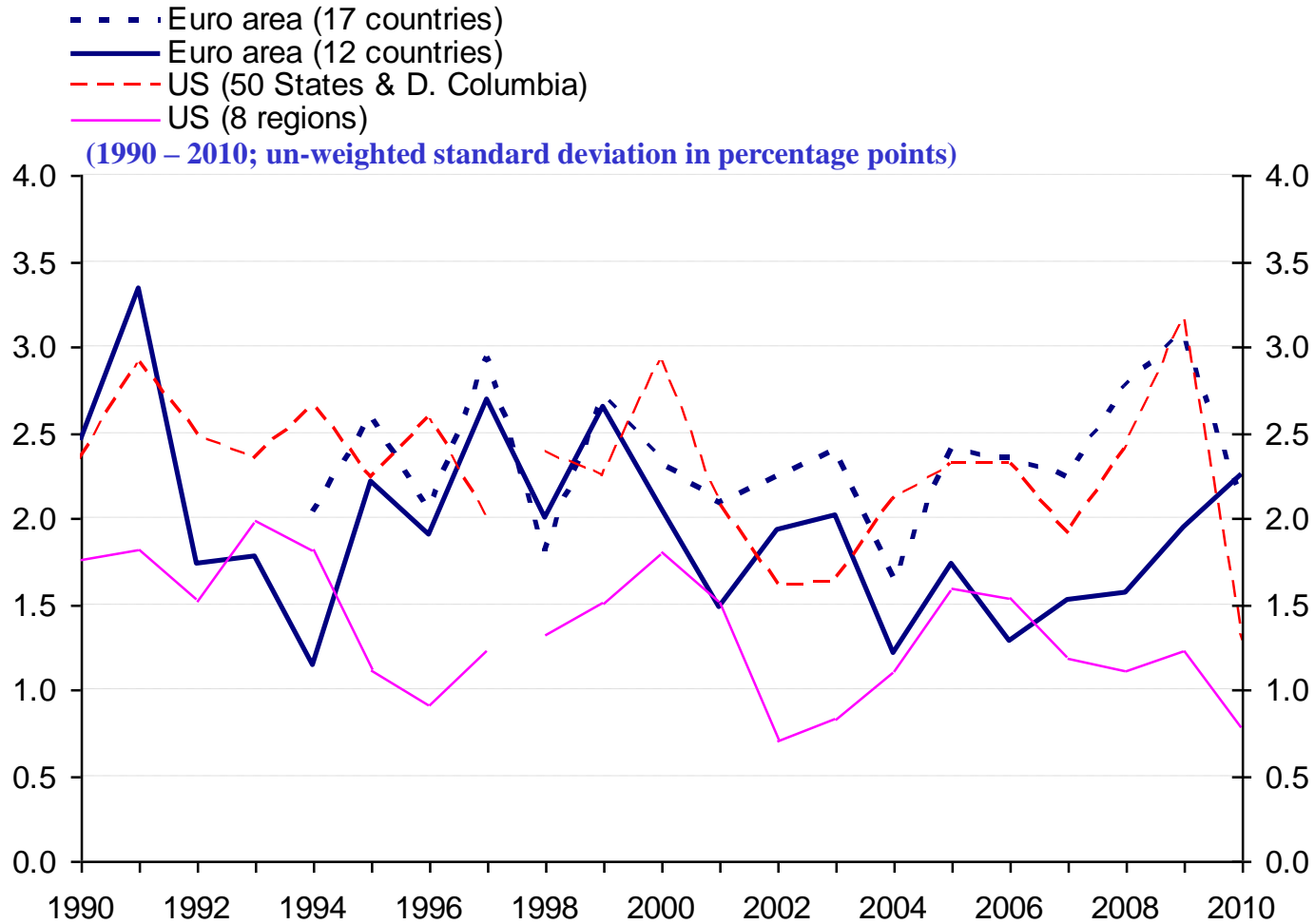
Sources: European Commission and US Bureau of Economic Analysis (BEA).
Notes: There is a statistical break in the US regional data in 1998. For the US states and regions, the data refer to Gross Domestic Product (GDP) by state. The 8 regions are defined by the BEA and cover the whole country. Data for Estonia start in 1993.

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Business cycle synchronisation (vis-à-vis EMU)

	1980-1992	1993-2005	1980-2005
	EMU countries		
Austria	0.534	0.793	0.647
Belgium	0.692	0.832	0.762
Finland	0.582*	0.478	0.509*
France	0.615	0.977	0.786
Germany	0.763	0.678	0.696
Greece	0.601	0.441	0.554
Ireland	0.285	0.645	0.465
Italy	0.539	0.810	0.674
Luxembourg	0.419	0.745	0.570
Netherlands	0.542	0.875	0.692
Portugal	0.341	0.733	0.507
Spain	0.506	0.871	0.662

Note: Hodrick-Prescott Filter with smoothness parameter equal to 6.25.
* Not considered: years 1991 and 1992 to take into account the Finland crisis in the early 1990s.

Source: Afonso, Furceri (2009).

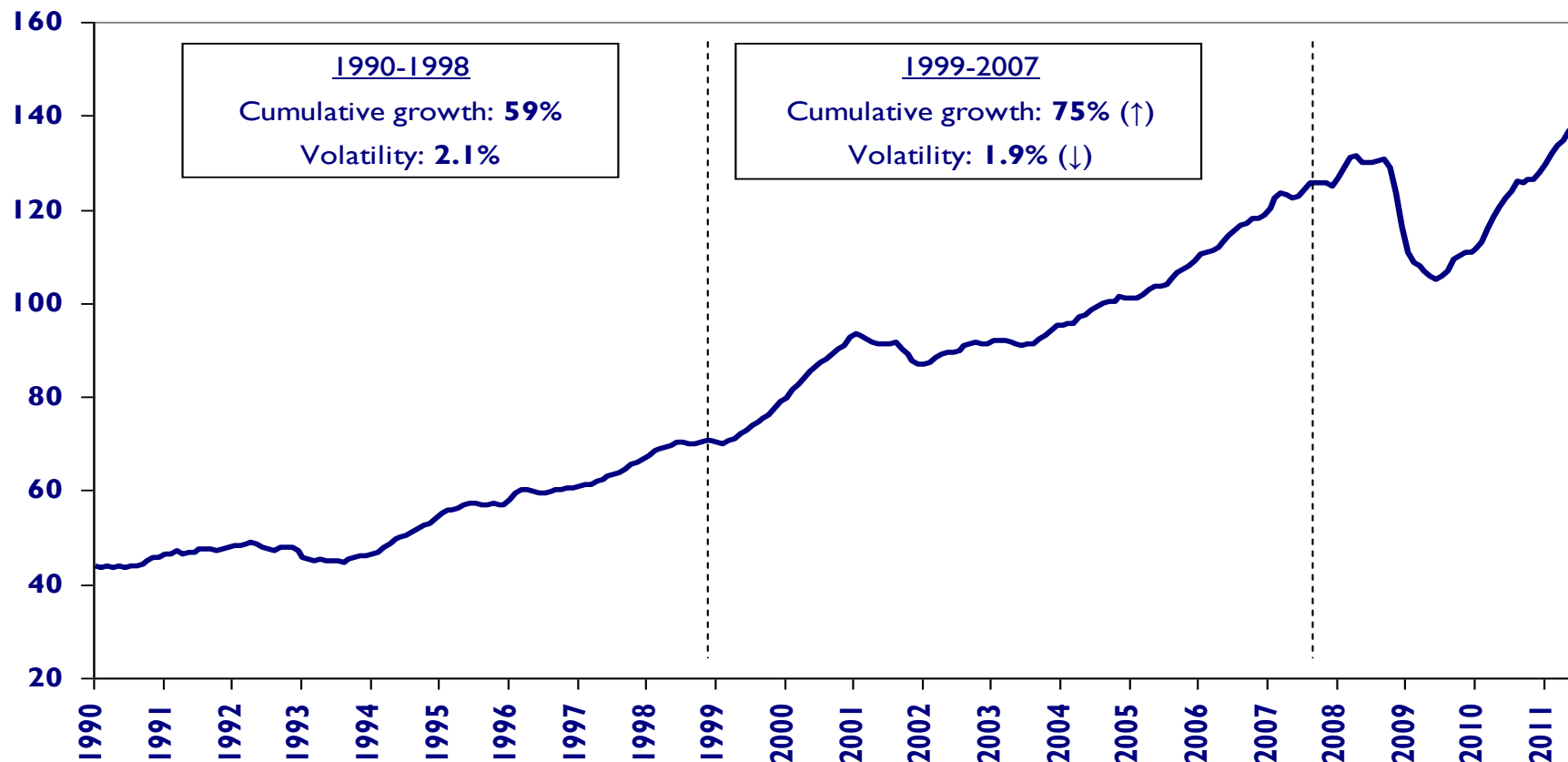A. Afonso

Business cycle synchronisation (vis-à-vis EMU)

	1980-1992	1993-2005	1980-2005
	Other EMU		
Czech Republic		0.031	
Denmark	0.043	0.569	0.258
Estonia		-0.220	
Cyprus		0.541	
Latvia		0.238	
Lithuania		-0.032	
Hungary		0.789	
Malta		0.698	
Poland		0.247	
Slovenia		0.412	
Slovakia		-0.673	
Sweden	0.164	0.695	0.443
UK	-0.137	0.594	0.042
	Candidate countries		
Bulgaria		0.342	
Romania		-0.242	
Turkey		-0.273	

Note: Hodrick-Prescott Filter with smoothness parameter equal to 6.25.

Source: Afonso, Furceri (2009).

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Intra-euro area trade values

(EUR billions; 3-month moving average; seasonally adjusted data)

1990-1998
Cumulative growth: **59%**
Volatility: **2.1%**

1999-2007
Cumulative growth: **75%** (↑)
Volatility: **1.9%** (↓)

Sources: Eurostat and ECB calculations. Note: The boxes refer to the average three-month-on-three-month growth rates and the corresponding standard deviations. Euro area in changing composition (starting with the Euro area 12). Data not working-day-adjusted prior to 1995.

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Openness of the euro area, the United States and Japan
(as percentage of GDP)
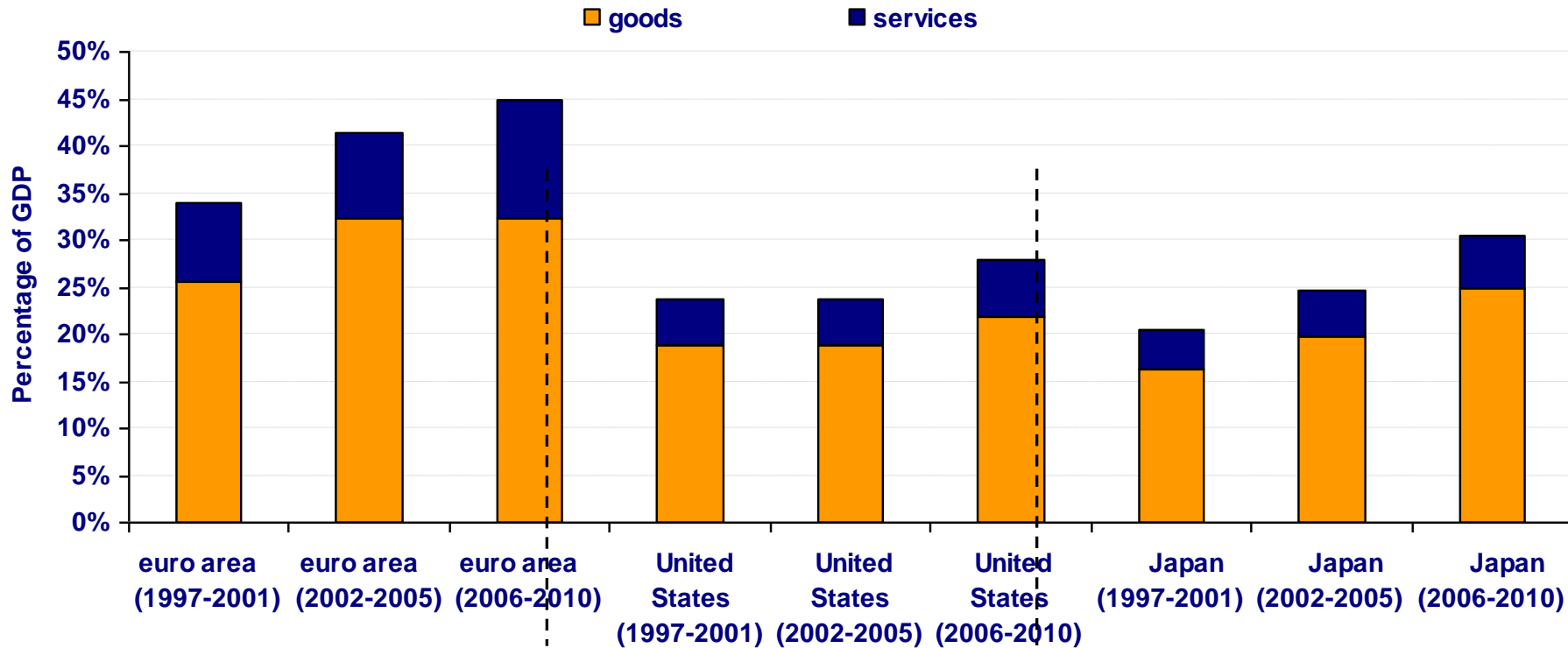
Source: ECB staff calculations. Note: The degree of openness is measured as exports plus imports as a percentage of GDP. Euro area based on extra-euro area trade.

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Regional trade integration (3/3)

Table 2.4 Trade weights[1] of the euro area's 20 main trading partners

(percentage points)

1	United Kingdom	14.96
2	United States	12.81
3	Other EU Member States[2]	11.11
4	China	6.25
5	Switzerland	5.42
6	Russia	4.58
7	Japan	3.75
8	Sweden	3.58
9	Turkey	2.25
10	Denmark	2.24
11	Norway	2.10
12	Korea	1.61
13	Brazil	1.46
14	India	1.18
15	Taiwan	1.18
16	Canada	1.14
17	Saudi Arabia	1.11
18	Algeria	1.11
19	Singapore	1.03
20	South Africa	0.96

Source: ECB (2011).

Source: ECB calculations based on Eurostat trade data.

1) Trade weights are the sum of exports and imports expressed as total of euro area exports and imports and are average figures for the period 1999-2009.

2) The other main trading partners that are also EU Member States are the Czech Republic, Cyprus, Estonia, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia until 2006. In 2007 Bulgaria and Romania were added, while Slovenia was removed. In 2008 Cyprus and Malta were removed.

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Across border labour mobility
(Percentage of local population which is foreign born)
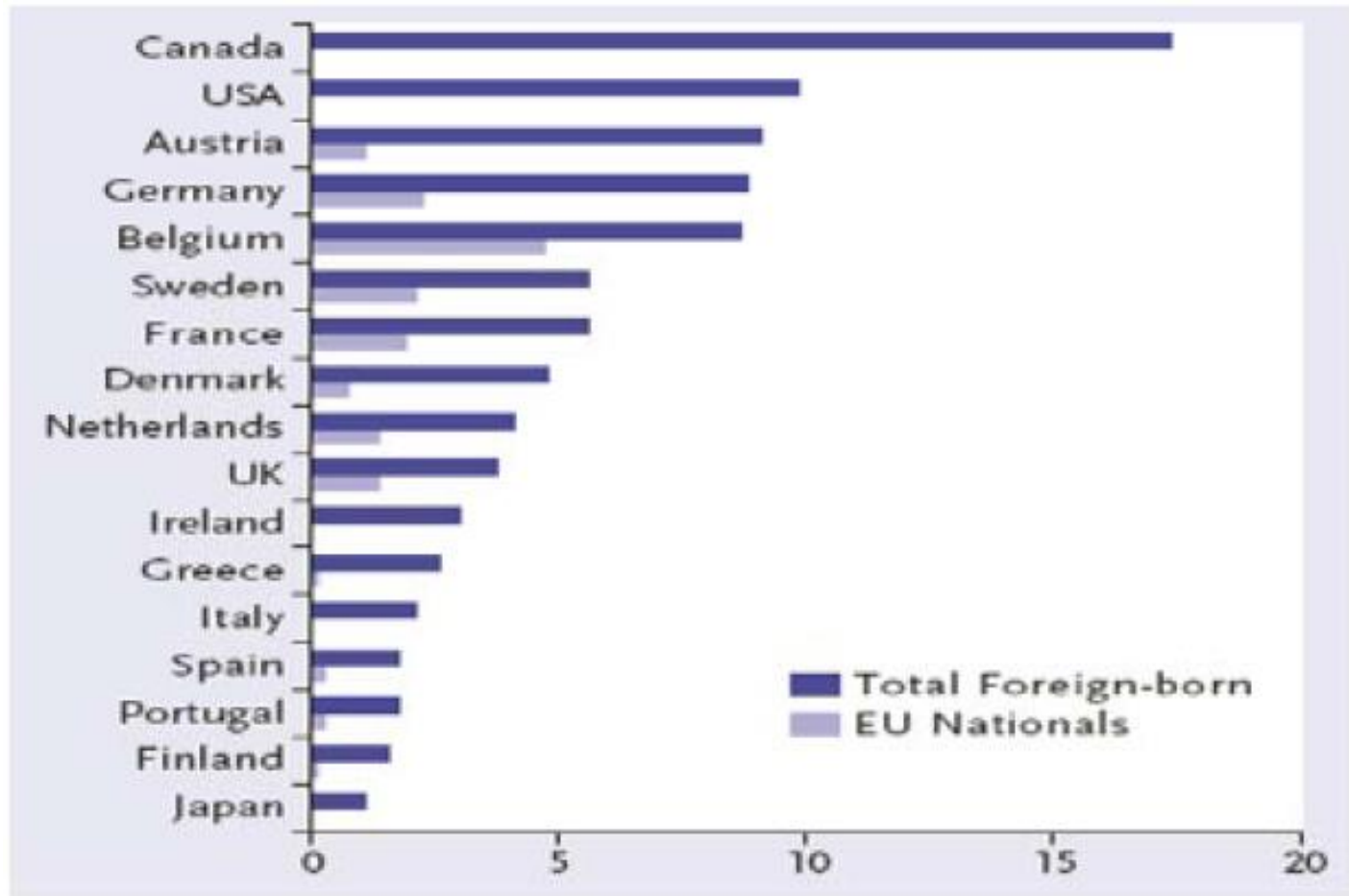
Source: Baldwin & Wyplosz (2004).

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Employment protection legislation on permanent contracts

	1990	2008	2008-1990 change
Belgium	1.7	1.7	0.1
Germany	2.6	3.0	0.4
Estonia	..	2.5	..
Ireland	1.6	1.6	0.0
Greece	2.3	2.3	0.1
Spain	3.9	2.5	-1.4
France	2.3	2.5	0.1
Italy	1.8	1.8	0.0
Luxembourg	..	2.8	..
Netherlands	3.1	2.7	-0.4
Austria	2.9	2.4	-0.6
Portugal	4.8	4.2	-0.7
Slovenia	..	3.2	..
Slovakia	..	2.5	..
Finland	2.8	2.2	-0.6
Euro area	2.7	2.5	-0.2
Denmark	1.7	1.6	-0.1
Sweden	2.9	2.9	0.0
United Kingdom	1.0	1.1	0.2
United States	0.2	0.2	0.0

Sources: OECD. Note: The indicators represent the stringency of regulatory policy on a scale from 0 to 6 with higher numbers being associated with policies that are more restrictive to competition. The euro area aggregate is calculated as an average of the available indicators of the euro area members.

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Labour market (3/3)

Table 2.2 Labour force participation rates by gender and age group in the euro area and the United States in 2009

(as a percentage of the working age population)

	Euro area			United States		
	Males	Females	Total	Males	Females	Total
All age groups	78.5	64.6	71.5	80.4	69.0	74.6
15-24[1]	46.9	40.8	43.9	58.5	55.2	56.9
25-34	91.2	78.8	85.1	90.3	75.0	82.7
35-44	94.7	79.6	87.2	91.7	75.9	83.7
45-54	91.7	75.1	83.3	87.4	76.0	81.6
55-59	74.4	55.5	64.8	78.0	68.5	73.1
60-64	38.2	22.4	30.1	60.9	49.9	55.1

Sources: Eurostat and Bureau of Labour Statistics.
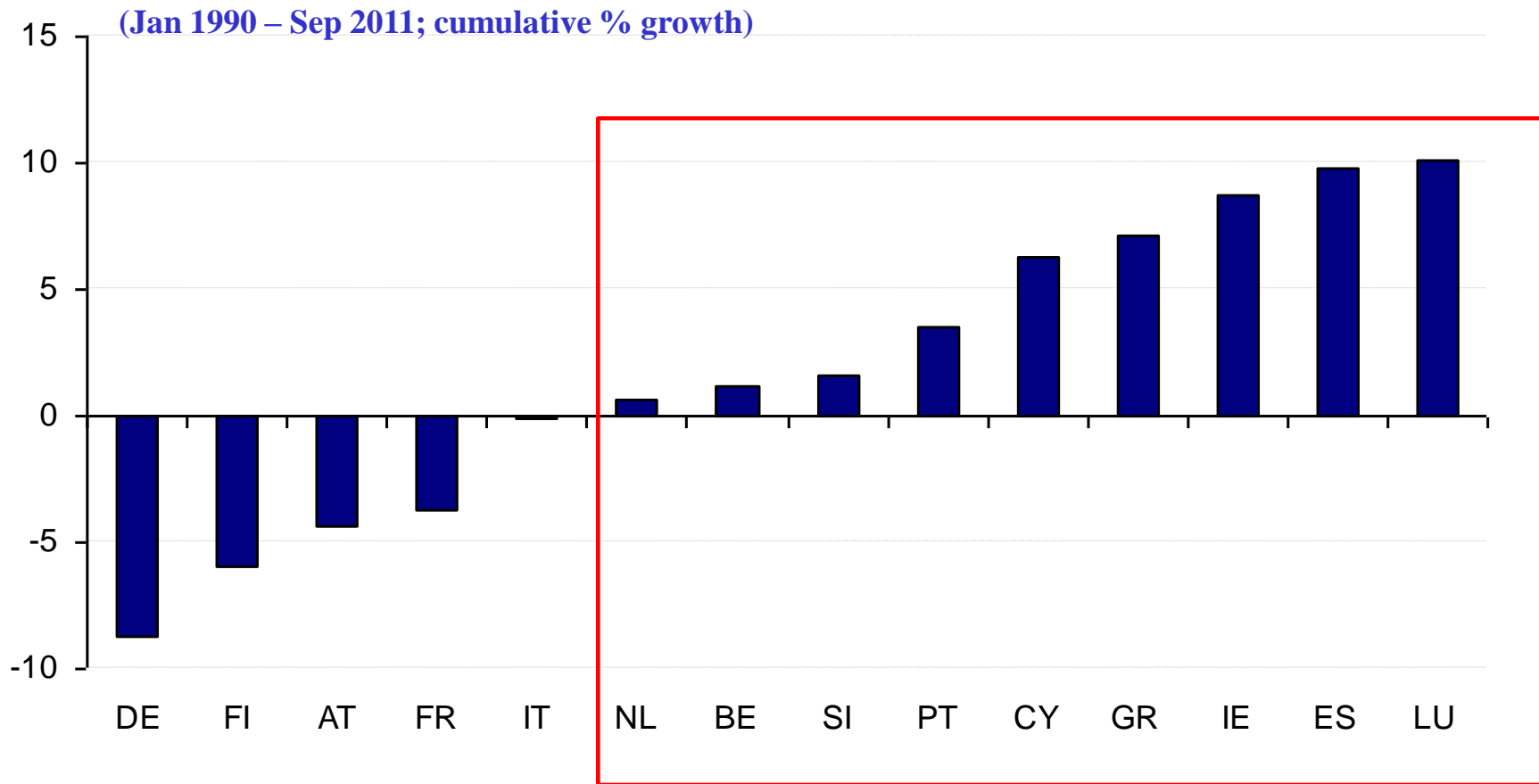1) US data refer to the 16 to 24 age group.

Source: ECB (2011).

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Product market regulation

	1998	2003	2008	2003-1998 change	2008-2003 change
Belgium	2.2	1.6	1.4	-0.6	-0.2
Germany	2.1	1.6	1.3	-0.5	-0.3
Estonia	..	..	1.3	..	..
Ireland	1.7	1.3	0.9	-0.3	-0.4
Greece	3.0	2.6	2.4	-0.4	-0.2
Spain	2.6	1.7	1.0	-0.9	-0.6
France	2.5	1.7	1.5	-0.8	-0.3
Italy	2.6	1.8	1.4	-0.8	-0.4
Luxembourg	..	1.5	1.6	..	0.1
Netherlands	1.7	1.4	1.0	-0.3	-0.4
Austria	2.3	1.8	1.5	-0.6	-0.3
Portugal	2.2	1.6	1.4	-0.6	-0.2
Slovenia	..	..	1.5	..	..
Slovakia	..	1.8	1.6	..	-0.2
Finland	2.1	1.3	1.2	-0.8	-0.1
Euro area	2.3	1.7	1.4	-0.6	-0.3
Denmark	1.6	1.2	1.1	-0.4	-0.1
Sweden	1.9	1.5	1.3	-0.4	-0.2
United Kingdom	1.1	0.8	0.8	-0.2	0.0
United States	1.3	1.0	0.8	-0.3	-0.2

Sources: OECD. Note: The indicators represent the stringency of regulatory policy on a scale from 0 to 6 with higher numbers being associated with policies that are more restrictive to competition. The euro area aggregate is calculated as an average of the available indicators of the euro area members.

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Harmonised competitiveness indicators

Product market diversification (2/2)

(Jan 1990 – Sep 2011; cumulative % growth)

Countries (x-axis): DE, FI, AT, FR, IT, NL, BE, SI, PT, CY, GR, IE, ES, LU

Sources: ECB. Notes: Data are not available for Slovakia or Malta. ECB CPI-deflated real effective exchange rates versus a group of 44 trading partners and euro area country currencies. An increase indicates a real effective appreciation which implies a decline in national competitiveness. Countries are sorted by ascending indicator growth.

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Further criteria for a good functioning of an OCA

Fiscal transfers:
- Countries that agree to compensate each other for adverse shocks are more likely to be an OCA.

Solidarity vs. nationalism
- Countries that view themselves as sharing a common political destiny better accept the costs of operating an OCA.

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Further criteria for a good functioning of an OCA

Homogeneous preferences

- Countries that share a wide consensus on the way to deal with shocks form an OCA.

- **Risk-sharing mechanisms in the euro area do not provide enough insurance against shocks**. From 1980 to 2005, a large % of the shocks to GDP are not smoothed: EMU (57%), EU15 (61%) countries (Afonso, Furceri, 2008)].

- For the US, the share of interstate risk-sharing not smoothed is only 25% of shocks to GDP.

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