Japan's Economic Performance

Trinity Term

2004

Introduction to Japan's Economy

- Japan is still a major economic power ...
  - second biggest economy in the world
    - and economic growth has started to recover
  - largest economy in East Asia
    - still a few decades ahead of China
  - huge stock of financial and real assets, with the markets that underpin this
  - biggest foreign aid donor in Asia
  - But has fallen to 15 in GDP per capita (was No. 1 in 1989)

Economic structure

Comparative economic indicators, 2003

	Japan	US	Germany	China
GDP (US$ bn)	4,305.2	10,984.0	2,374.9	1,471.8
GDP per head (US$)	33,842.3	37,831.0	28,856.7	1,136.3
Cons price inflation (av; %)	-0.3	2.3	1.1	1.2
Current-account bal (US$ bn)	136.2	-540.7	39.8	32.2
Exports of goods fob (US$ bn)	448.0	714.5	696.9	436.1
Imports of goods fob (US$ bn)	342.3	1260.4	585.0	397.4
Foreign trade[a] (% of GDP)	18.4	18.0	54.0	56.6
Exchange rate (av; ¥:US$)	115.9			
Population (m)	127.6			

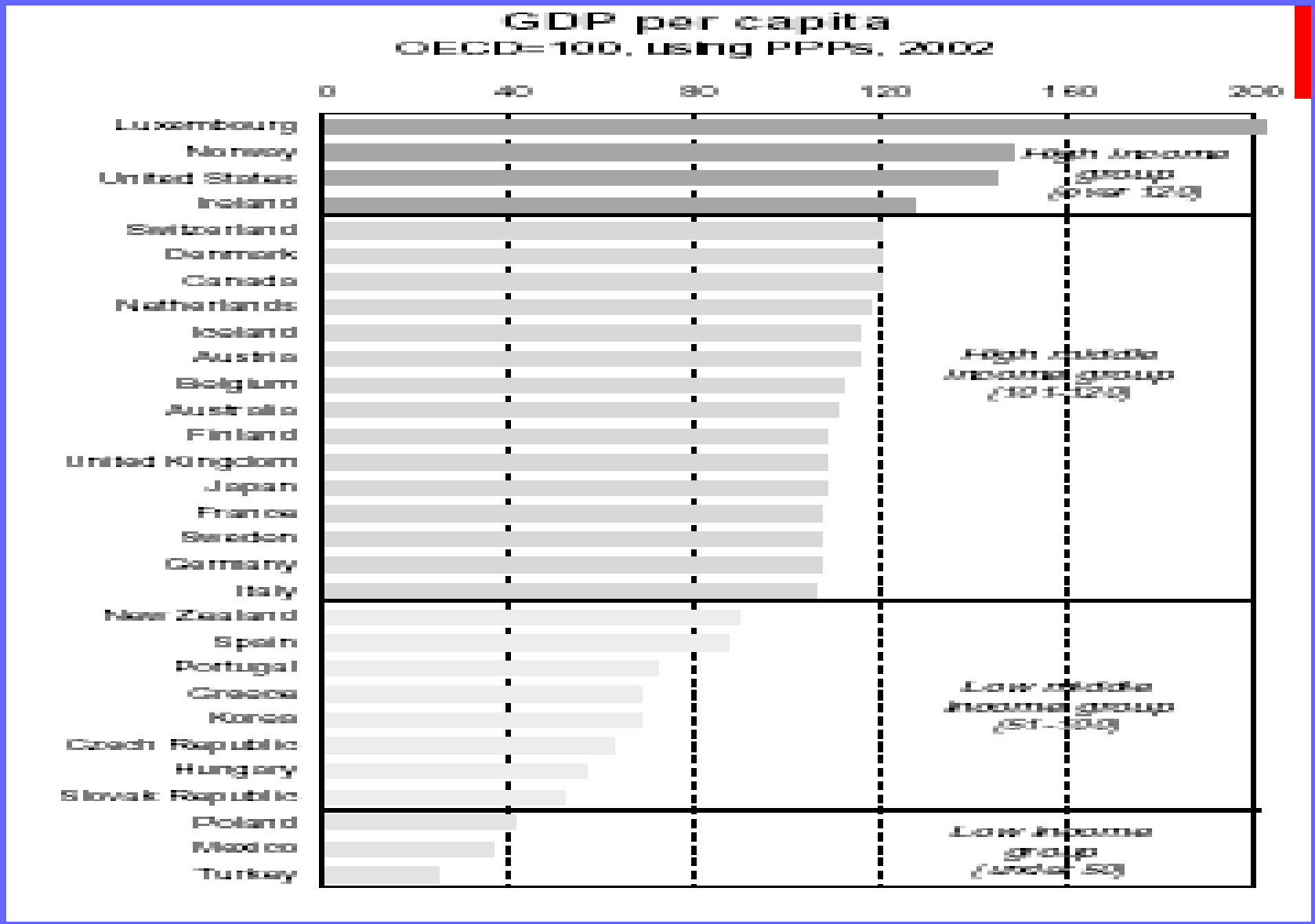
a Merchandise exports plus imports.

Sources: Economist Intelligence Unit; IMF, *International Financial Statistic*s. Statistics Bureau, Ministry of Public Management, Home Affairs, Posts & Telecommunications, *Monthly Statistics of Japa*n;

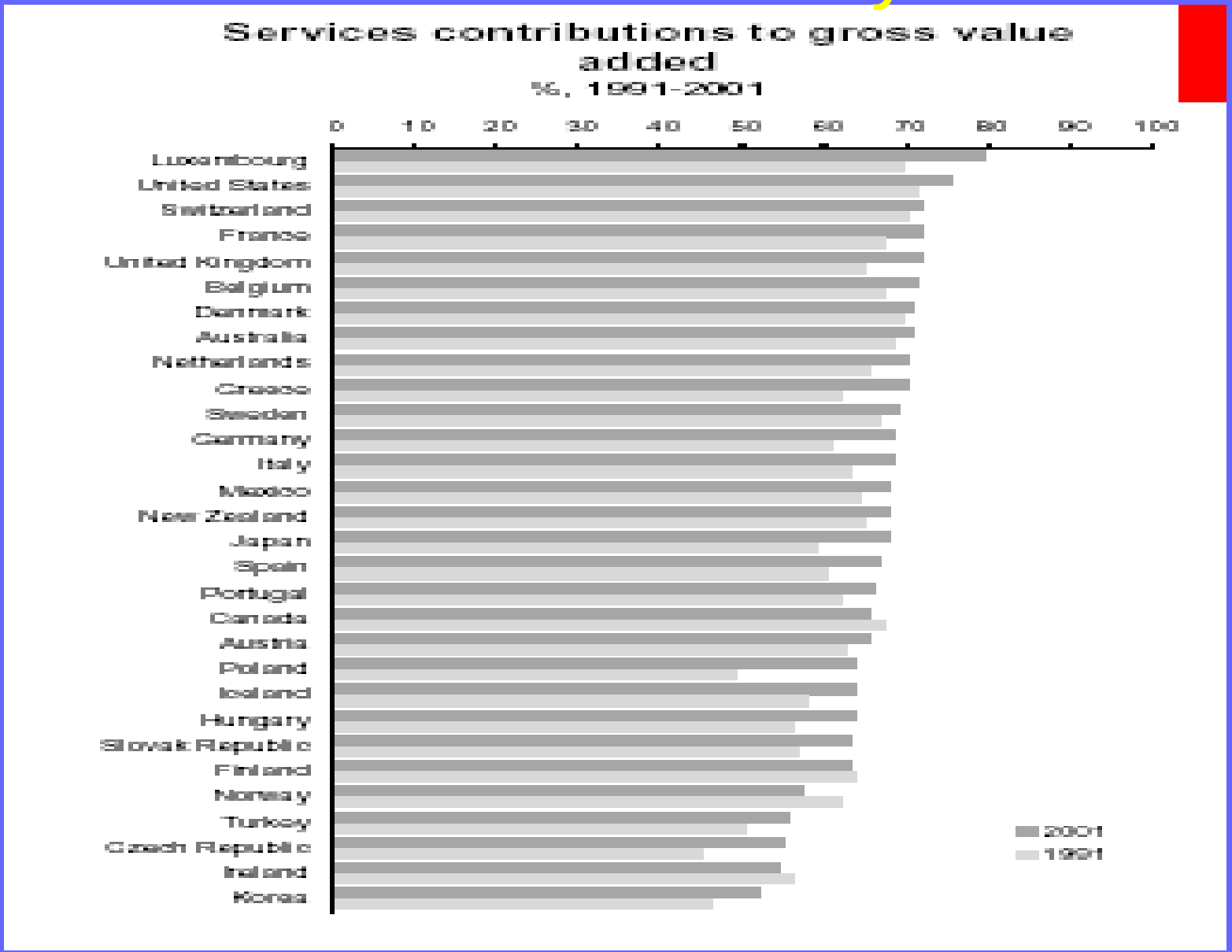
Relative Size of China and Japan (2000)

	Japan	China
GDP	US$ 4,454.6 billion	US$ 1,079.8 billion
GDP PPP basis	US$ 339.4 billion	US$ 501.9 billion
GDP PPP basis per capita	US$ 26,755	US$ 3,976

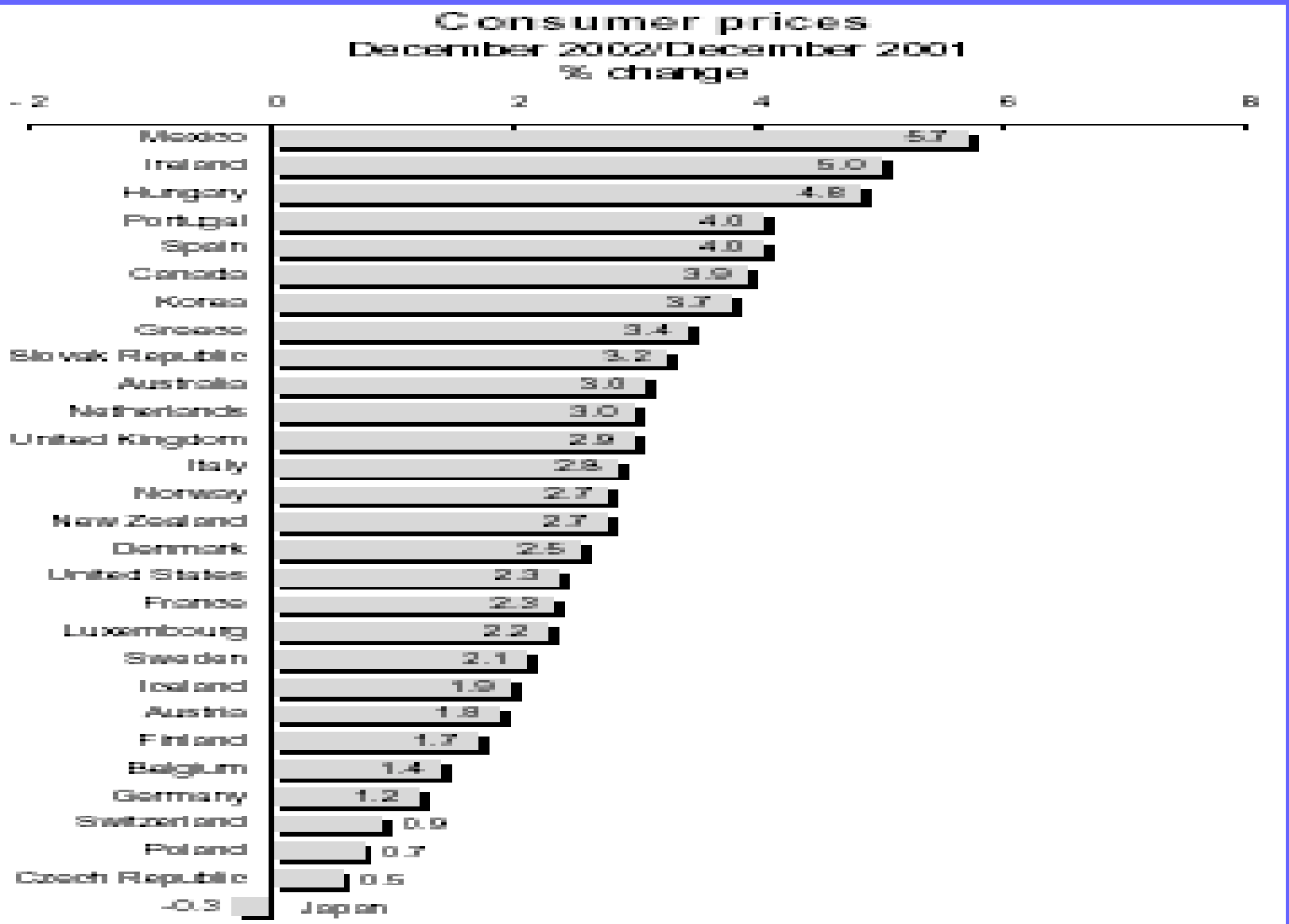
GDP PER CAPITA



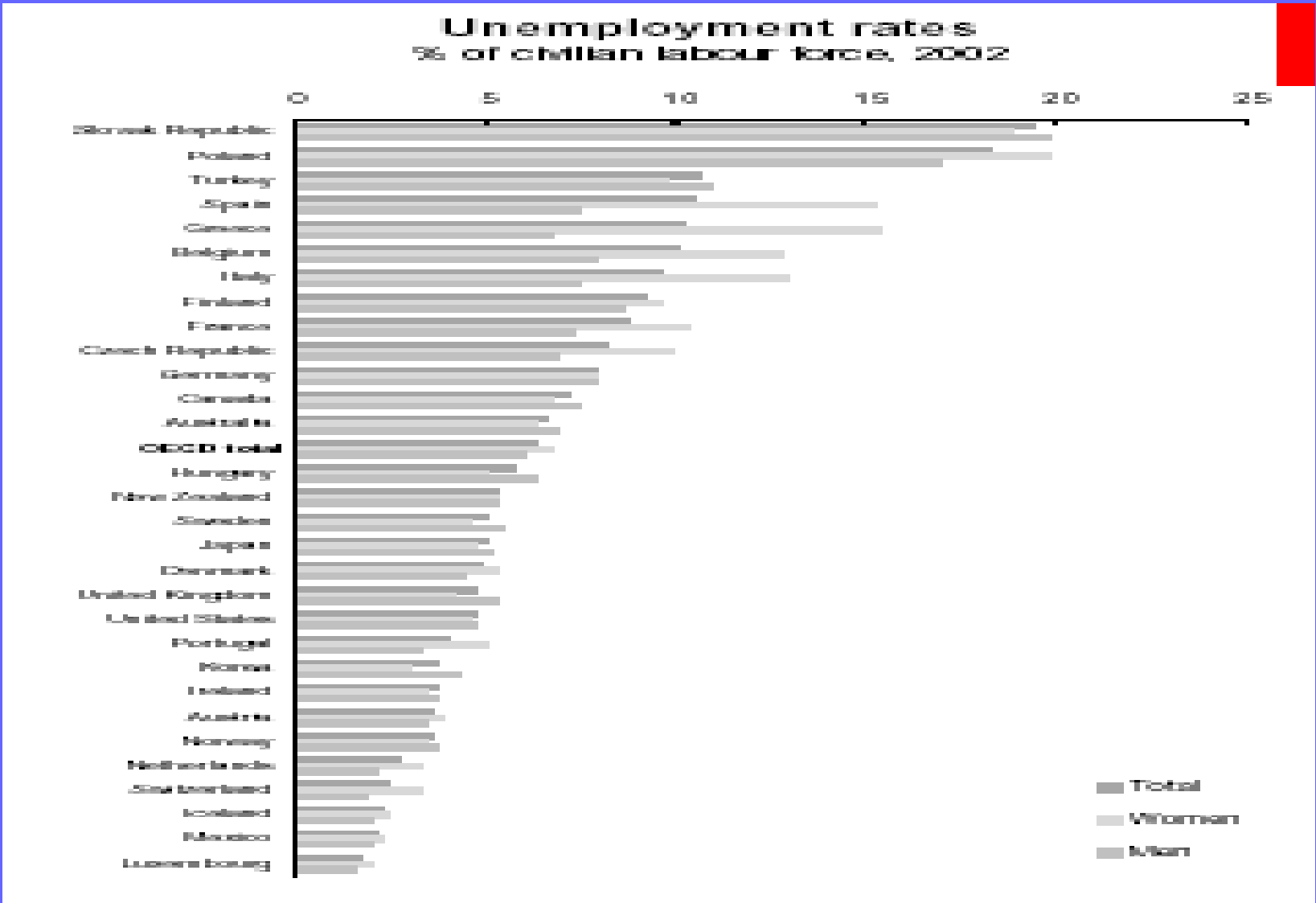
Services Industry Share



Consumer Prices

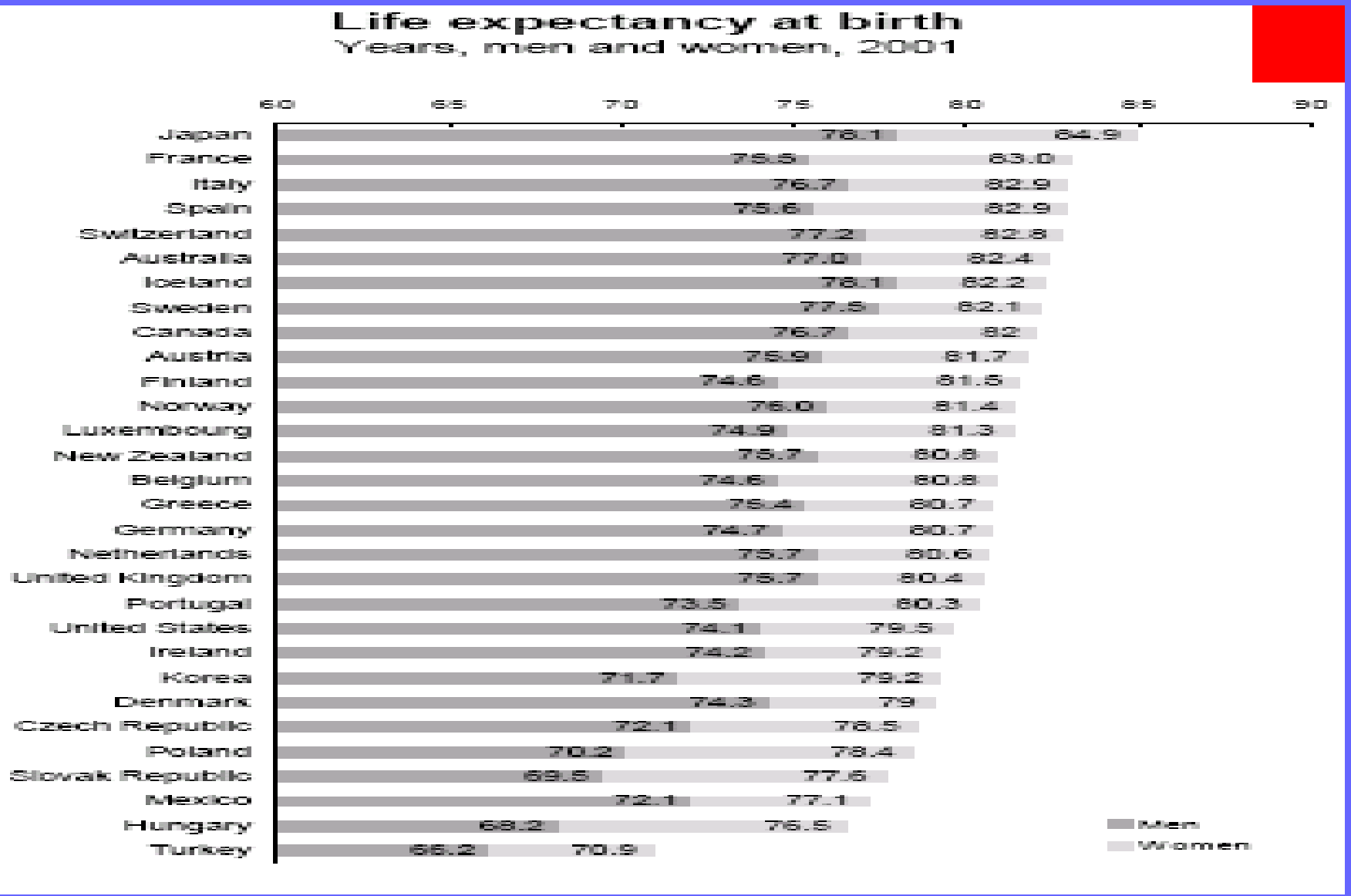


Unemployment

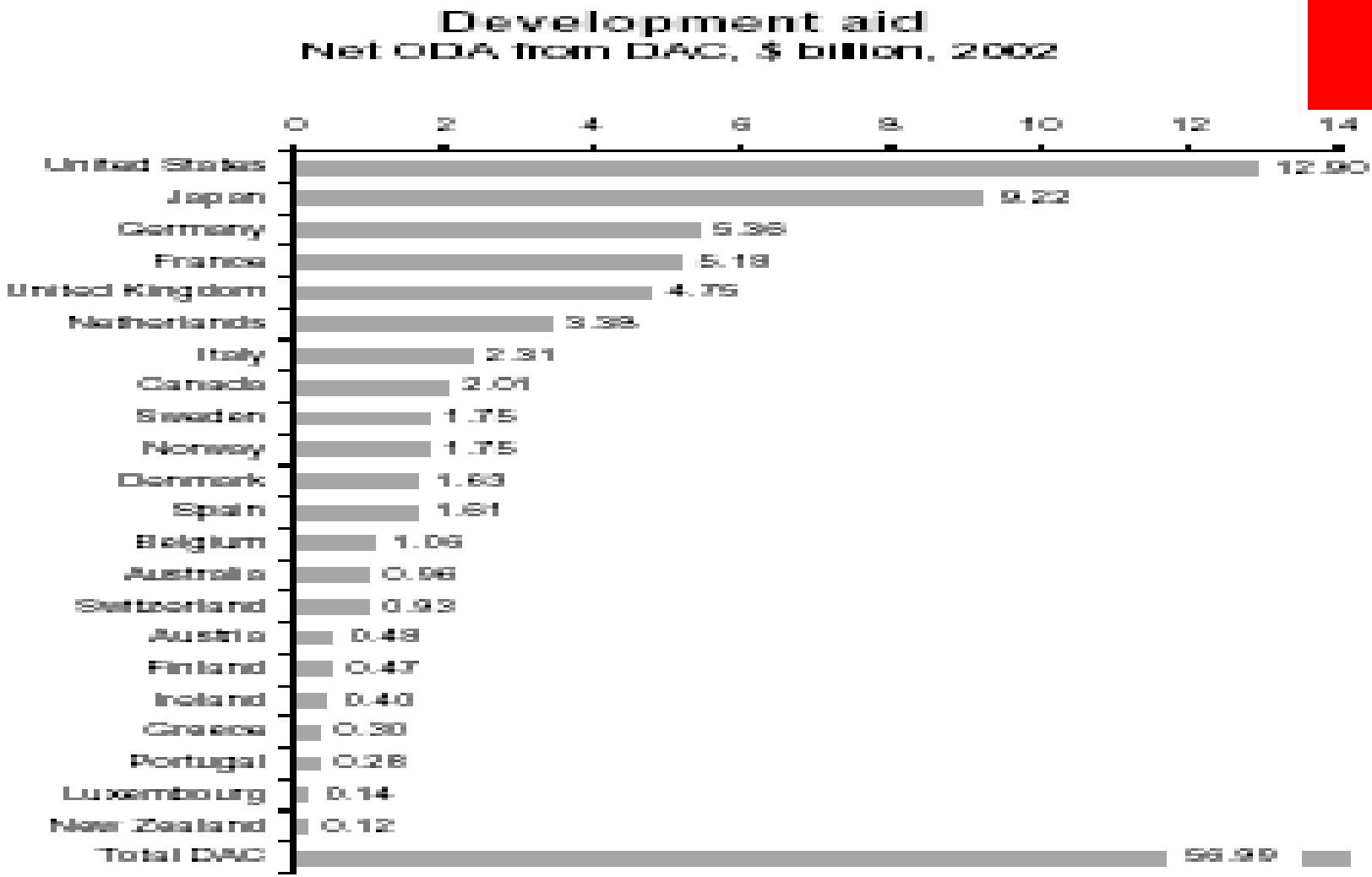


..\Life expect.pdf

Life Expectancy



Aid Flows


Development aid
Net ODA from DAC, $ billion, 2002
0
2
4
6
8
10
12
14
United States 12.90
Japan 9.22
Germany 5.36
France 5.18
United Kingdom 4.75
Netherlands 3.32
Italy 2.31
Canada 2.01
Sweden 1.75
Norway 1.75
Denmark 1.63
Spain 1.61
Belgium 1.06
Australia 0.96
Switzerland 0.93
Austria 0.48
Finland 0.47
Ireland 0.40
Greece 0.30
Portugal 0.28
Luxembourg 0.14
New Zealand 0.12
Total DAC 56.99

Japan's Economic Status

- ... it has instituted substantial (albeit incomplete) reform over the past decade ...
  - Large retail stores, air and road transport, electric power, petrol imports, telecommunications and financial services
  - Labour market
    - reducing seniority, especially in government
  - Corporate structure and behaviour
    - establish holding companies and consolidated accounts, remove impediments to M&A, encourage corporate restructuring, improve corporate governance, tighten accounting rules

- Devolution, stronger competition policy, and better public decision making
- Creation of special structural reform zones (from April 2003)

- ... and its economy is starting to recover

Where do we stand on Japan's growth: what are the interesting questions?

- Why did Japan grow so fast?
- How did Japan "catch-up" so much faster than other countries at similar levels of income?
- Was the structure of Japan's growth the same as elsewhere? or
- Did Japan have a productivity "miracle"?
- Why did growth slow down?

Pattern of growth in international comparison

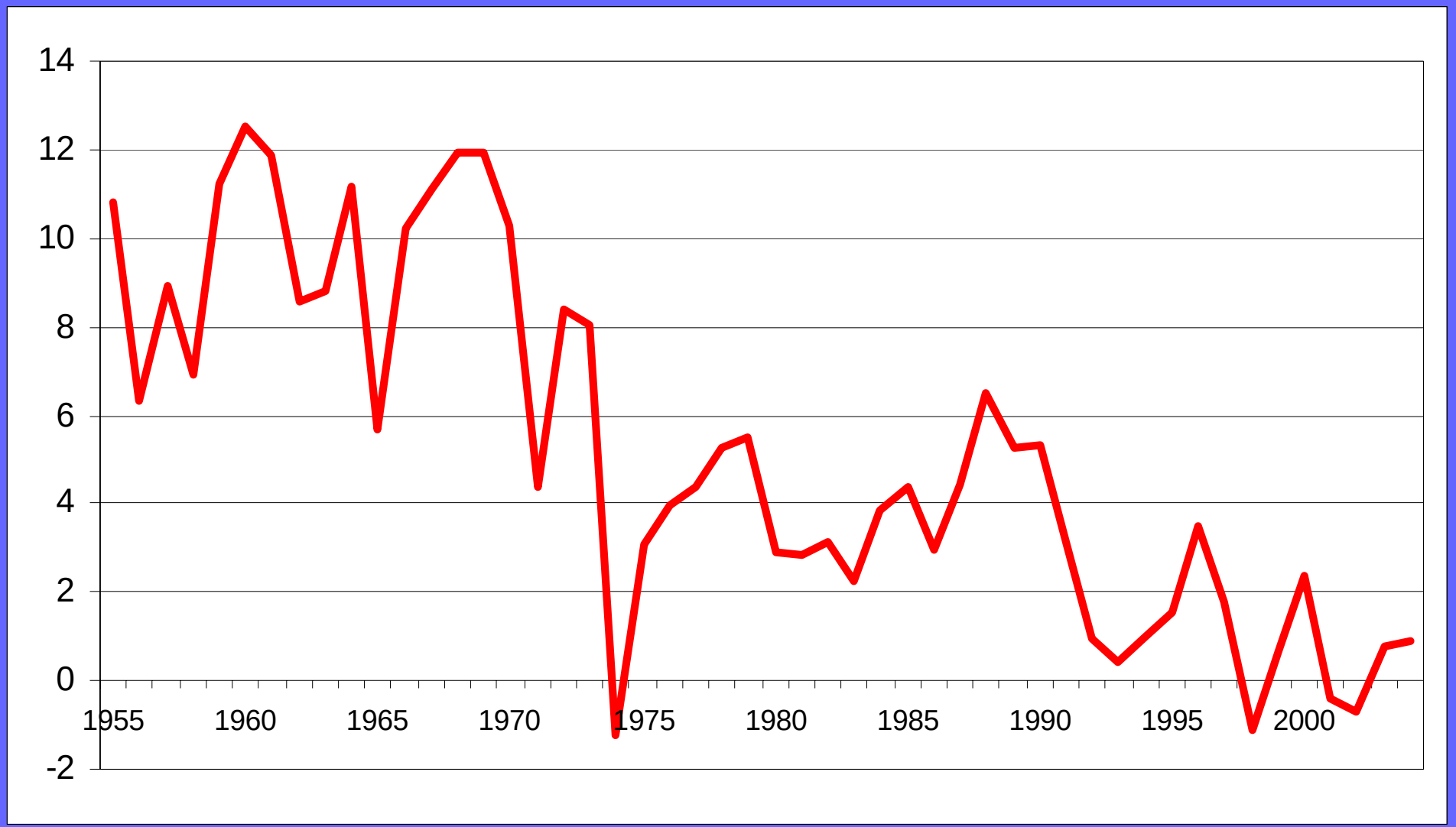
- internationally high rate of growth
- same pattern as elsewhere: Golden Age
- after 1973 growth rates halved, since 1991 halved again
- growth was not smooth: though variance maybe lower than elsewhere

Real GDP Growth

			Real GDP Growth				
From			OECD	EU	USA	Japan	Australia
		1960					
1960	to	1968	5.0%	4.3%	4.3%	8.8%	4.4%
1968	to	1973	4.2%	4.2%	2.9%	7.1%	4.0%
1973	to	1979	2.7%	2.2%	2.5%	3.0%	2.4%
1979	to	1989	2.7%	2.0%	2.7%	3.5%	3.0%
1989	to	1999	2.4%	1.9%	2.7%	1.5%	3.0%
1999	to	2001	1.6%	1.7%	1.8%	0.6%	1.9%

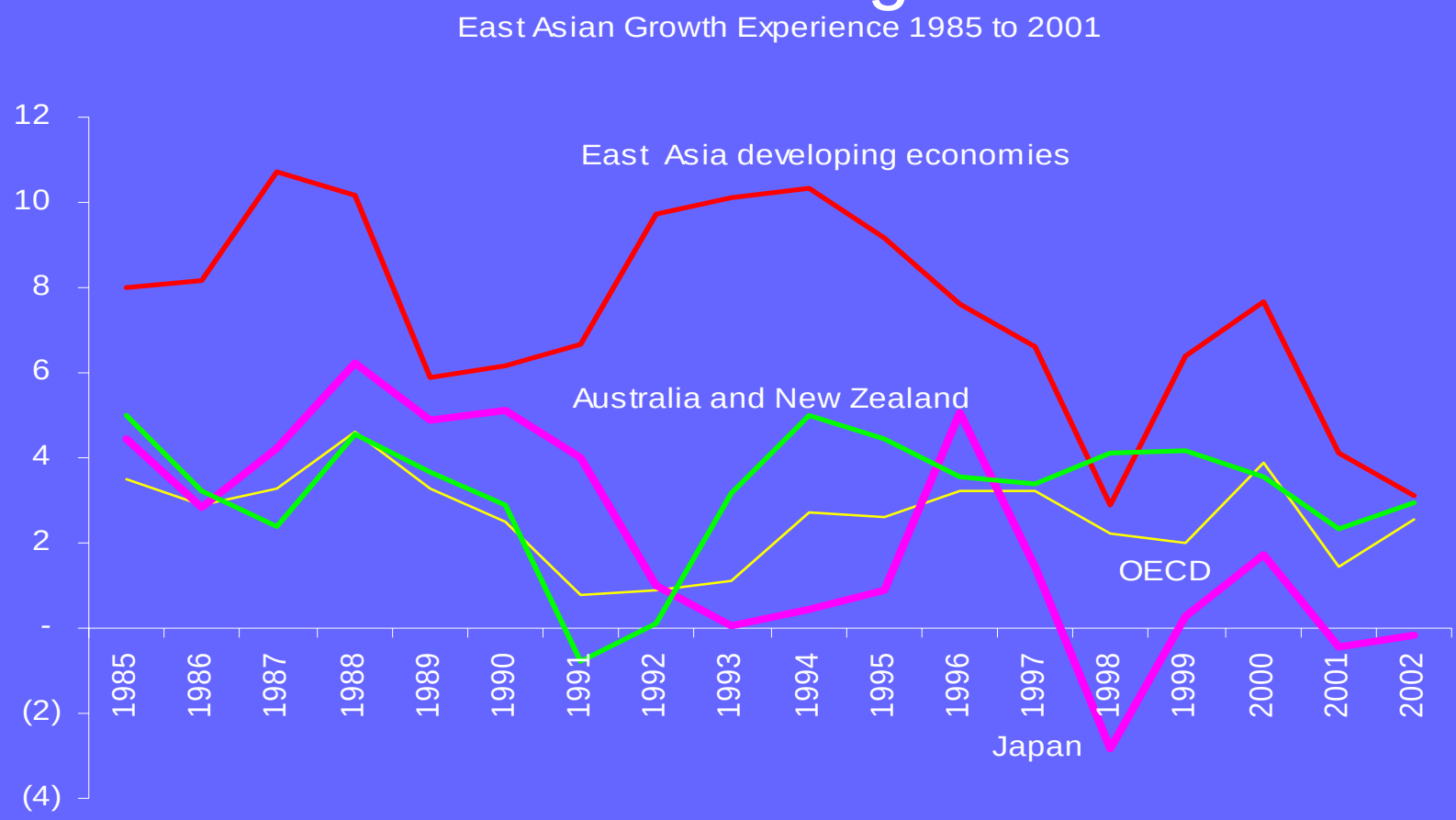
Source: International Economic Databank ANU.

Japan's GDP Growth Rate (% pa)



Overview (cont.)

- East Asian crisis of 1997 saw sharp check to East Asian growth



Major Sources of Japan's Postwar Growth

Neoclassical theory of growth

- y = f(k, l, t ..)

  y = the change in output

  k = the change in capital stock

  l = the change in labour supply

  t = the change in technology

- growth accounting analysis (Denison and Chung)

Sources of growth to 1973

- Early work: stressed differences from US; Japan's *miracle*
- Recently: catch-up process familiar, slowdown different
- Conclusions:
  - productivity gains from structural change were important
  - role of capital large *and* underestimated
  - catch-up was important
  - TFP growth maybe greater than other high-growth Asia

Major Sources of Japan's Postwar Growth

Growth accounting for Japan

- role of changes in capital stock
- role of changes in labour supply
- changes in the quality of capital and labour
- technological improvement
- economies of scale
- improvements in resource allocation

Sources of Growth (% per year and % contribution)

	Capital	Labour	TFP	Output
Japan	2.93%	1.63%	4.71%	9.27%
1950 - 73	(32%)	(17%)	(51%)	(100%)
	2.29%	0.66%	0.78%	3.73%
1973 - 87	(61%)	(18%)	(21%)	(100%)
USA	1.37%	1.17%	1.11%	3.65%
1950 - 73	(38%)	(32%)	(30%)	(100%)
	1.24%	1.31%	-0.04%	2.51%
1973 - 87	(49%)	(52%)	(-2%)	(100%)
Germany	2.27%	0.15%	3.50%	5.92
1950 - 73	(38%)	(3%)	(59%)	(100%)
	1.28%	-0.49%	1.01%	1.80
1973 - 87	(71%)	(-27%)	(56%)	(100%)

Source: Crafts,1992, "Productivity Growth Reconsidered", Economic Policy, 15

Factor contributions to High Growth

- Labour
  - labour supply contributed much less than in US
  - even adjusting for education doesn't change
  - shifts of employment structure raised productivity
  - labour was a "permissive" factor, except for 1968-73

Key Factors in Growth

Investment

- high ratio of capital formation/GDP
- large domestic capital formation/capital inflows were quantitatively unimportant
- improvements in the productivity of investment/industrial upgrading and structural change
- low non-productive investment (defence)
- strong investment environment/political stability

Key Factors in Growth

Financing investment through savings

- high domestic savings/GDP ratio
- effect of growth on savings
- effect of demographic change on savings (Horioka)
- effect of institutional factors on savings : social security, wage system
- effect of policy on savings : repressed capital market, tax incentives to personal savings

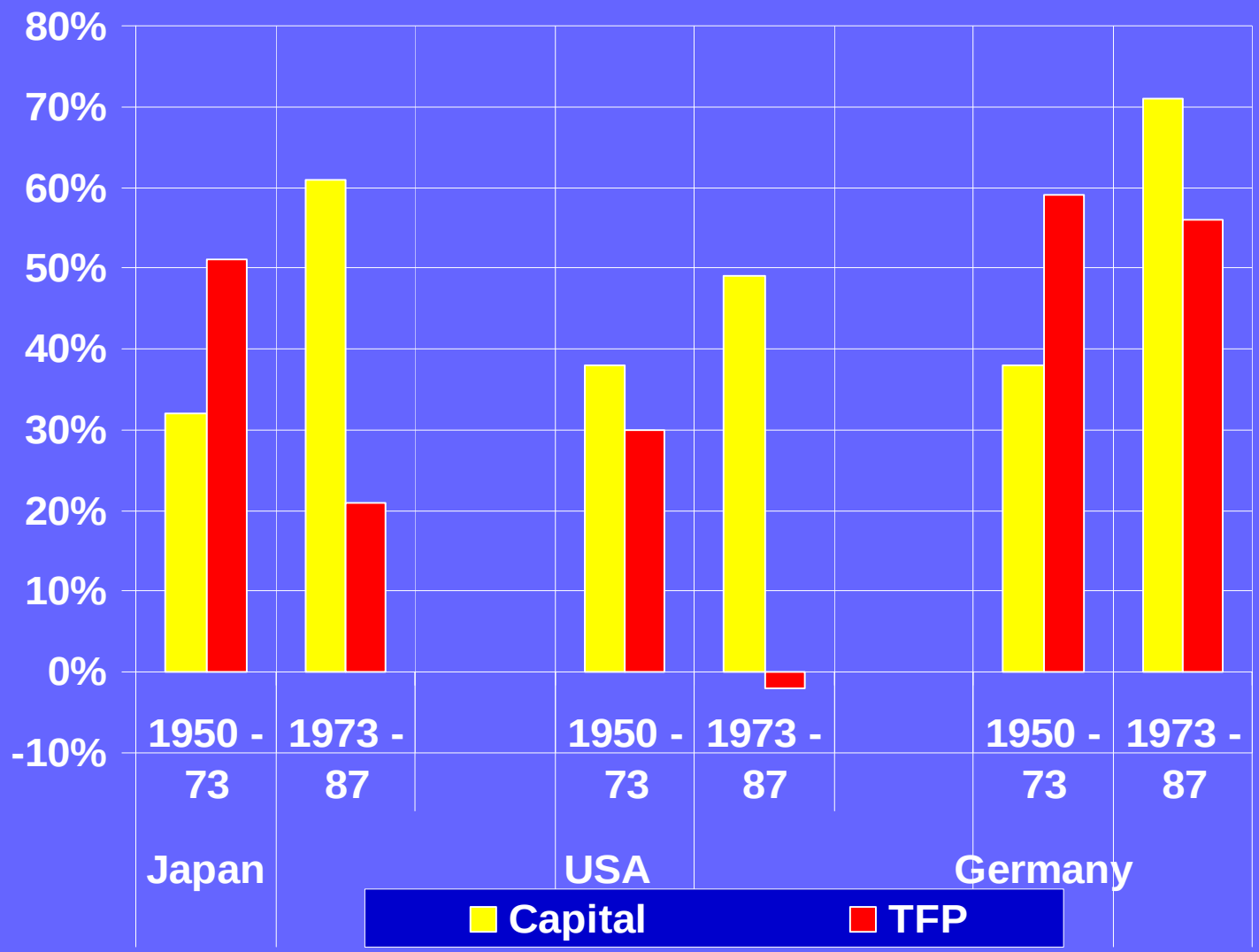
Maddison's identifiable forces 1950- 1973

	France	Germany	Japan	Netherlands	UK	USA
GDP	5.04	5.92	9.27	4.74	3.03	3.65
Augmented factor input	2.02	2.42	5.44	2.32	1.76	2.54
TFP	3.02	3.50	3.83	2.42	1.27	1.11
Structural Effect	0.46	0.36	1.22	-0. 07	0. 10	0.12
Technology Diffusion	0.25	0.34	0.50	0.23	0.07	0.00
Foreign Trade	0.28	0.36	0.38	0.98	0.25	0.07
Scale Effect	0.15	0.18	0.28	0.14	0.09	0.11
Energy Effect	0.00	0.00	0.00	0.06	-0.01	0. 01
Natural Resources	0.00	0.00	0.00	0.19	0.00	0.00
Total explained	1.14	1.24	2.38	1.53	0.50	0.31
Residual TFP	1.88	2.26	1.45	0.89	0.77	0.80

Note: Data are annual compound growth rates.

Source: Maddison (1991) table 5. 19.

Contributions to Growth: Capital & TFP



Key Factors in Growth

Technology

- the ‘catch up’ effect
- high imports of technology and know how
- ease of technology diffusion (lack of resistance by labour to application of new technologies/life-time employment)
- policies supporting technology import and adaptation and technology diffusion

Key Factors in Growth

Scale economies

- growth of domestic demand and scale economies (autos)
- growth of international demand and scale economies (shipbuilding)

Key Factors in Growth

International factors

- open international economy (GATT system)
- favourable terms of trade in the high growth period
  - Cheap resources, valuable manufactures

What “institutions” were important?

- international capital controls and protection
- financial system structure & government financial institutions
- “low interest rate policy”
- government commitment to growth and general public consensus
- Expectations, feedback from export growth, confidence in demand growth

Other Factors in Growth

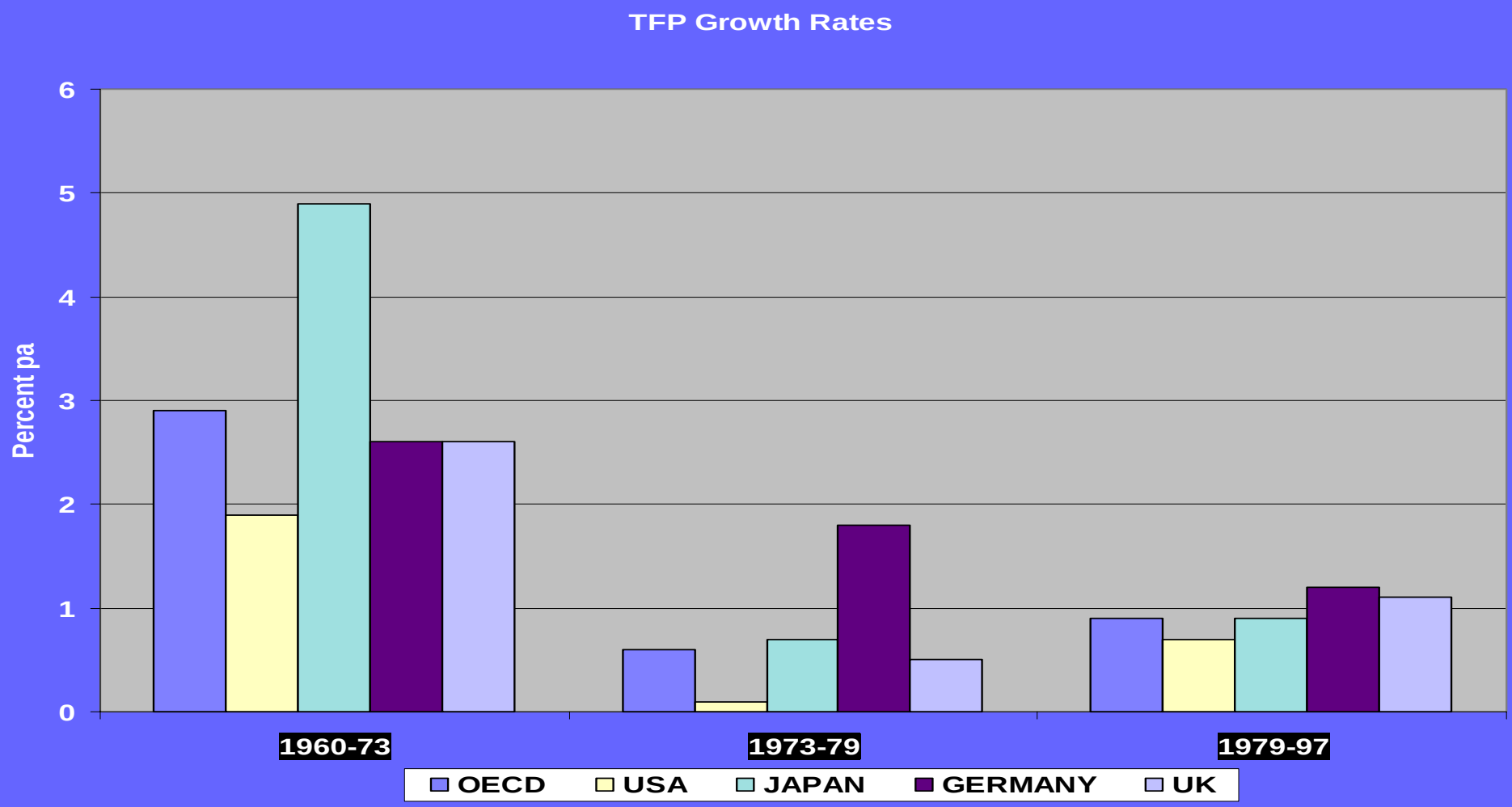
Culture and institutions?

- East Asian values
- ‘Development State’
- Role of the govt : long term planning, stabilisation, intervention
- Japan Inc?
- Entrepreneurship and growth : new growth theory?

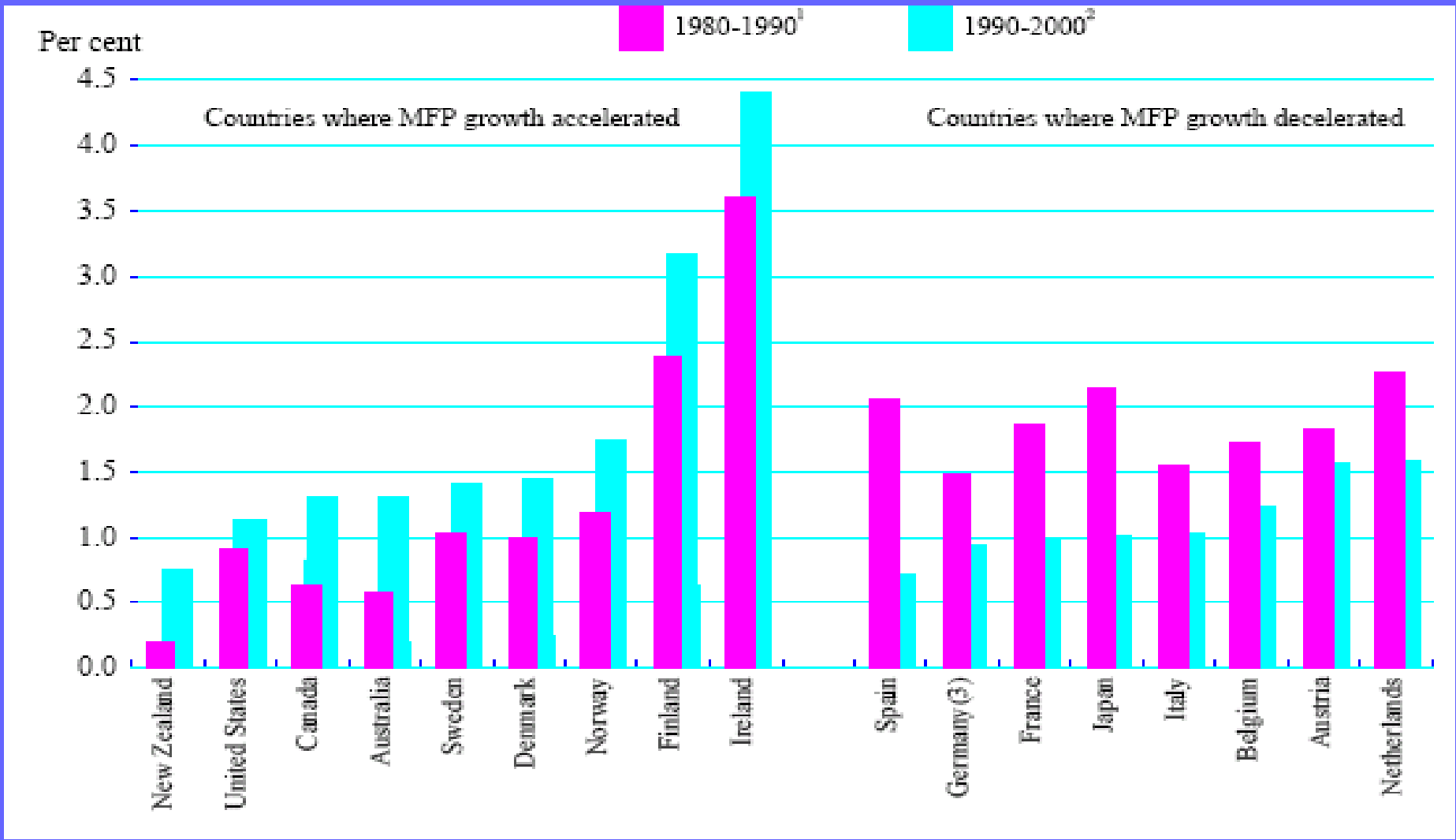
Sources of slowdown

- Post 1973 slowdown everywhere a slowdown in TFP growth (OECD)
- What about Japan?
- Extreme estimates (Maddison): all of Japan's post 73 growth from capital input growt; **no** contribution from productivity growth
- Other extreme: (Ito) claims no collapse of TFP, maybe a reduction in the contribution of capital
- Probably mid-way more likely (Englander& Mittelstadt, OECD 1996)
- Since late 1980s: not just decline in actual growth rates, OECD and IMF claim large decline in potential in Japan. *This is a key debate: can high growth return?*

Key Factors in Growth: TFP



Multi-factor productivity growth
Business sector, 1990s and 1980s



1. 1983-1990 for Belgium, Denmark and Ireland, 1985-1990 for Austria and New Zealand. 2. 1990-1996 for Ireland and Sweden, 1990-1997 for Austria, Belgium and New Zealand, 1990-1998 for Netherlands, 1990-1999 for Australia, Denmark, France, Italy, Japan and 1991-2000 for Germany. 3. West Germany before 1991. Source: OECD. (based on cyclically-adjusted series)

Capital: Savings and Investment

Capital accumulation

- There is no doubt that capital accumulation (investment) grew rapidly during high growth and accounted for a high share of GNP
- Not easy to explain econometrically what drives investment function
- Expectations, feedback from export growth, confidence, govt policy must all have been important
- Embodiment of new technology

Why was investment so high?

- High share of GNP despite falling marginal prod (output/capital) (graph OECD and Minami).
- Structure of I has been geared to sectors where learning by doing might be high (private, non-residential)
- Econometric models no better in Japan than elsewhere
- Probably growth of dom demand main cause in HEGP, factor price changes in low growth period.
- likely that environment/institutions type

Are domestic savings and investment linked?

- Small open economy model should not be (capital mobility)
- But casual evidence suggests may be Feldstein-Horioka (1980) results give high correlation
- Later literature generally supports
- Why would this be so?
  - capital markets not perfect (interest parity conditions don't hold, capital controls to 1971 in Japan)
  - current accounts automatically balance over the long term
  - governments use policy to balance current accounts
  - saving and investment both affected by same

Are Japan's savings high? Why?

- Is the savings rate really high
  - do the statistics lie?
- If private household savings are high why?
  - economic explanations
  - cultural explanations
- Does the ageing population matter: will savings decline?

Do high I and S matter for growth?

- Solow growth model: steady state growth has constant capital labour ratio
- K, Y grow at exogenously determined rate (Labour growth, augmented by technical change)
- Investment and savings increases have no effect on growth **rate** (do affect level of Y/L).
- Technology is *exogenously* determined
- Casual evidence links high investment with high Y and high TFP growth. *Engogenous* growth?

Recent economic problems in Japan

- 1985-1989 the “bubble” economy.
- Persistent trade surpluses and trade tension with the US.
- Yen appreciation ever since the end of Bretton Woods but particularly from 1985 to 1996.
- The burst of the bubble in 1991 and severe double-dip recession 1991-95, 1997-99.

Problems (con’t)

- Large and rising government deficits during the recession
- Ageing population
- Financial market deregulation and demands for further deregulation