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## ***Outlook for Monetary Policy In Norway***

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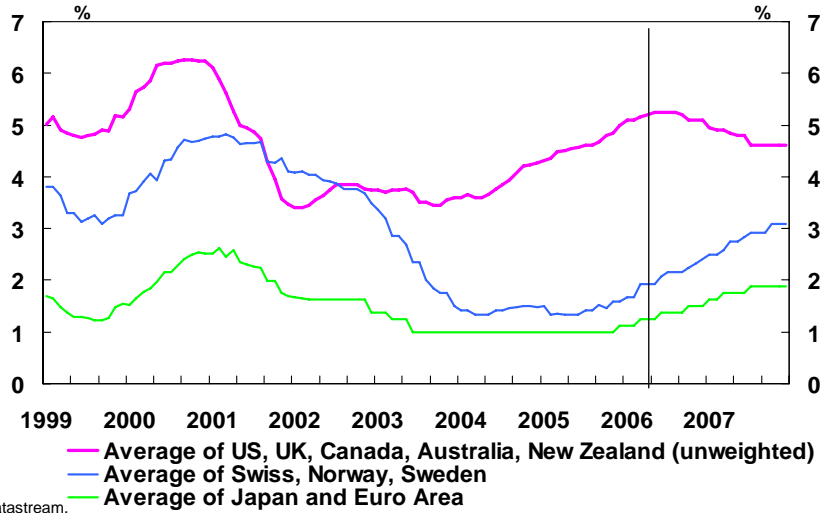
### ***Monetary Policy Outlook In Norway***

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- Norges Bank started to hike rates – how far to go?
- Disinflationary external forces likely to persist
- The framework for monetary policy in Norway – can it be improved?  
Challenge is how to set policy with persistent inflation undershoot  
and tension between inflation target and “stability” aims.

Global

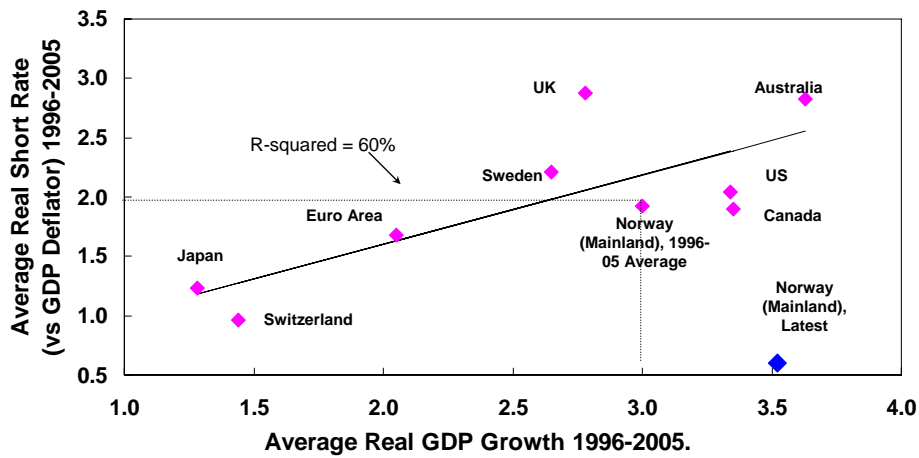
### Short Term Policy Rates – Divergence and Convergence



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Selected Countries

### High Growth Economies Usually Have Higher Neutral Real Interest Rate



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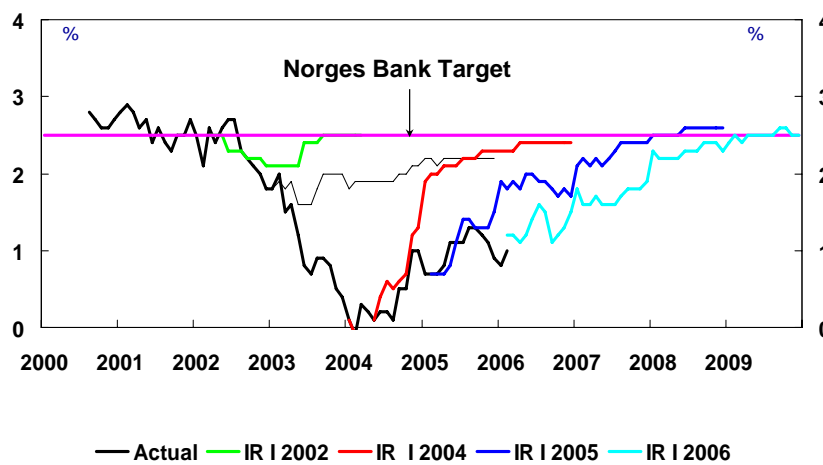
## Norges Bank Monetary Policy Framework

Sets the Standard in Technical Aspects of inflation targeting

- Highly transparent, with detailed forecasts
- Forward looking, with lengthy horizon (at least 3 years)
- Flexible inflation targeting, balancing growth with speed of returning inflation to target
- Use of market interest rates and NB optimal interest rate path
  
- But inflation “misses” – the deviations from forecast and target – have been relatively large.

Norway

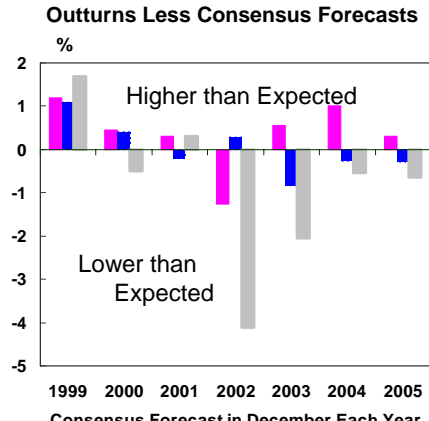
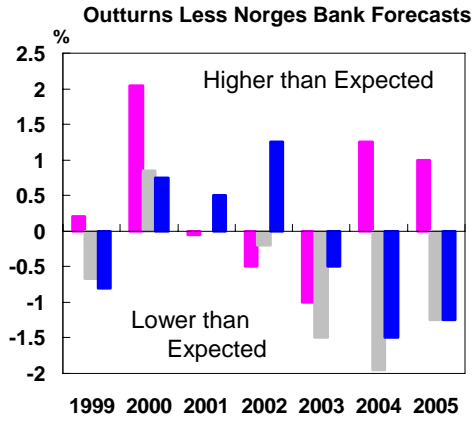
## CPI-ATE Inflation: Norges Bank Forecasts and Outturns



Sources: Statistics Norway and Norges Bank

Norway

## Economic Outturns Less Forecasts: Growth, Inflation, Wages, Interest Rates



■ Mainland GDP ■ Inflation  
■ Wages and Salaries

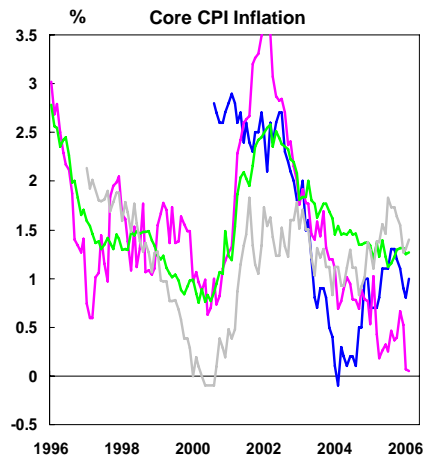
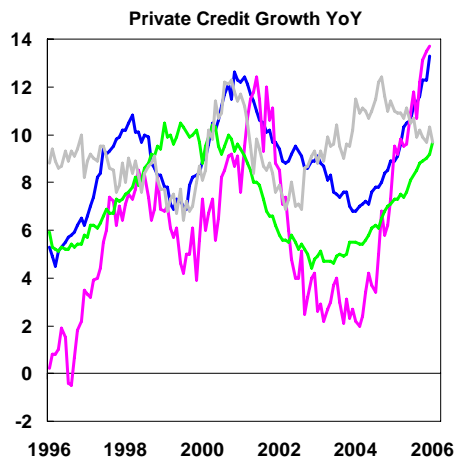
■ GDP Growth In Next Year  
■ CPI Inflation In Next Year  
■ Short Rates 12 Months Ahead

Note: Norges bank forecasts measured at end of year T-2. Inflation measured by CPI-ATE since 2002, CPI for the rest.  
Sources: Norges Bank Inflation Reports and Citigroup.



Selected Countries

## Credit and Core Inflation



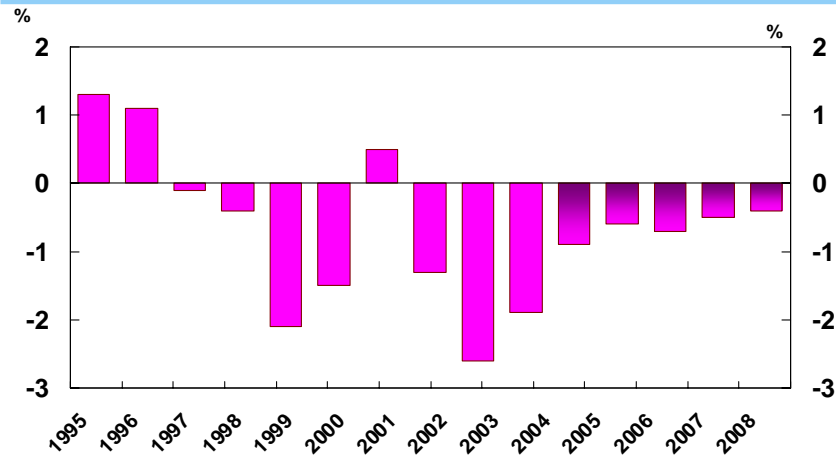
— Norway — Sweden — Euro Area — UK

Note: Core inflation measured by CPI-Ate for Norway, Undix1 ex energy for Sweden, CPI ex food, drink, energy, tobacco for UK, CPI ex energy, unprocessed food, tobacco and health for euro area.



Norway

**Norges Bank Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual figures. Per cent. 1995 – 2009<sup>1)</sup>**

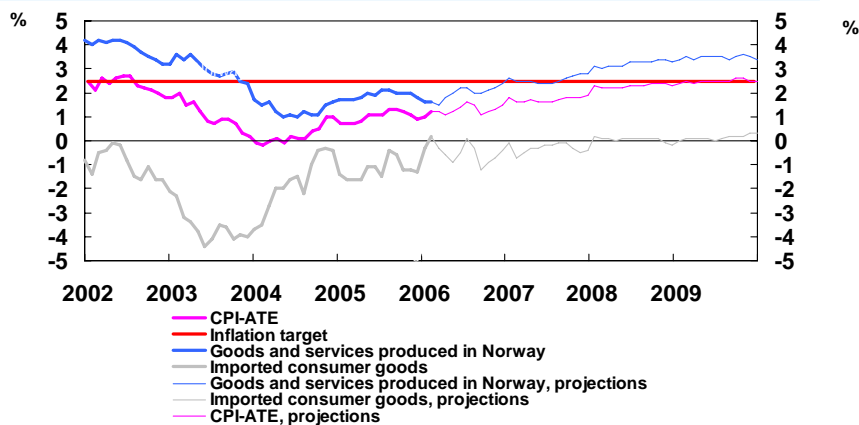


<sup>1)</sup> Projections for 2005 – 2009.

Source: Norges Bank Inflation Report 1/2006.

Norway

**Norges Bank Forecast for CPI-ATE<sup>1)</sup>. Total and by supplier sector<sup>2)</sup>. 12-month change. Per cent. Jan 02 – Dec 09<sup>3)</sup>**



<sup>1)</sup> CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates from January 2006.

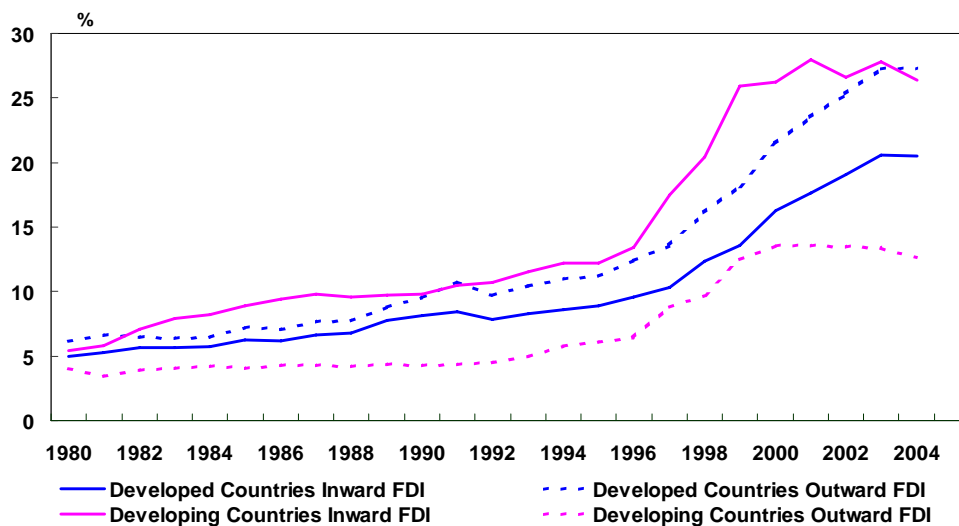
<sup>2)</sup> Norges Bank's calculations.

<sup>3)</sup> Projections for Mar 06 – Dec 09.

Sources: Statistics Norway and Norges Bank Inflation Report 1-2006.

Global

### Global Level of Foreign Direct Investment (FDI) as Pct of GDP



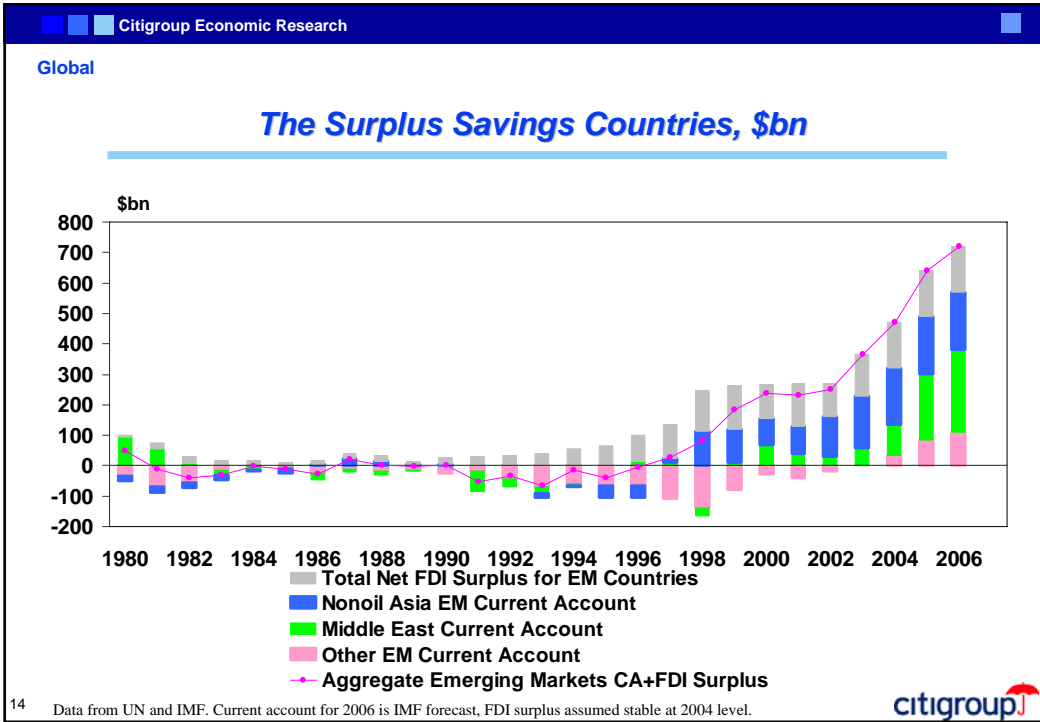
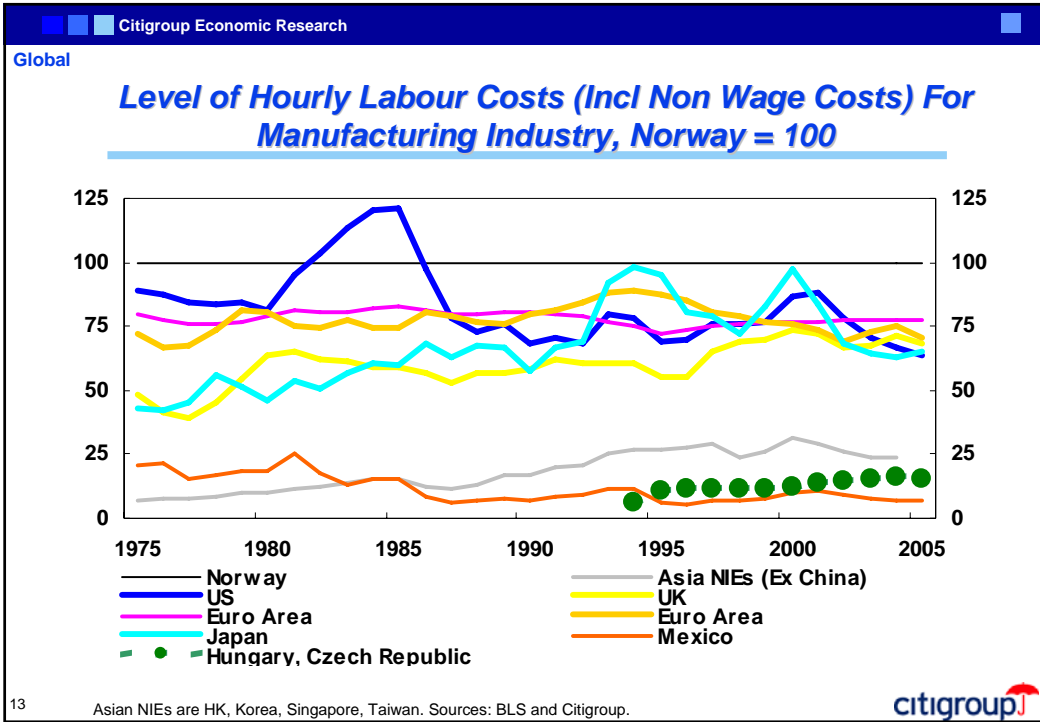
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Selected Countries

### World Bank Indices of Regulatory Business Climate

Country	World Bank "Doing Business" Ranking		Labour Costs /Hour in 2004 (Manufacturing % of US Level)
	2004	2005	
• New Zealand	1	1	56
• Singapore	3	2	32
• US	2	3	100
• Canada	4	4	92
• Norway	8	5	150
• Australia	7	6	100
• Hong Kong	5	7	24
• Denmark	15	8	146
• UK	6	9	107
• Japan	10	10	95
• <u>Germany</u>	24	19	140
• Korea	21	27	50
• <u>Spain</u>	27	30	74
• Taiwan	17	35	26
• <u>France</u>	36	44	103
• Czech Republic	32	41	23
• <u>Italy</u>	33	70	88
• China	41	91	6

12 Source: World Bank

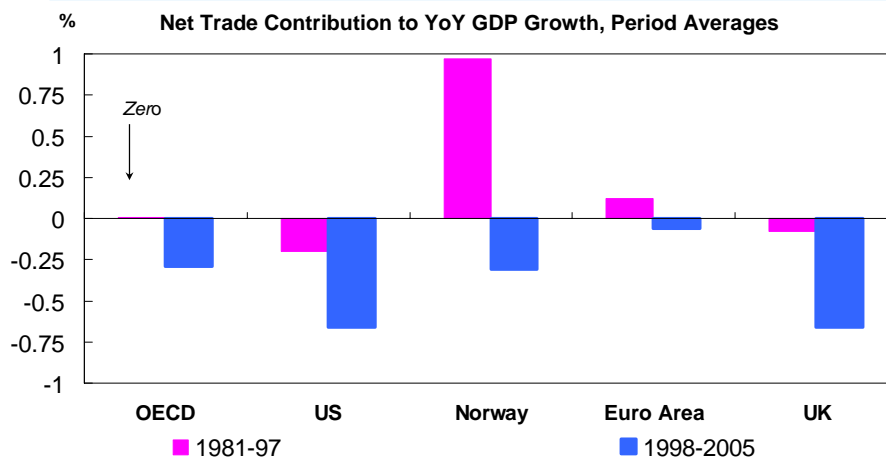


## Disinflationary Effects of Globalisation and Increased Openness

- Drag from net trade across industrial countries
- Business investment relatively subdued
- Cheap imports cap CPI nonoil goods prices – enhanced by relatively high price level in Norway
- Sluggish euro area supports Norway's real exchange rate
- Inflow of low cost migrant labour caps pay growth

Selected Countries

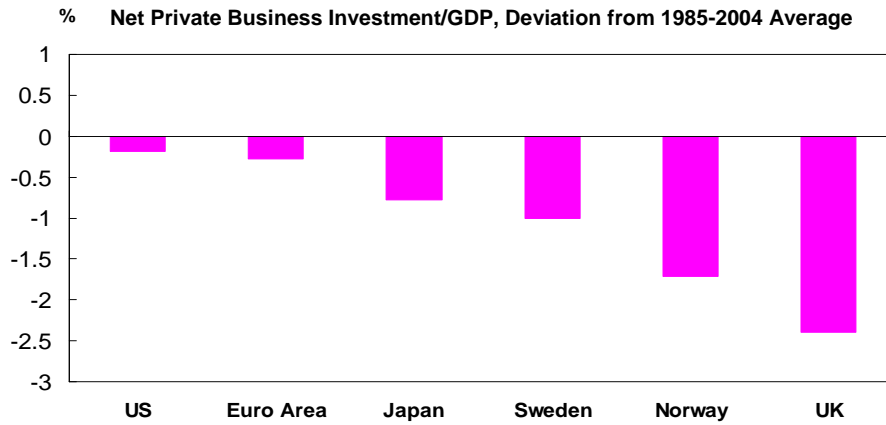
### Disinflationary Effects of Globalisation 1. Drag on GDP Growth from Net Trade



Note OECD Ex Czech Republic, Hungary, Poland, Slovak Republic, Korea, Turkey. Source: OECD

Selected Countries

## Disinflationary Effects of Globalisation: 2. Industrial Country Business Investment Undershoots



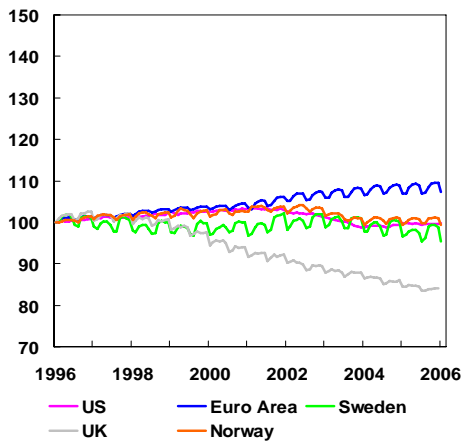
Note: Euro Area figure is deviation from 1991-2004 average.  
Source: National Government Accounts

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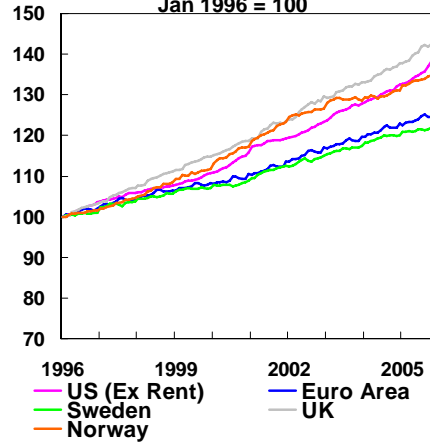
US, Euro, Sweden, UK,  
Norway

## Disinflationary Effects of Globalisation: 3. Flat/Falling Consumer Goods Prices...

Consumer Goods (Ex Energy), Indexed to Jan 1996 = 100



Consumer Services Prices, Indexed to Jan 1996 = 100

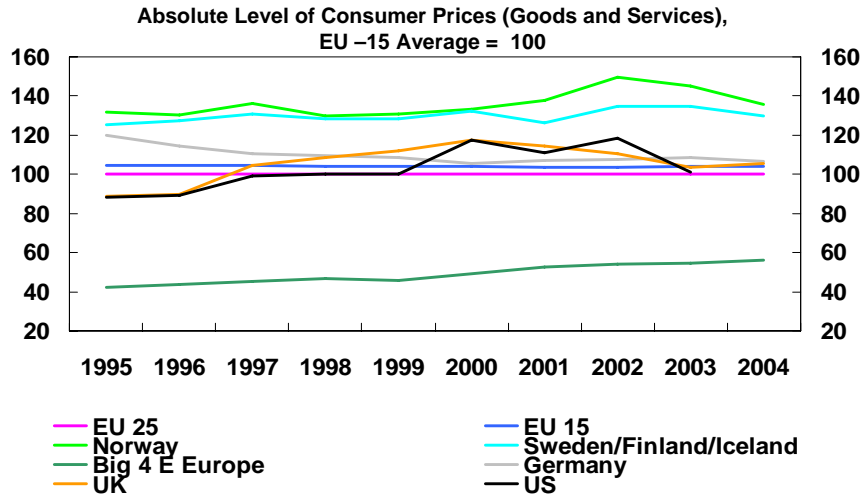


Source: Eurostat and Citigroup.

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Selected Countries

### ...Enhanced By Relatively High Level Of Prices

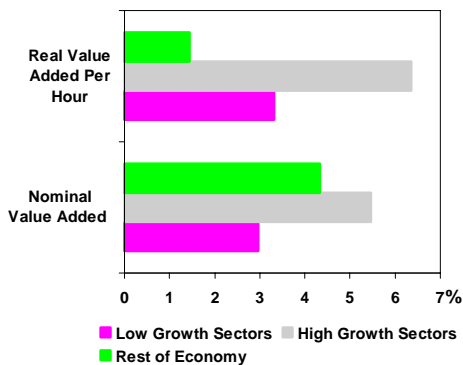


Source: Eurostat and Citigroup.

Selected Countries

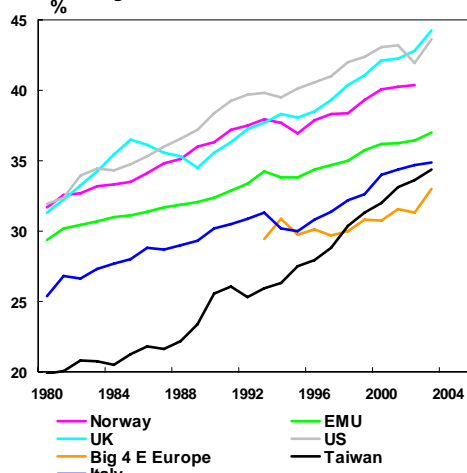
### Disinflationary Effects of Globalisation: 4. Euro Area Lags In High Growth Sectors...

Average Growth of EU Economic Sectors,  
1994-2003



High growth sectors are knowledge intensive services and high tech manufacturing.  
Low growth sectors are agriculture, fishing, low-tech and mid-tech manufacturing.

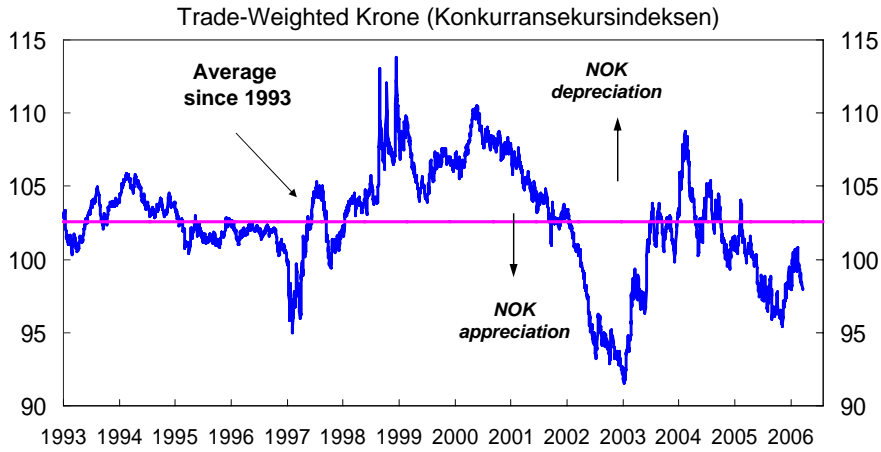
High Growth Sectors as Pct of GDP



Sources: European Commission and Groningen University

Norway

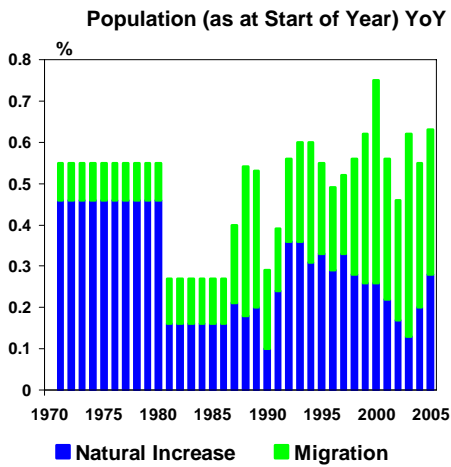
### ...Which Underpins the Krone, even with low interest rates



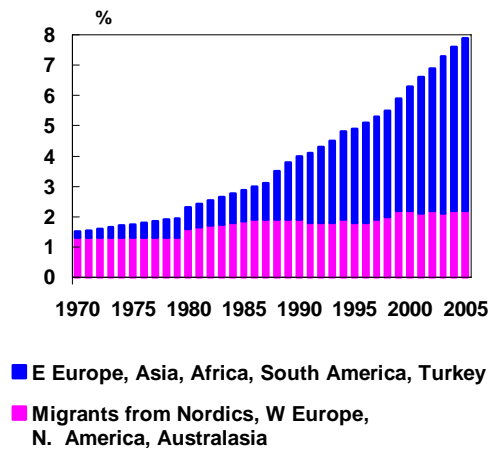
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Norway

### Disinflationary Effects of Globalisation: 5. Inward Migration of Low Cost Labour



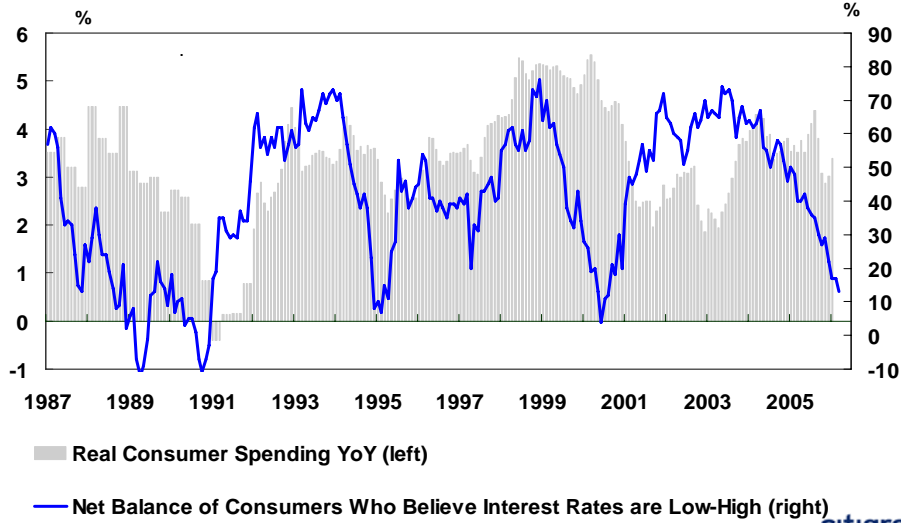
Migrants as Pct Total Population



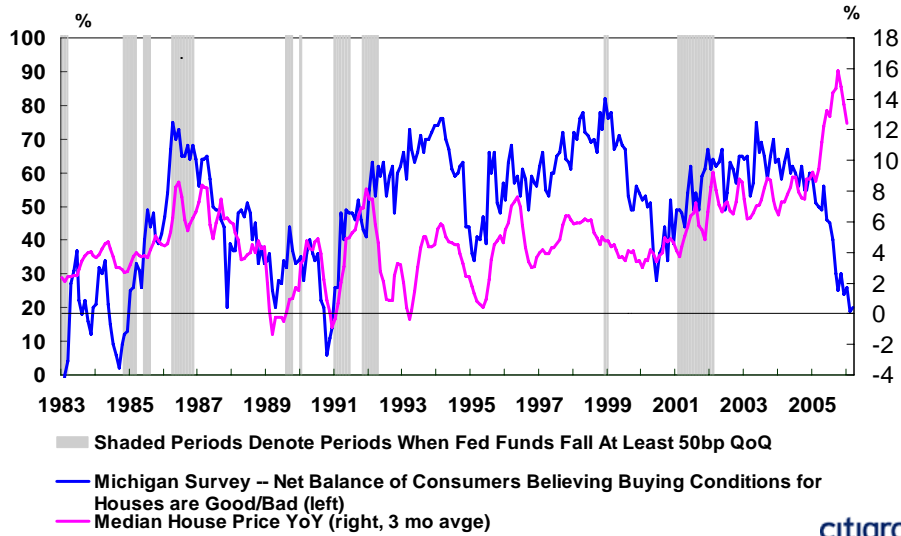
Source: Statistics Norway

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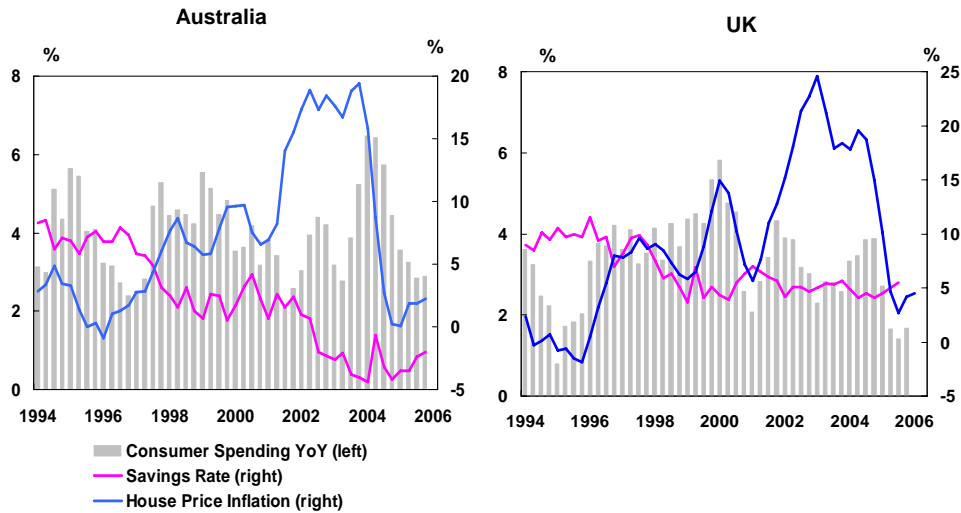
### Monetary Policy Starting to Bite



### Marked Drop in Intentions to Buy A House Points to End of House Price Gains and Probable End to Tightening



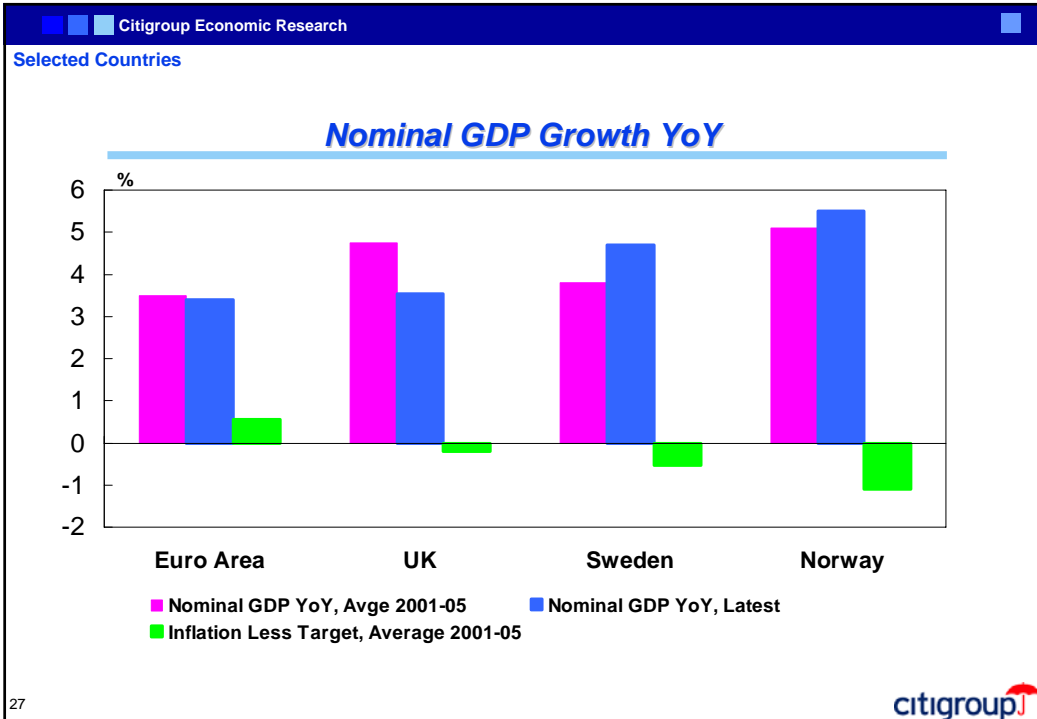
### Housing and Savings



### Setting Monetary Policy With Uncertain -- But Probably Disinflationary -- Nonoil Global Forces

Possible Framework	Advantages	Disadvantages
1. Assume external disinflationary forces fade soon, lengthen forecast horizon to 2-3 years (NB, RB, BoE, SNB)	Keeps inflation target as anchor for expectations	Repeated inflation undershoots may cost central bank credibility and reputation
2. BIS View: Change emphasis from inflation target to avoiding domestic excess. Stabilise credit growth and asset prices rather than inflation.	Reduces problem of domestic debt buildup	Even bigger inflation undershoots. Could destabilise inflation expectations. Which asset price to stabilise?
3. Shift from CPI-ATE to CPI target	CPI higher than CPI-ATE. Incorporates both inflationary (oil) and disinflationary aspects of globalisation	Vulnerable to supply-driven oil shocks
4. Assume external disinflationary backdrop continues, aim to stabilise inflation at current target (BoE mid 2003).	Maintains inflation target framework, less risk of large and repeated inflation undershoots than (1)	May require tolerance of destabilising asset/credit boom
5. Be explicit about the issues. Lengthen forecast horizon further, assume very gradual return to "normal" external backdrop.	Keeps inflation target, less likely to produce big nearterm inflation forecast errors than (1)	Implies some tolerance of debt buildup, less than (4)

**Under any assumption, greater focus on stabilising nominal GDP growth as intermediate anchor against uncertain external shocks**



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**Disclosure Appendix**

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