

# Risks to Growth

**Gikas A. Hardouvelis\***

**May 9, 2008**

PWC strategy weekend

- \* Professor, Department of Banking and Financial Management, University of Piraeus, & Chief Economist, Eurobank EFG Group

# **PRESENTATION OUTLINE**

---

**Prelude: The strongest 5-year period over the last 40 years in terms of global growth fades away**

## **I. Global Inflation on the rise**

- 1. Oil, commodities & food**
- 2. Effects on Greece**

## **II. Anatomy of the financial crisis**

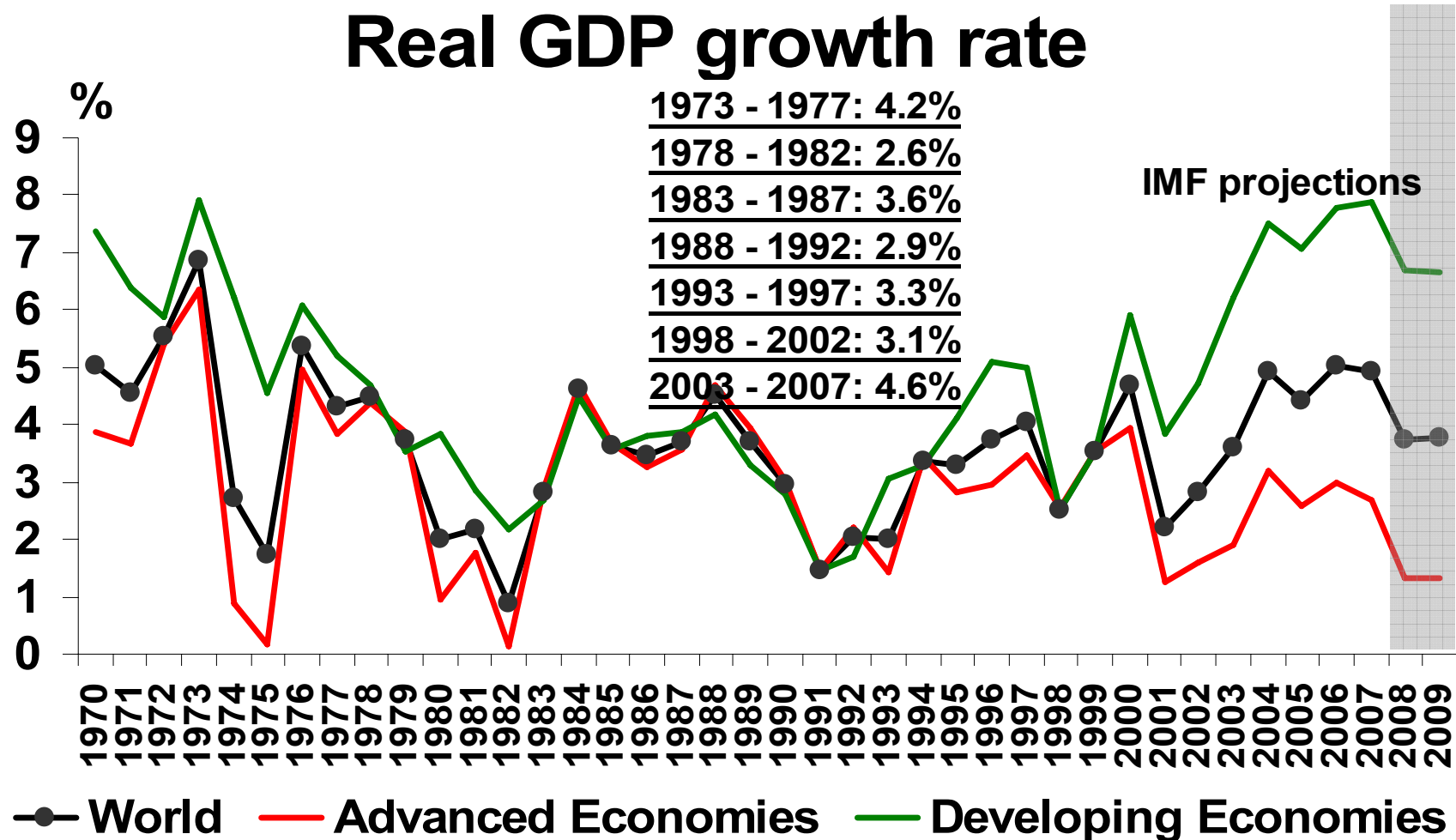
## **III. Effects of the crisis**

- 1. The cost of capital rises**
- 2. Wealth declines**
- 3. Growth suffers**
- 4. The channels of influence on Greece**

## **IV. The uncertain growth prospects in Greece**

# High global rates of growth ...

**2003–2007: Highest average rates of growth in 40 years, particularly in Developing Countries**



Source: IMF

# ... but growth rates have peaked

---

## ➤ **Downward revision in 2008 forecasts**

- ✓ **IMF** for global growth 10/2007: **4.8%**, 4/2008: **3.7%**
- ✓ **Min-Fin** for Greece: 10/2007: **4.0%**, 4/2008: **3.6%**

## ➤ **Two are the main negative factors:**

- ✓ The rise in inflation
- ✓ The financial crisis

## ➤ **The central banks' dilemma:**

- ✓ Fighting inflation requires a restrictive monetary policy and an increase in intervention rates (... as well as a restrictive fiscal policy)
- ✓ Managing the financial crisis requires an expansionary monetary policy and a reduction in intervention rates (... as well as an expansionary fiscal policy)

## ➤ **Fed and ECB follow opposite policies**

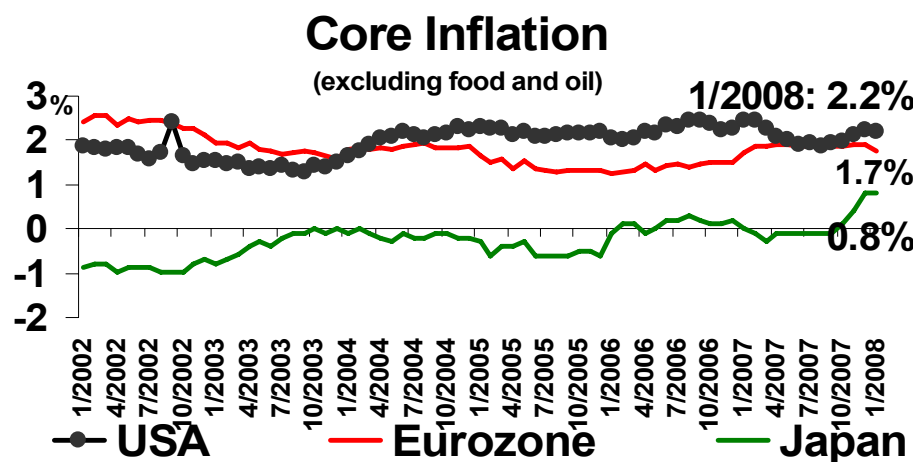
- ✓ with the dollar as their casualty

# **PART I: INFLATION**

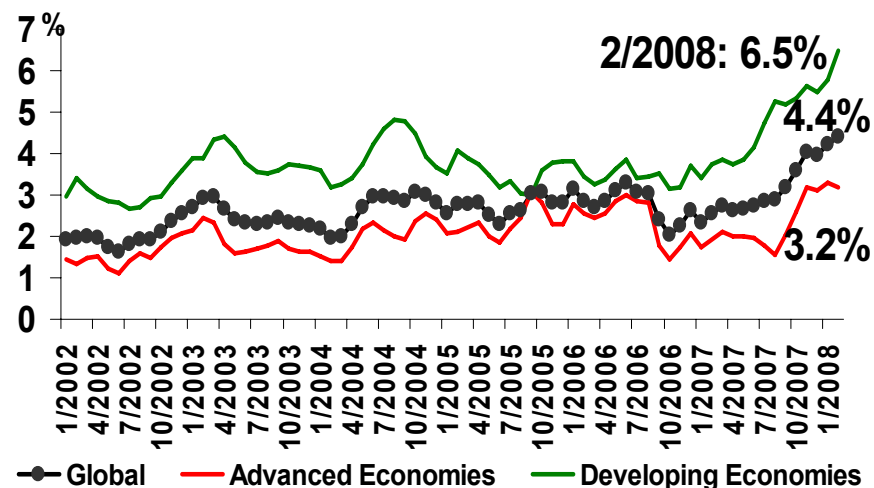
- 1. Oil, Commodities & Food**
- 2. Effects on Greece**

# 1.1 Global Inflation

- Inflation pressure on the rise, especially for developing economies
- Core inflation stable



**Headline Inflation**



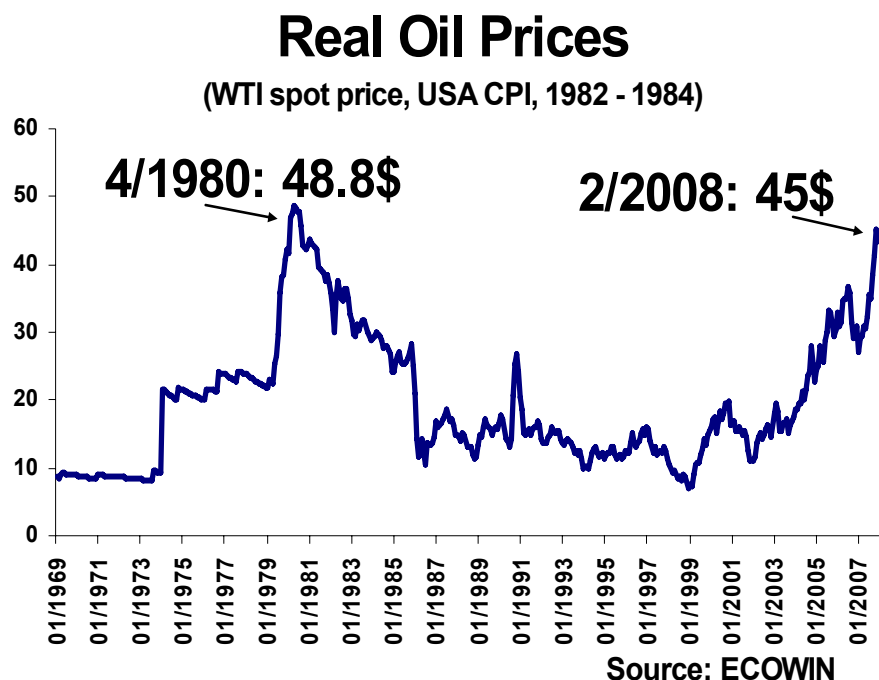
**Bloomberg's median Headline  $\pi$  forecast**

	2007	2008f	2009f
US	2.9	3.4	2.3
Euro area	2.1	2.8	2.0
Japan	0.1	0.8	0.4

Our model points to even higher average US headline inflation for 2008 (**3.8%**), caused by the pass-through of commodity price increases to producer prices

# 1.1 Oil prices on the rise

- **2006 – 2007: Avg oil price** ↑ (in €) **+1.7%** (in \$ +11%),  
**2007 – 2008:** If \$1,37/€ → \$1,55/€ and oil price: \$72.2 → \$97 (+34%), then (in €) the **rise** will be **18.8%**
- The fall in global growth reduces the size of the increase in demand, but problems at the production and **refinement** stage remain

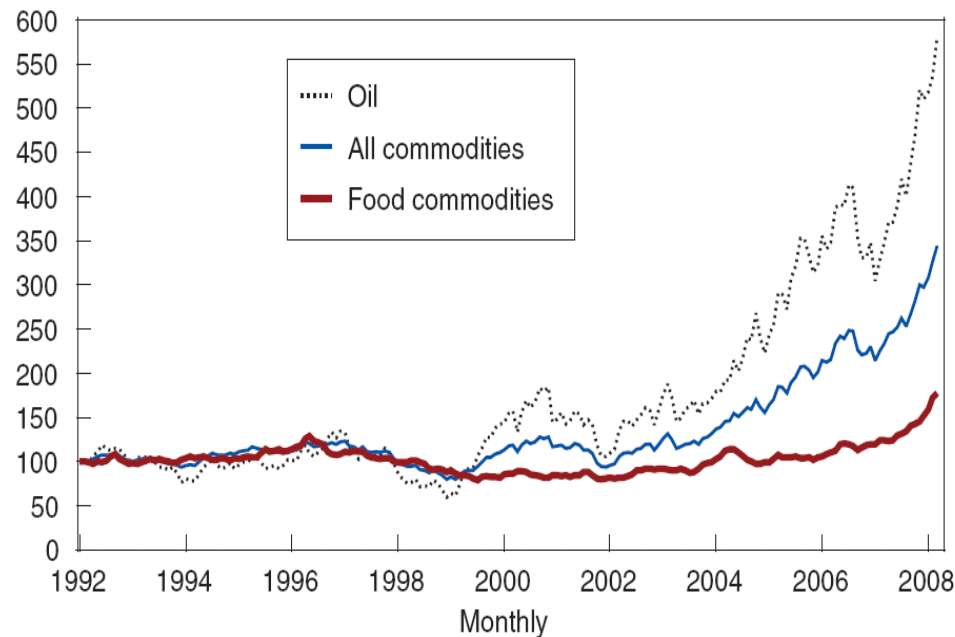


	2000 (mil. bl per day)	7-year Growth	2007 (mil. bl per day)	Share in Total Growth
Global Demand	76.4	12.3%	85.8	100%
Advanced Economies	48.1	2.1%	49.1	10.5%
China	4.5	66.6%	7.5	32.0%
Other Developing Economies	23.8	22.7%	29.2	57.5%
Global Supply	80.2	9.4%	87.7	

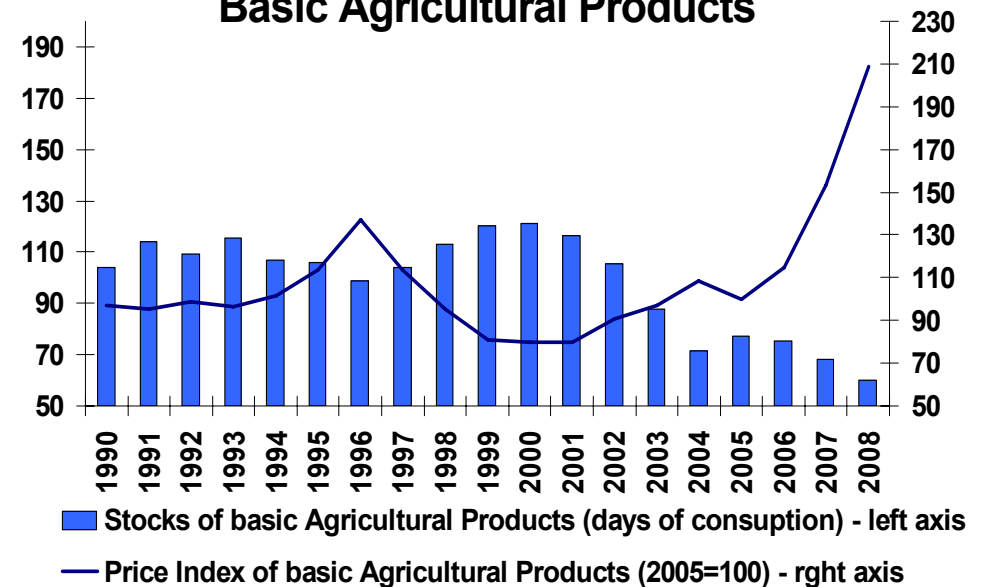
# I.1 Food prices on a march forward

- Food prices picked up, albeit by **less than oil and metals**
- ***Contributing factors:***
  - ✓ Increase in demand from China & developing economies
  - ✓ Increase in demand for bio-fuel production
  - ✓ Energy cost increases in production, processing and transportation
- ***Speculation is not a factor, as inventories dwindle***

Index: January 1992 = 100



## Basic Agricultural Products



**Price impact of droughts in Australia & poor crops in the E.U. and Ukraine in 2006 – 2007, was offset by good crops and increased exports in other countries**



# 1.1 The rise in food demand continues ...

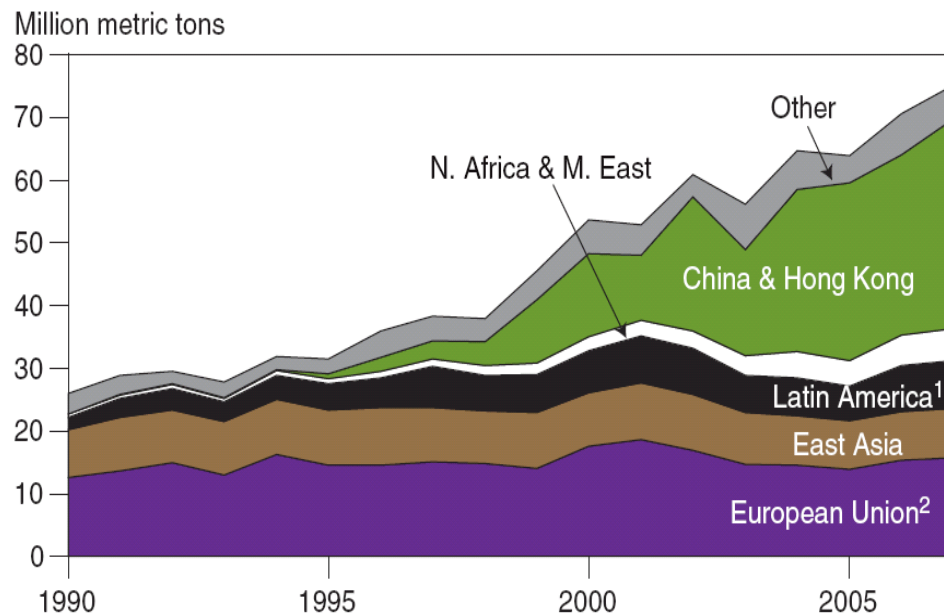
Demand is rising as

- Global population is rising
- plus incomes are rising in the developing world, bringing an associated enrichment of dietary tastes in meat → hence, more livestock requires more grain production

***Meat consumption in China***  
***20kg/person in 1980***  
***50kg/person in 1997***

***1kg of beef requires***  
***7 kg of grains***

Global soybean imports

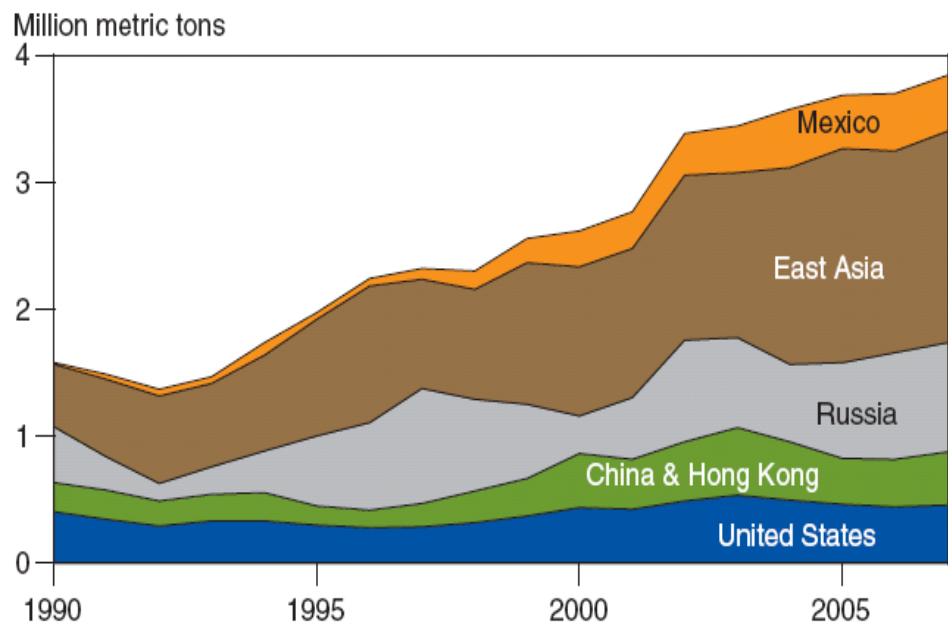


<sup>1</sup>Includes Mexico.

<sup>2</sup>EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Source: USDA Agricultural Projections to 2017.

Pork imports<sup>1</sup>



<sup>1</sup>Selected importers.

Source: USDA Agricultural Projections to 2017.

***Prices are expected to keep rising until 2009***

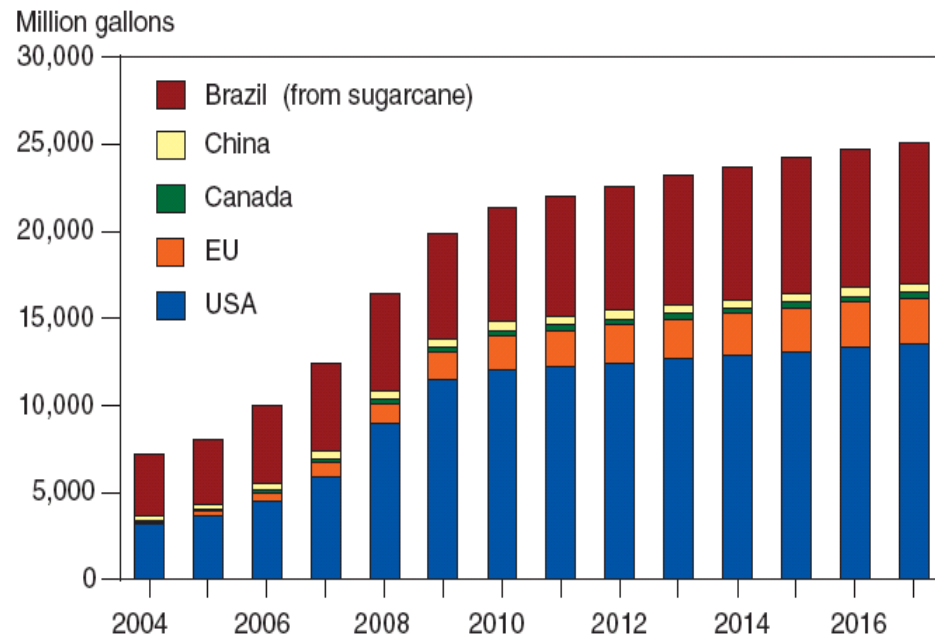
## I.1 ... Bio-fuels is one cause

### ➤ *Bio-fuels: 40% of the 2007 increase in global demand for agricultural products*

- ✓ E.U. goal of 5.75 % of motor fuel from bio-fuels by 2010
- ✓ U.S., use of 28.4 billion liters of bio-fuels for transportation by 2012
- ✓ Brazil, all diesel oil contain 2% bio-diesel by 2008 and 5% by 2013
- ✓ India, 5% ethanol blend in nine states
- ✓ China, 10% ethanol blend in five provinces

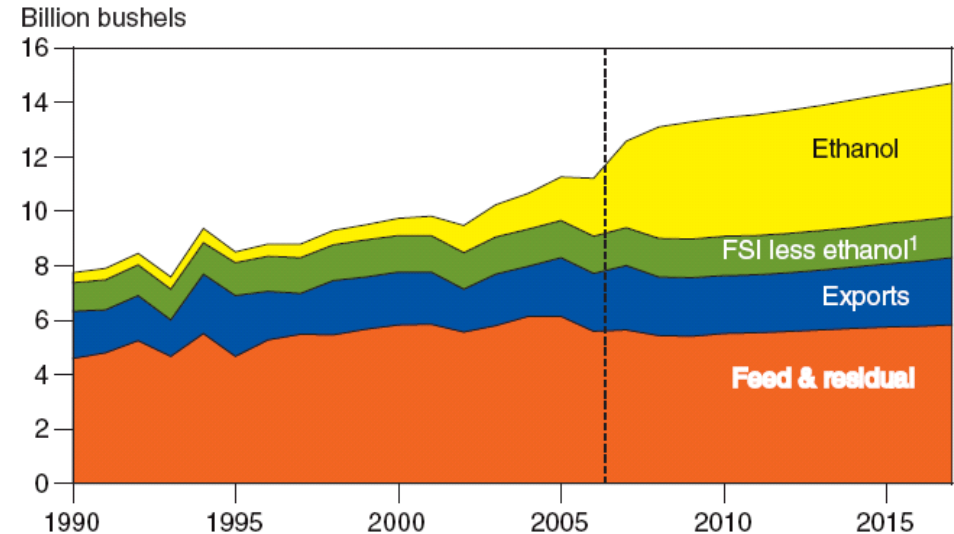
#### Ethanol production

*Mostly from grain feedstocks except for Brazil*



#### *1/5 of corn production used for bio-fuel*

#### U.S. corn use



¹Food, seed, and industrial less ethanol.

# I.1 Household impact of higher food prices

- Poverty increase, political unrest

## Impact of Higher Food Commodity Prices On Consumers' Food Budgets\*

	High-income countries	Low-income food-deficit countries
<b>I. Base scenario</b>		
Income	\$40,000	\$800
Food expenditure	\$4,000	\$400
Food costs as % of income	10.0%	50%
<b>Disaggregate retail food spending (staples vs. non-staples)</b>		
Staples as % of total food spending	20%	70%
Expenditures on staples	\$800	\$280
Expenditures on non-staples	\$3,200	\$120
<b>II. Scenario: 50% price increase in staples, partial pass through on staples</b>		
Assumed % pass through	60%	60%
Increase in cost of staples	\$240	\$84
New cost of staples	\$1040	\$364
New total food costs	\$4,240	\$484
Food costs as % of income	10.6%	60.5%

\*These are illustrative food budgets that characterize the situations for consumers in high- and low-income countries.

# **I.1 Country policy responses penalize poor-food-importing countries**

---

## ***A representative list of policies taken***

### **Eliminated export subsidies:**

- China eliminated rebates on value-added taxes on exported grain products

### **Export taxes:**

- China imposed an export tax on a list of grains and products.
- Argentina raised export taxes on wheat, corn, soybeans, soybean meal & oil
- Russia and Kazakhstan raised export taxes on wheat
- Malaysia imposed export taxes on palm oil

### **Export quantitative restrictions:**

- Argentina and Ukraine on wheat, India and Vietnam on rice.

### **Export bans:**

- Ukraine, Serbia, and India on wheat
- Egypt, Cambodia, Vietnam, and Indonesia on rice. India on certain brands of rice
- Kazakhstan on oilseeds and vegetable oils

### **Reduced import tariffs:**

- India (wheat, flour) - Indonesia (soybeans and wheat - Serbia (wheat) - Thailand (pork) - EU (grains) - Korea and Mongolia (various food commodities)

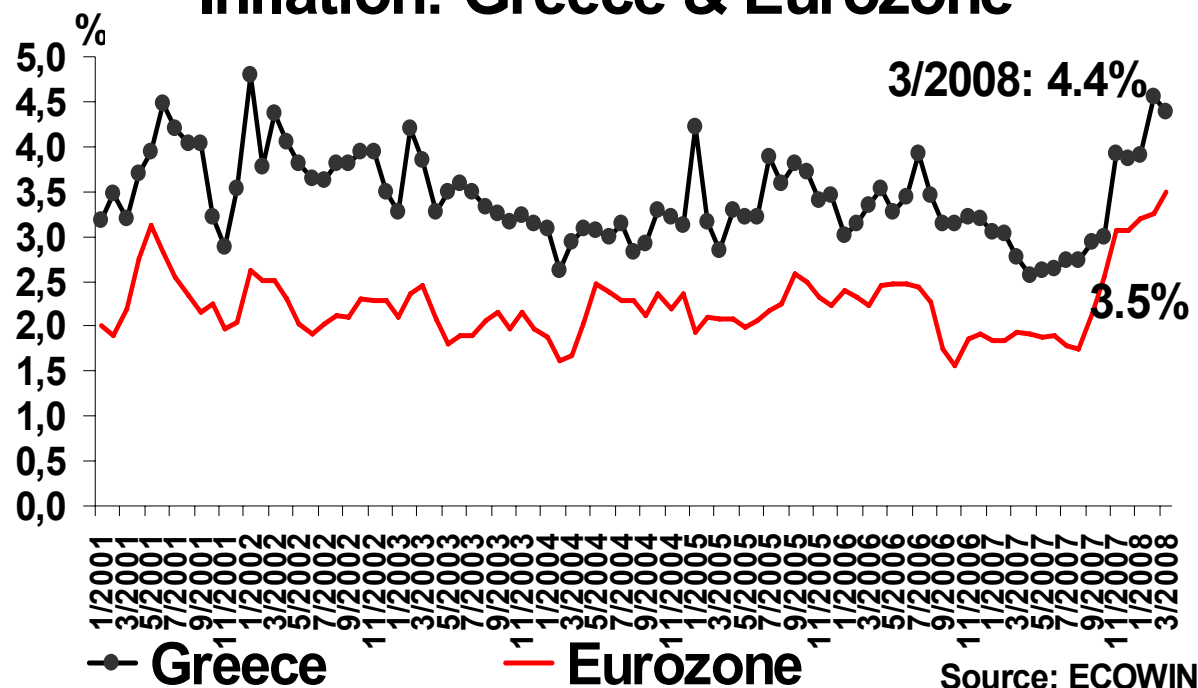
### **Subsidized consumers:**

- Morocco and Venezuela buy food at high world prices and distribute at lower prices.

## 1.2 Impact on Greece

- An increase in oil prices in € of 19% → inflation ↑ by 1.2pp → from 2.9% in 2007 to 4.1% in 2008
- The energy intensity of the Greek economy is larger than that of the Eurozone
- Past increases in commodities → today's increases in import prices

**Inflation: Greece & Eurozone**



Source: ECOWIN

**Energy Intensity of the Economy**

(1995 real prices, consumption of oil equivalents in kg for the production of 1000€ GDP)

	EU-13	Greece
1995	196.3	268.5
2005	183.4	236.5

**PART II:**

**ANATOMY  
OF THE FINANCIAL CRISIS**

*The largest post-depression financial crisis*

## II. The crisis began ...

---

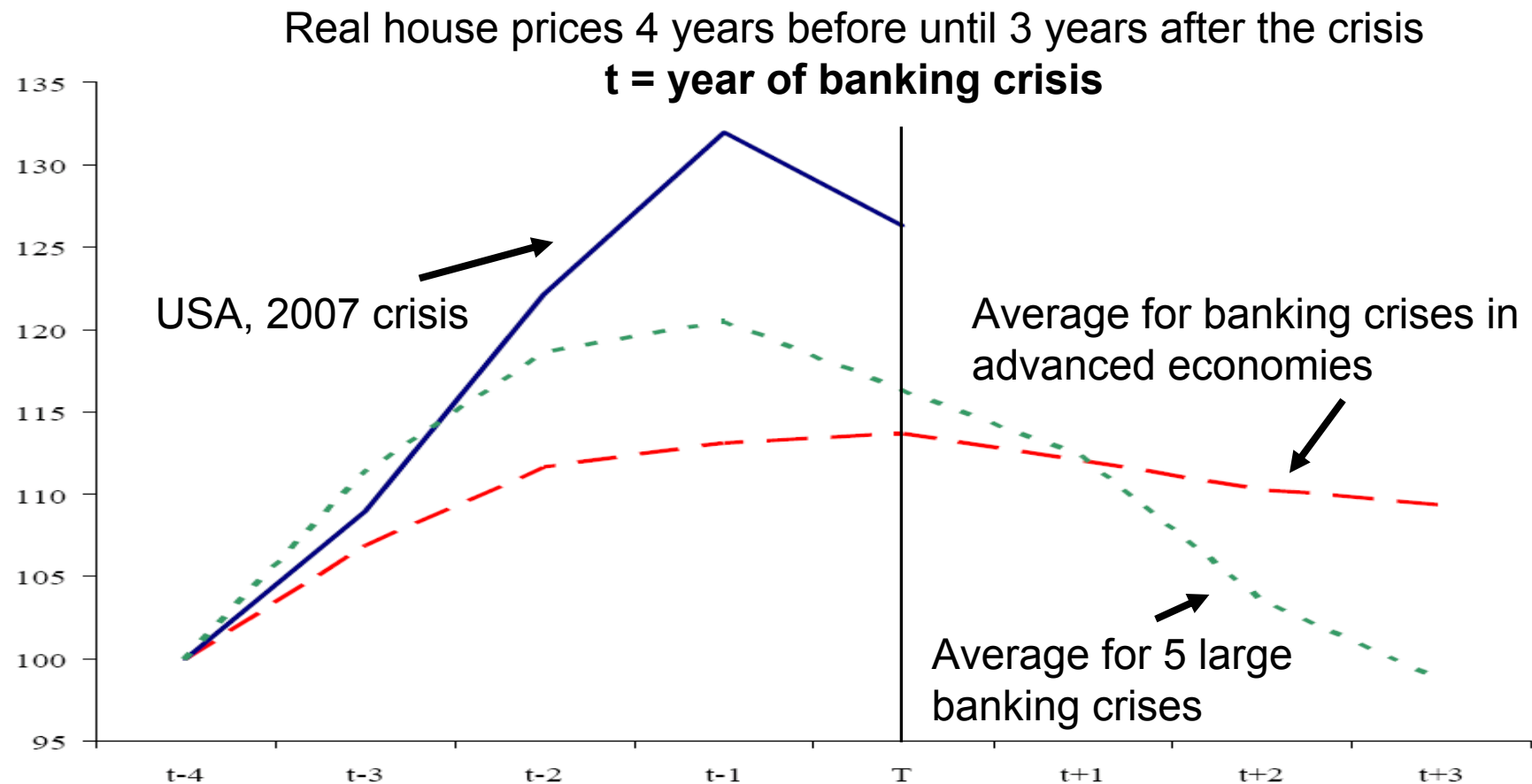
**... because of the simultaneous development of three factors:**

- 1) A bubble in house prices in the US*
- 2) The rapid expansion of subprime mortgages*
- 3) The transfer of risk from the banks' balance sheets to third party investors through securitization*

**Crisis is problematic because it began**

- in the US, which produces 25% of 2007 world GDP**
- in the financial sector, which is highly levered**

## II. The house price bubble is larger than before



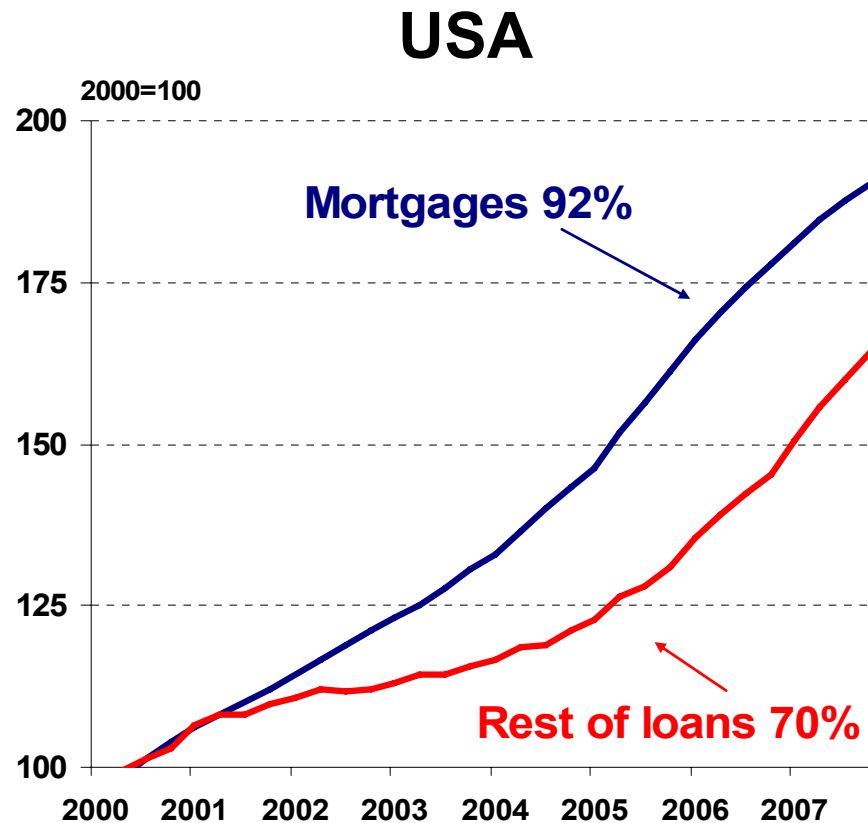
Source: Reinhart & Rogoff (2008)

Categorization of banking crises according to Reinhart-Rogoff:

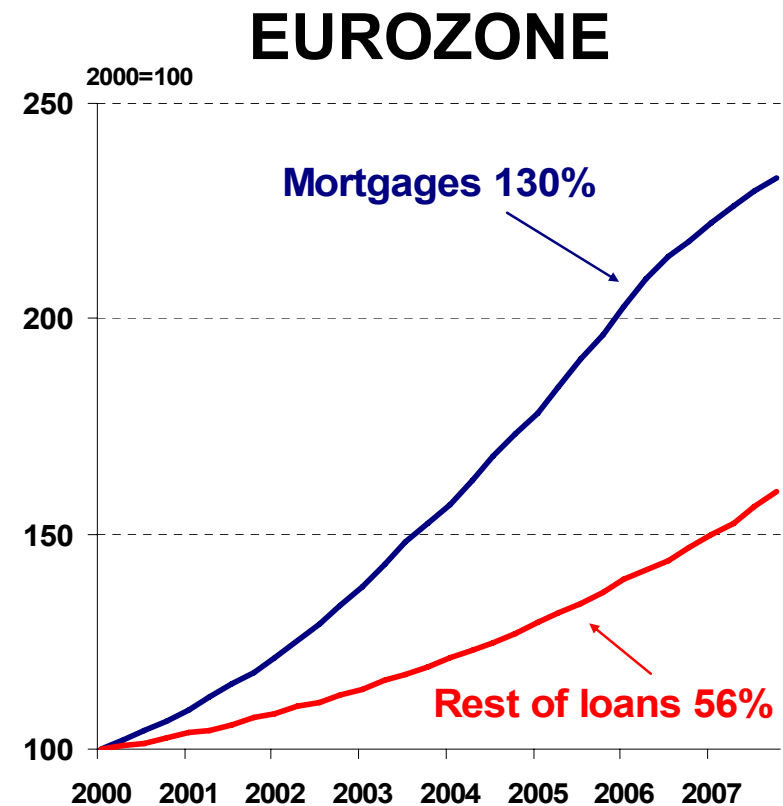
- 5 «big» banking crises: Spain (1977), Norway (1987), Finland (1991), Sweden (1991), Japan (1992).
- Smaller banking crises in developing economies: Australia (1989), Canada (1983), Denmark (1987), France (1994), Germany (1977), Greece (1991), Iceland (1985), Italy (1990), N. Zealand (1987), Un. Kingdom (1974, 1991, 1995) και USA (1984).



## II. ... with a rise in credit expansion



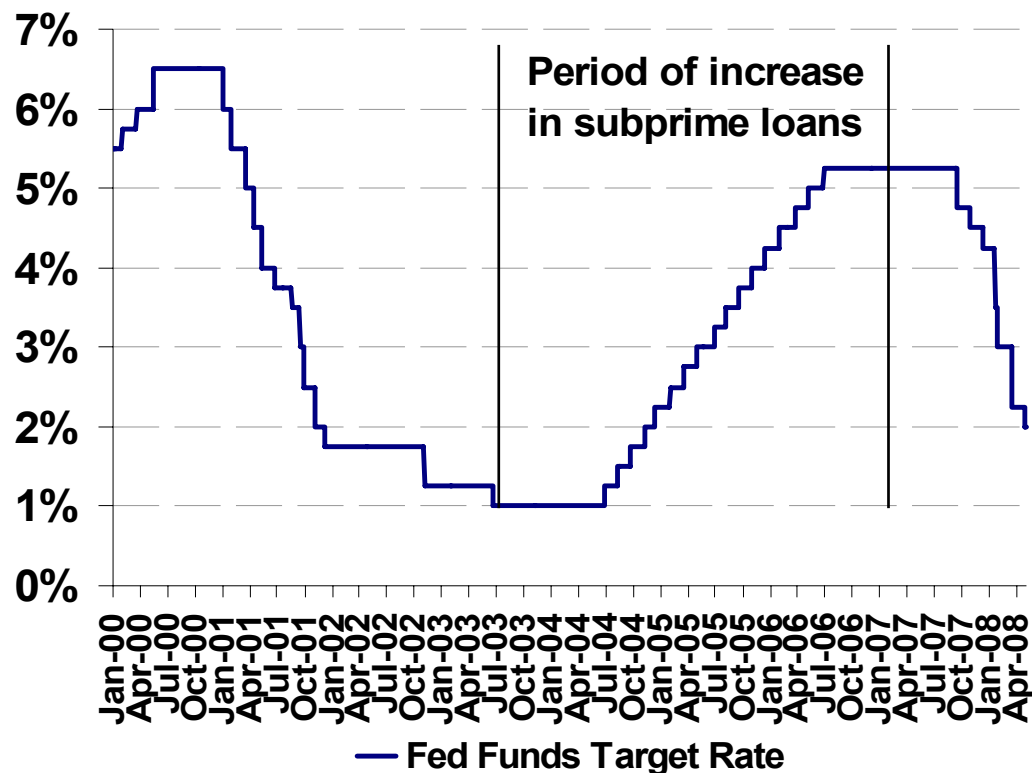
Source: ECB



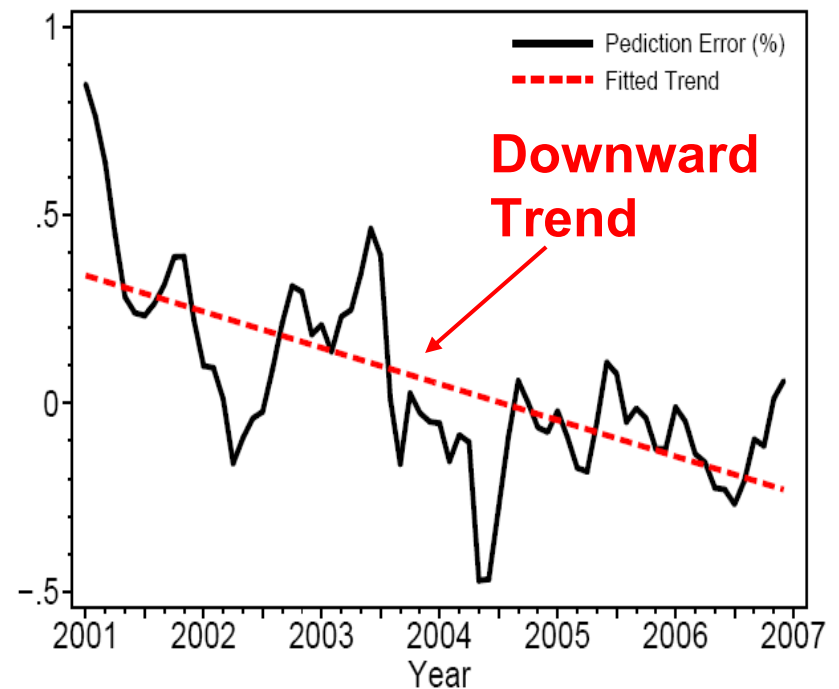
Source: Federal Reserve

## II. ... especially in subprime loans in the US

**Subprime: From 9% of total mortgages in 2003 to 24% by mid-2007 (subprime & Alt-A)**



**Subprime-Prime spread**  
after controlling for loan  
characteristics



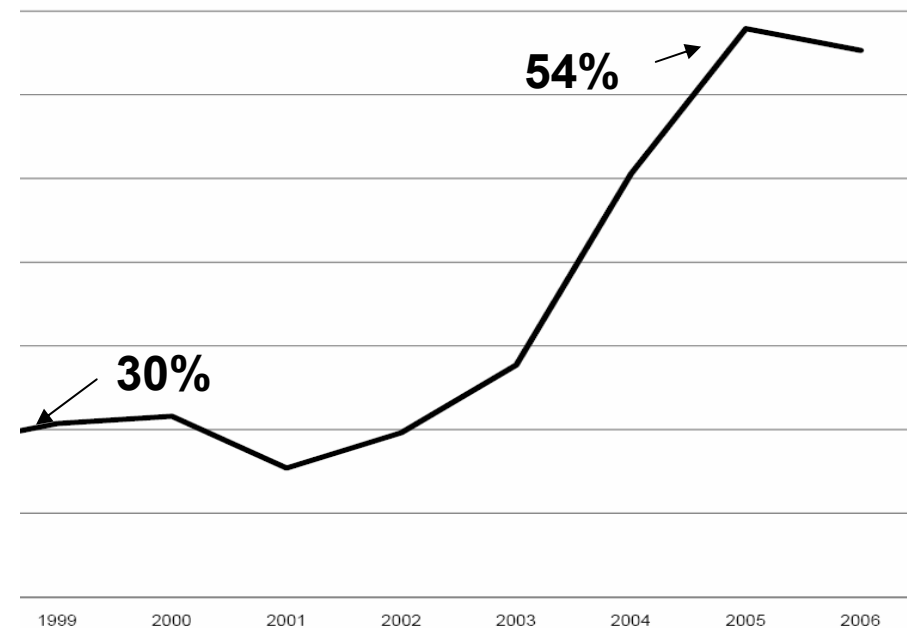
Source: Demyanyk & Van Hemert (2007)

## II. ... due to the cannibalization of a useful market innovation: Securitization

Banks have three options:

- 1) Keep the loans on their balance sheets
- 2) Sell the loans to state controlled agencies (FNMA, FHLM, etc.), which in turn securitize them, a practice since 1939. So banks acquire the necessary liquidity in order to give new loans.
- 3) Sell the loans to private agents, which also securitize them.

Share of mortgages securitized by non state agents



1999

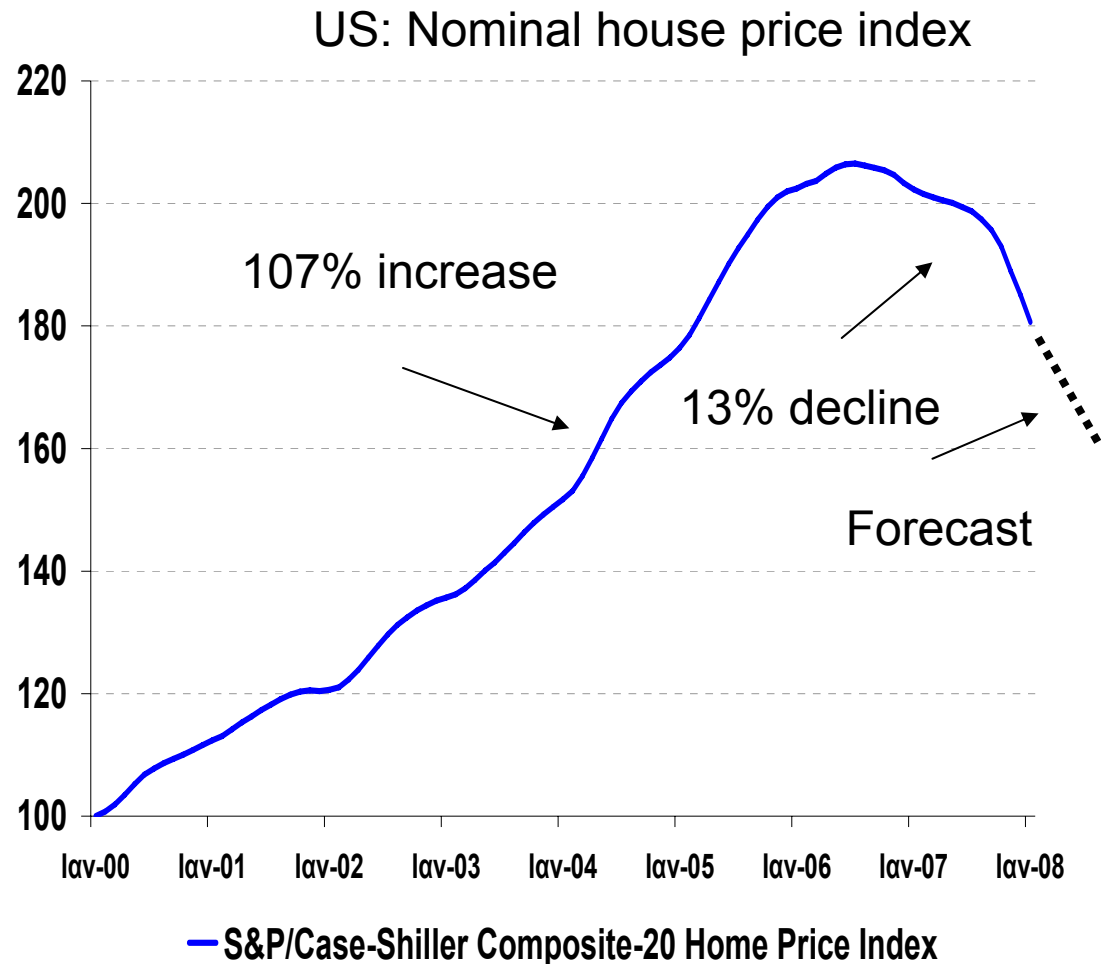
Source: Mian & Soufi (2008)

2006

➤ **77% of new subprime loans were securitized**

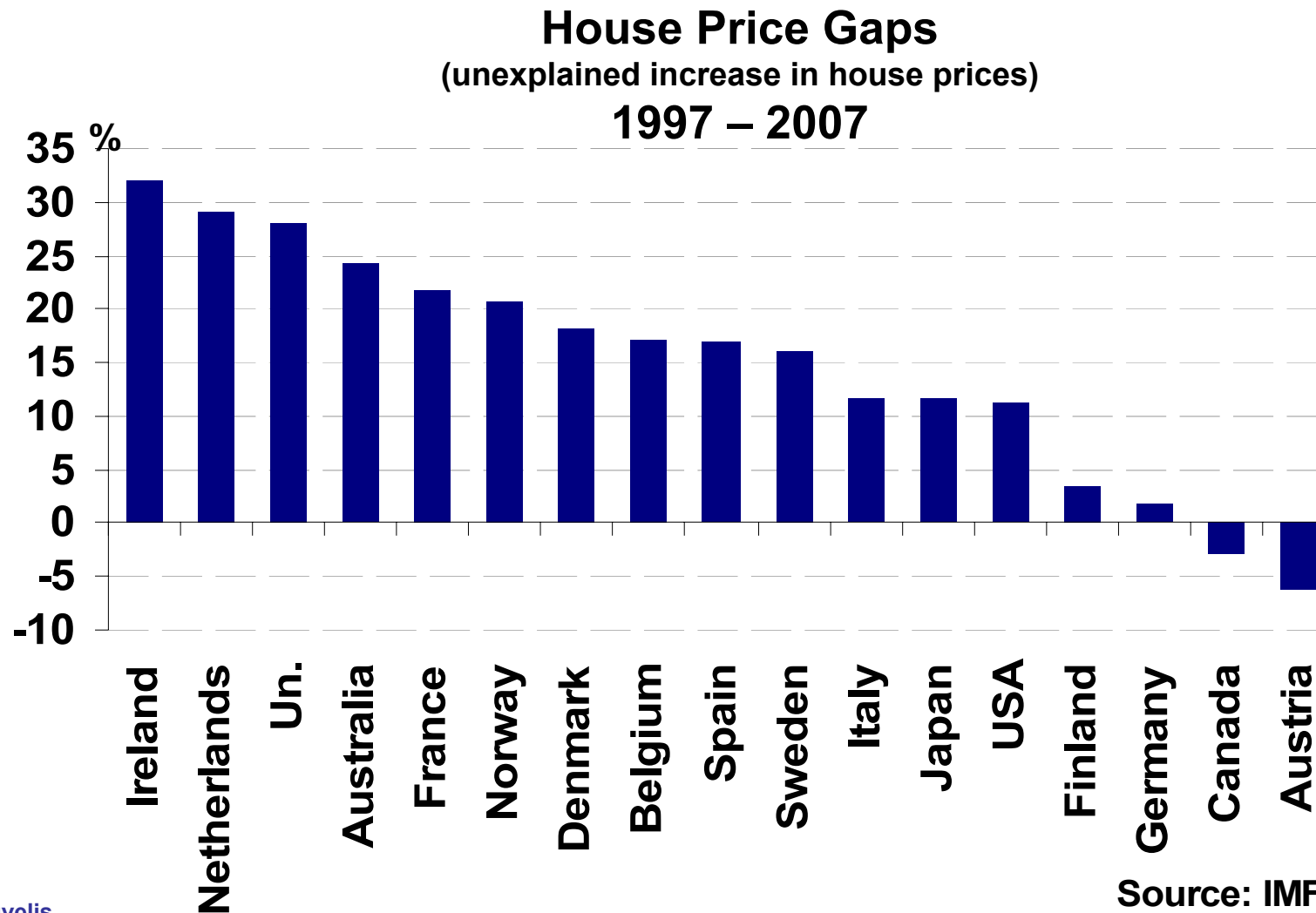
## II. The fall in home prices continues in the US ...

- The largest fall in the history of the indices, in some areas as large as 40%
- They are expected to fall by an equal percentage in the future



## II. ... and follows around the globe

- Europe will probably follow USA experience, with most of the effect to come in the future ...



## II. The crisis spread as ...

---

### 1. **Structured products** are present **everywhere**

- in portfolios across the entire financial system, in US, European and Asian banks, funds, insurance companies, etc.

### 2. **Counterparty risk increased** (lack of transparency & complexity)

- Interbank market – liquidity problems

### 3. **High leverage** of hedge funds, investment banks:

- Increased the need for liquidity & pressures for selling
- (Near) defaults of Investment Banks, Insurers, Hedge funds

### 4. **Supply of credit insurance by single entities**

- Credit Default Swaps (a \$62 trill. market), Monoline Insurers

### 5. **Securitization had expanded into non-mortgage loans**

- Asset Backed Commercial Paper

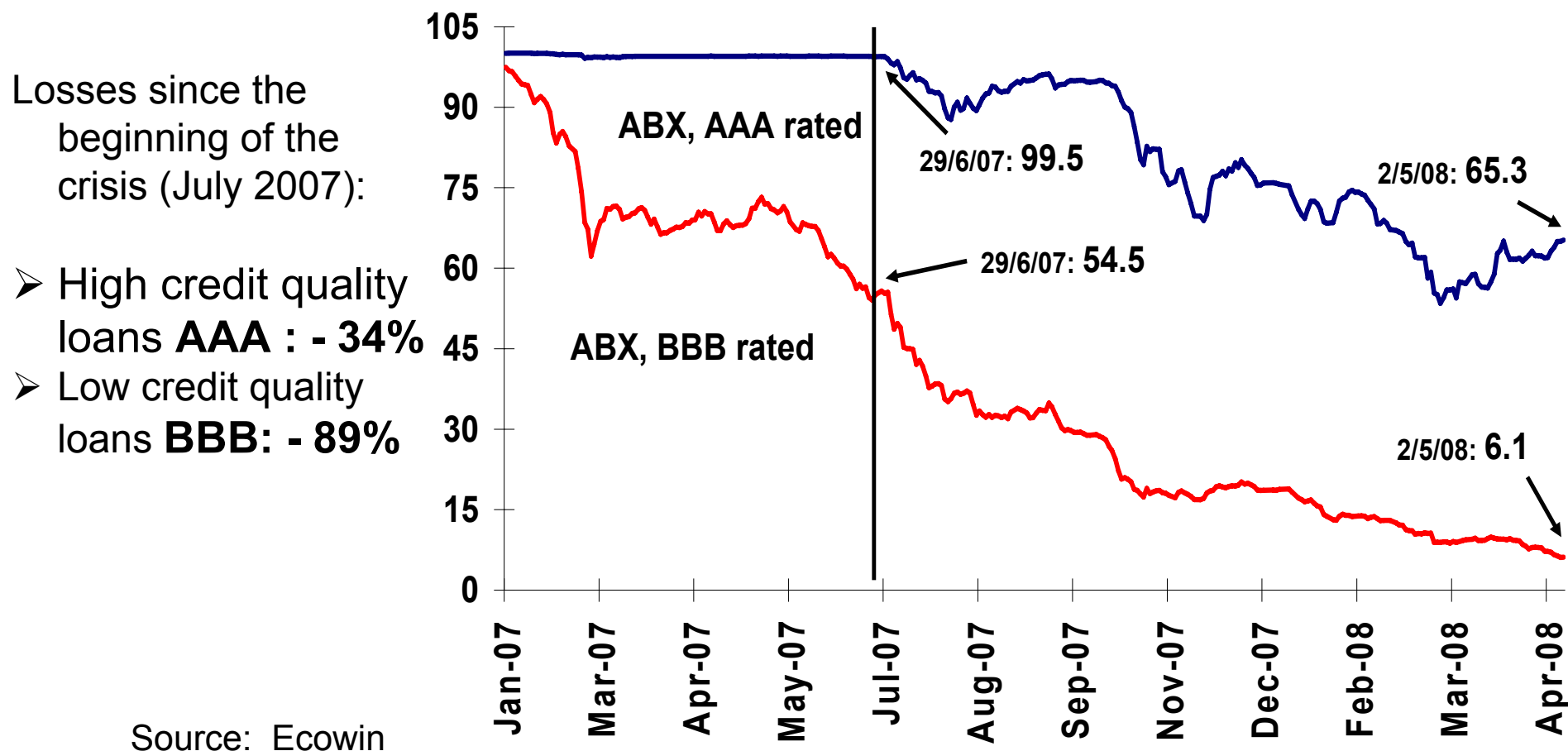
### 6. **Rating agencies became more strict**

- Further write-downs

### 7. **International Accounting Standards: Mark-to-Market**

- Banks are forced to show PV losses
- Increased pressure for selling assets → fire sales → lower prices

## II. ... An example of the price demise: Mortgage-based Credit Default Swaps



*Note: ABX contracts are used by investors to speculate on or hedge against the risk that the underlying mortgage securities are not repaid as expected. A decline in the ABX Index signifies investors' sentiment that subprime mortgage holders will suffer increased financial losses from those investments.*

## II. Huge write-offs

---

- 50 million households with mortgages, 18% of whom have negative equity, i.e., a mortgage loan higher than the value of the house (mortgages of about **\$1.9 trillion**). This number is likely to increase, as house prices continue to decline.
- **Asset write downs & credit losses since the beginning of 2007:**
- Until April 28 (source: Bloomberg): \$312 billion
- Total estimated losses (IMF):\$945 billion: \$225 billion on unsecuritized US loans  
\$720 billion mark-to-market losses on related securities

### Therefore:

- Capital increases are necessary
- Assets have to shrink (by about \$1-2 trillion) → credit squeeze → significant economic deterioration

### The authorities do whatever it takes to contain the crisis:

- Bernanke: Deeply aware of the Great Depression 1929-1933, innovative and effective interventions
- Fiscal package for the US recession
- **Financial Stability Forum** → recommendations to **G7 countries**
- **Corrigan** group, etc.

**The credit crisis is deep and widespread, but it will not prove to be like in Japan in 1990, or the Great Depression.**



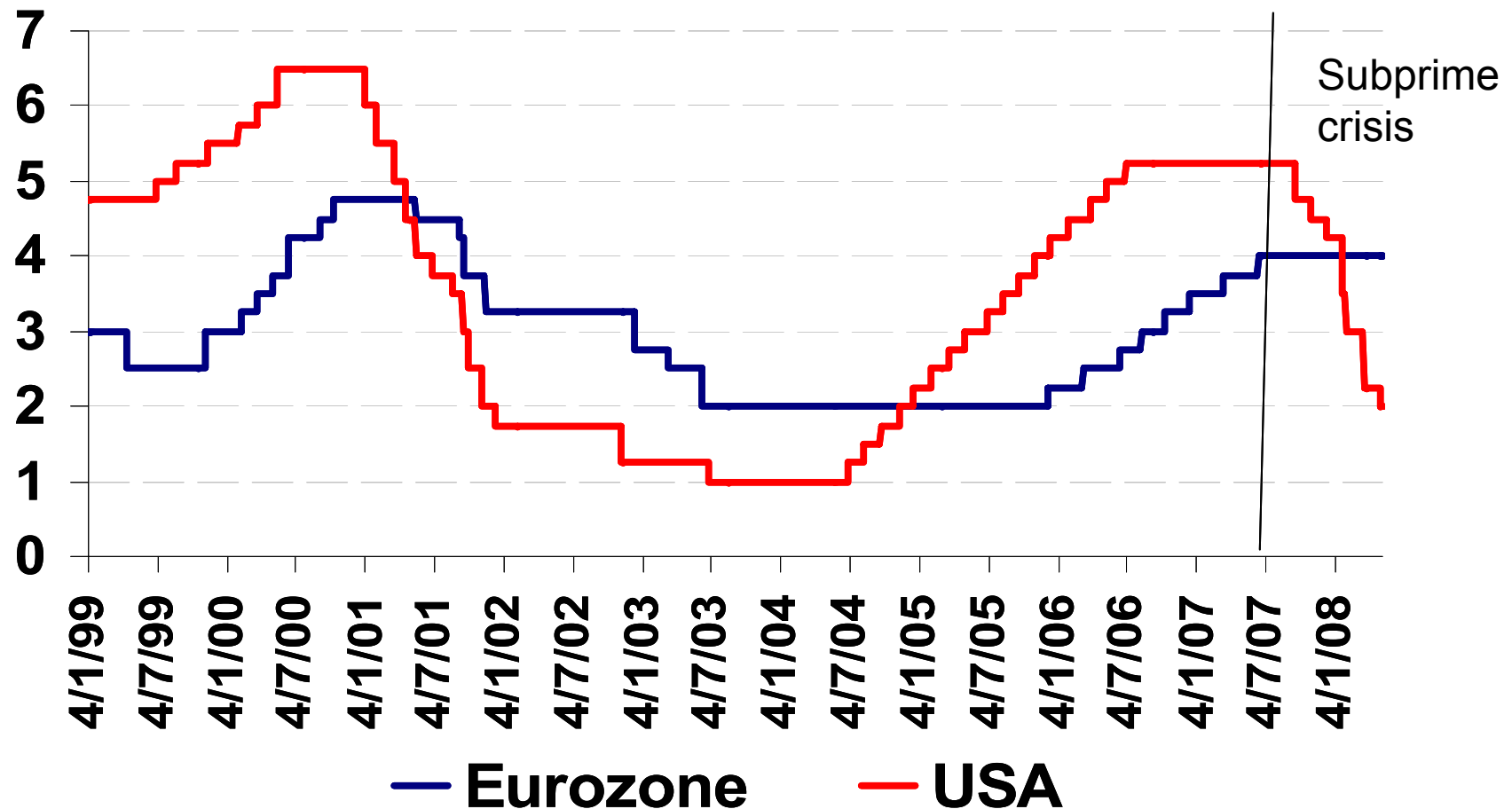
# **PART III:**

# **THE EFFECTS OF THE FINANCIAL CRISIS**

- 1. Central Bank interventions**
- 2. Cost of capital**
- 3. Wealth**
- 4. Growth**
- 5. Effects on Greece**

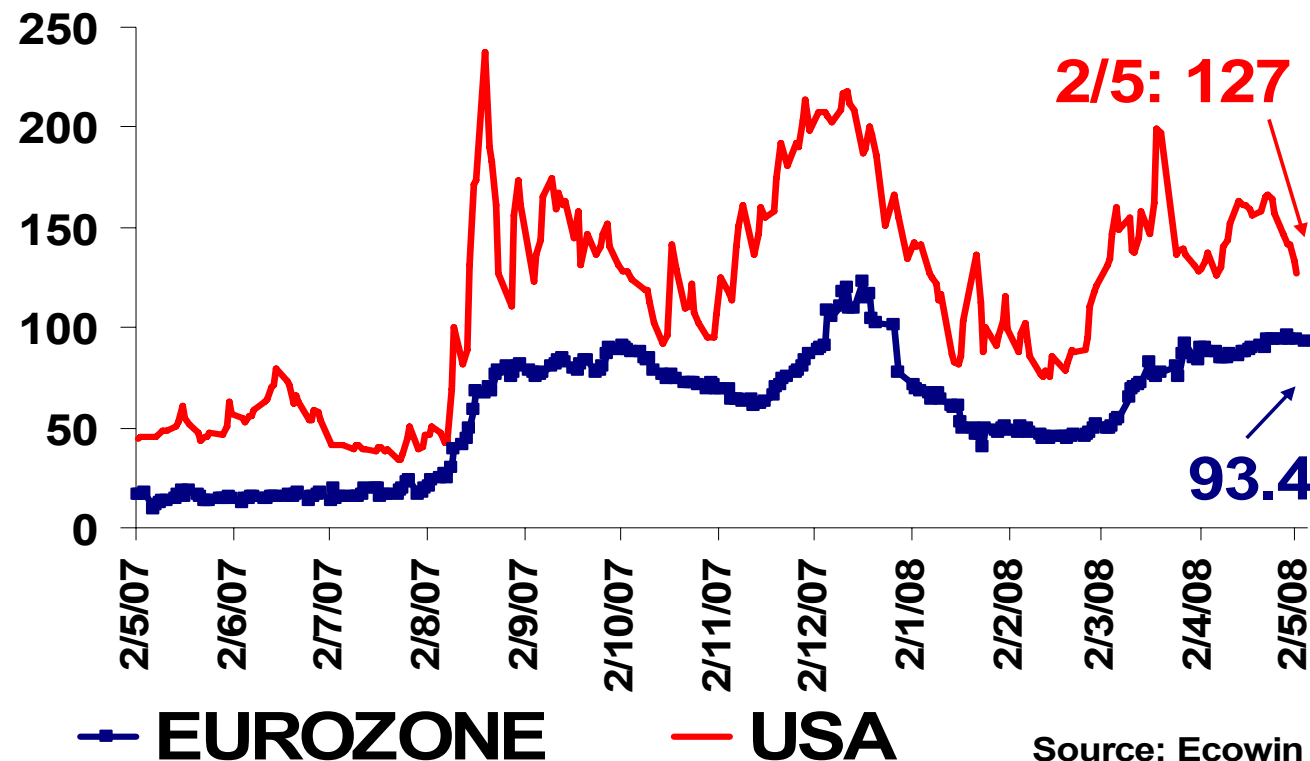
## III.1 Intervention Rates

- Fed: An aggressive reduction in rates, from 5.25% to 2.00%
- ECB: Puts emphasis on inflation, perhaps a reduction towards the end of the year.



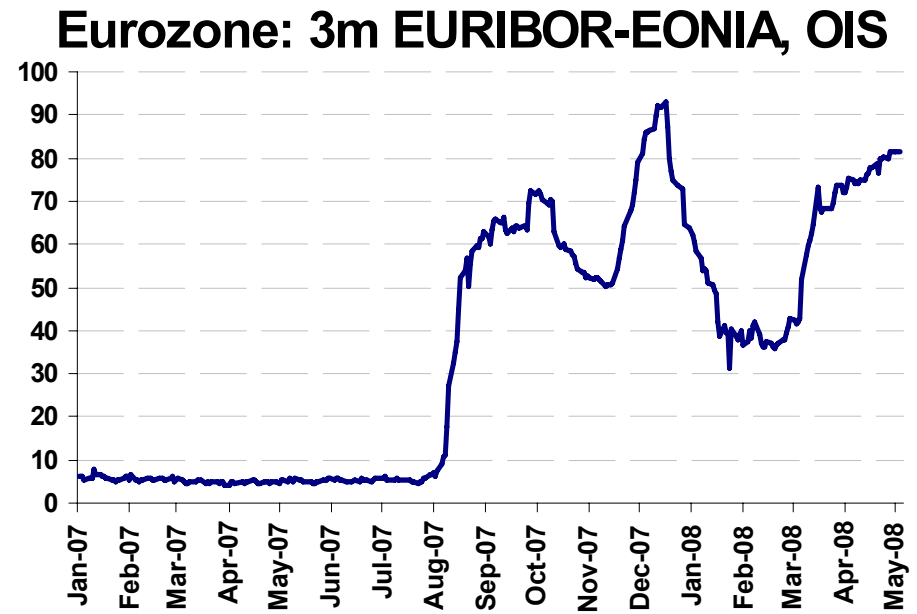
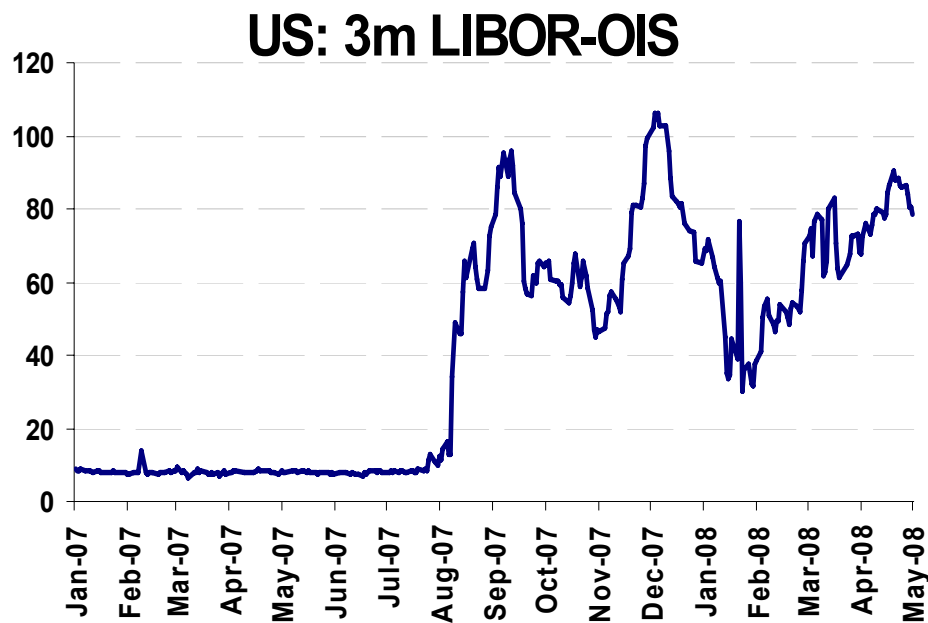
## III.2 A rise in the cost of capital for banks

- TED spread points to an increase in default premiums (3mEurodollar - 3mTbill)
- Same is true – to a smaller degree – in the Eurozone (3mEuribor – 3mEuroZoneTbills)
- This might lead to an increase in household and corporate lending rates by as much as 1%



## III.2 Turbulence in money markets signifies increase in counterparty risk

---

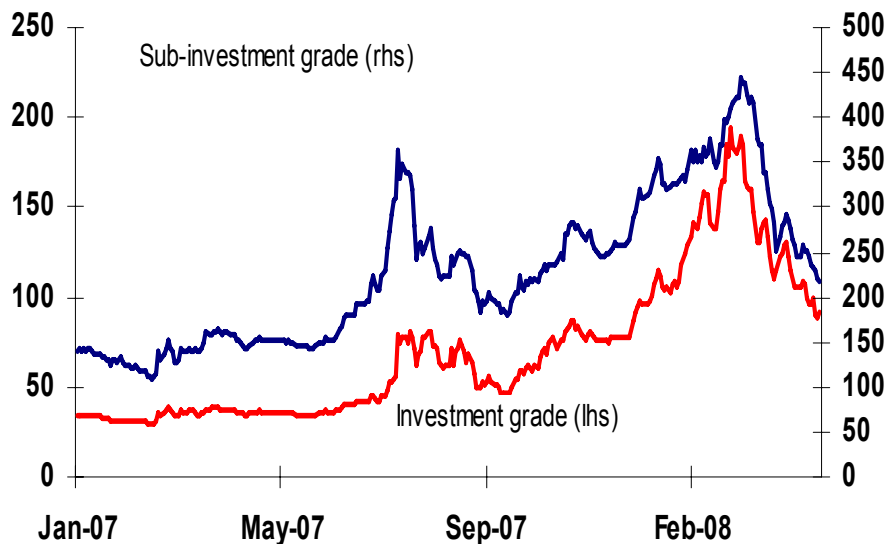


Source: Bloomberg

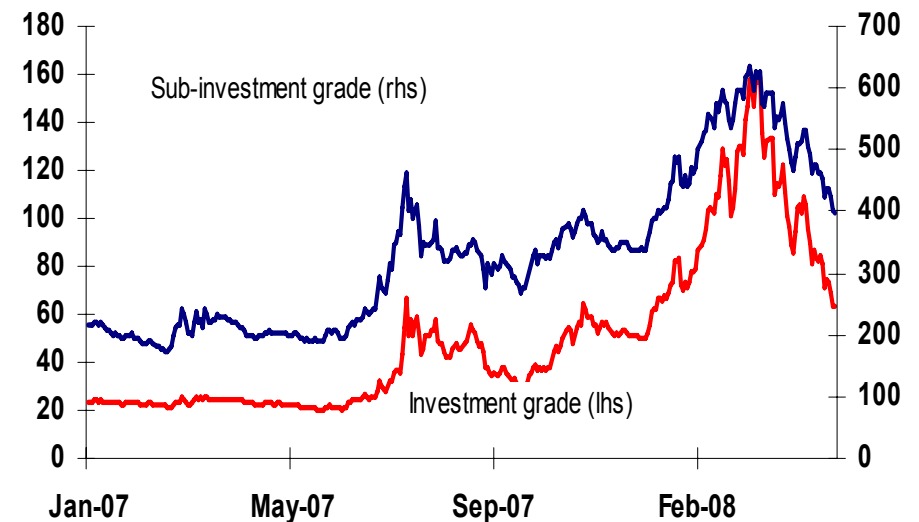
## III.2 Credit-derivatives: Lately, systemic risk worries are abating

- credit-derivative (CDS) spreads in **mid-March** multi-year **highs**
- Rebound reflects the **gradual removal of systemic risk worries**, following FED's initiative to rescue Bear Sterns and coordinated central bank activity

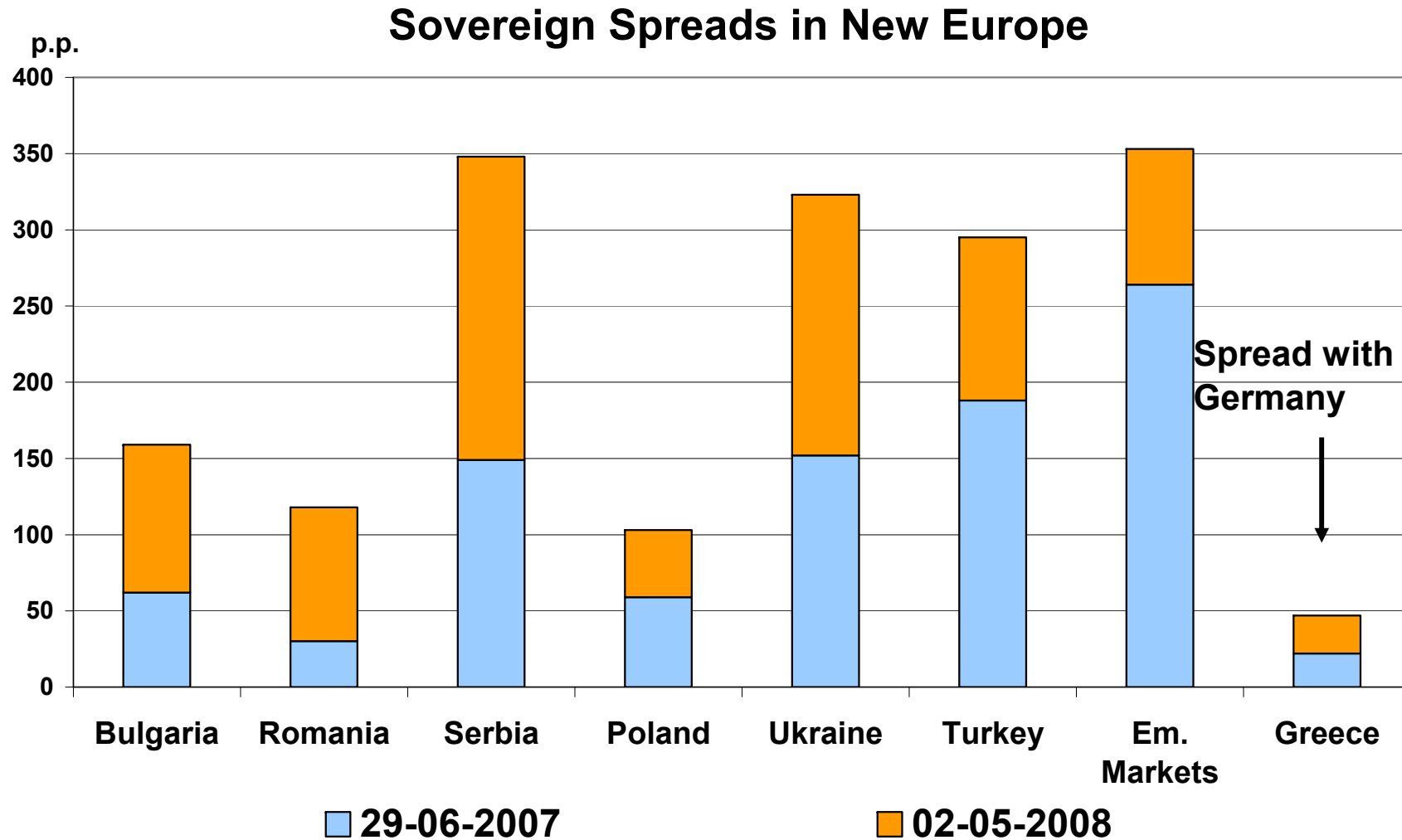
CDX Indices: 5yr CDS spreads (bps) - US



iTraxx Indices: 5yr CDS spreads (bps) - Europe



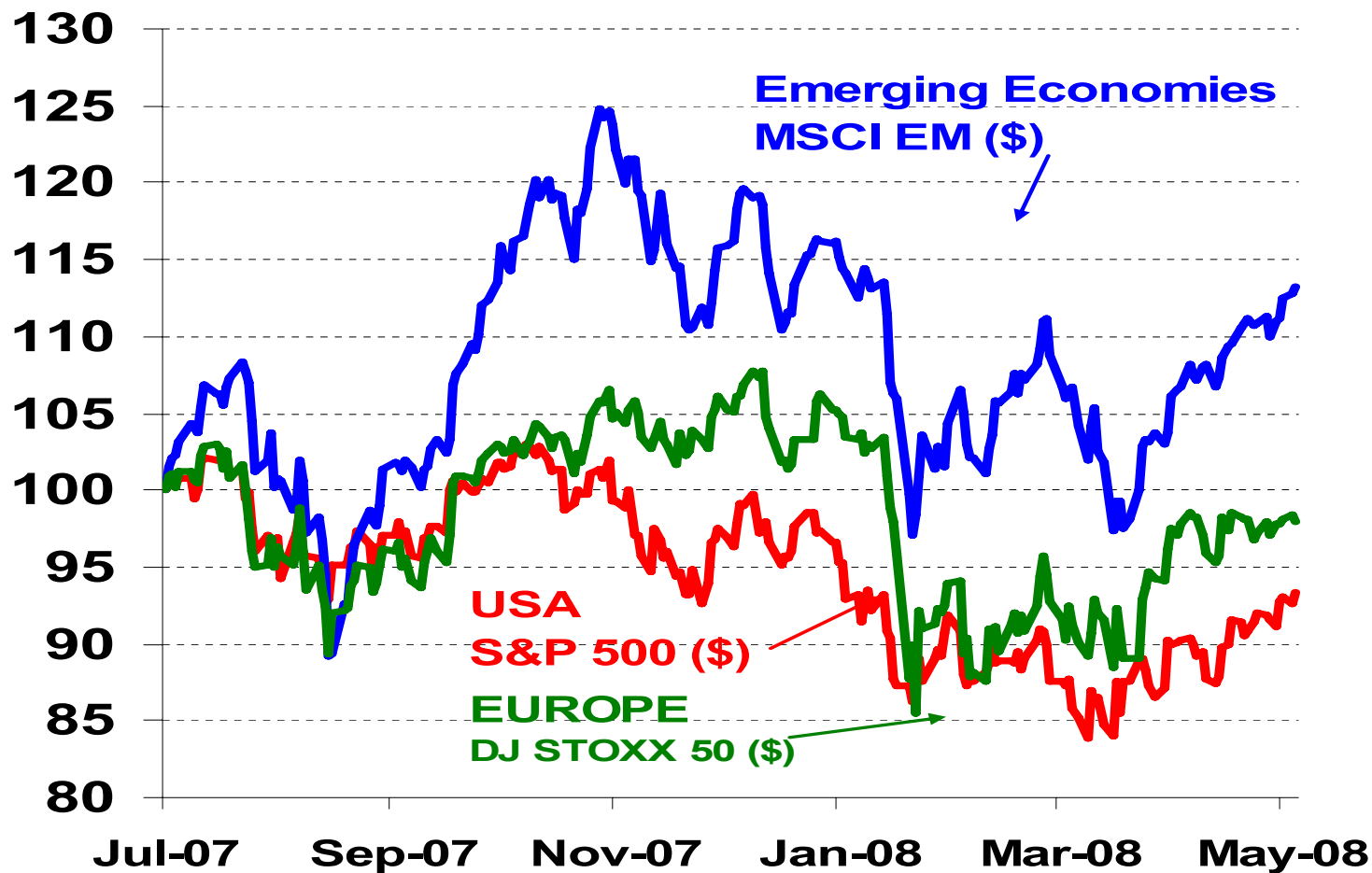
## III.2 An impressive increase of country risk premia in New Europe



Source: Bloomberg, JP Morgan EMBIG Index

### III.3 A reduction in wealth due to the fall in stock markets...

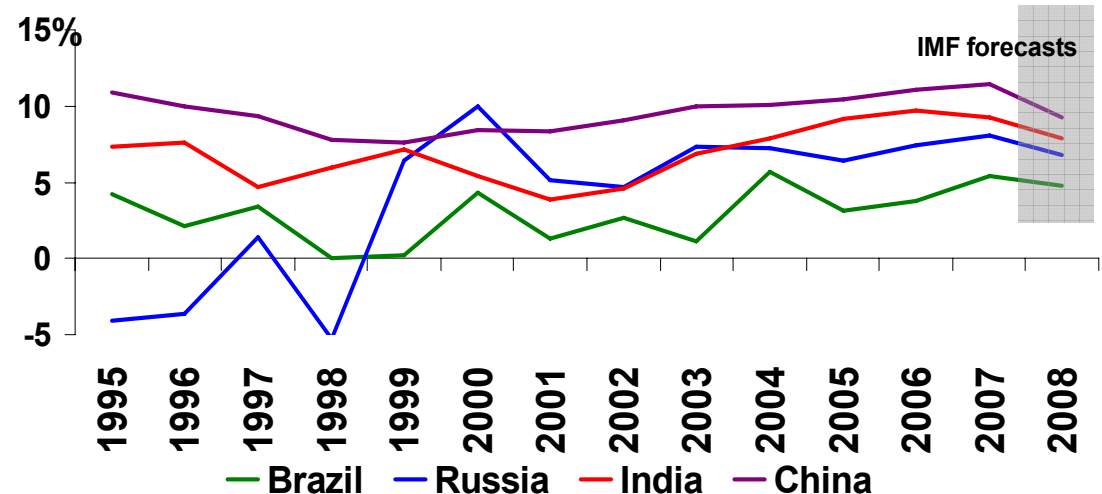
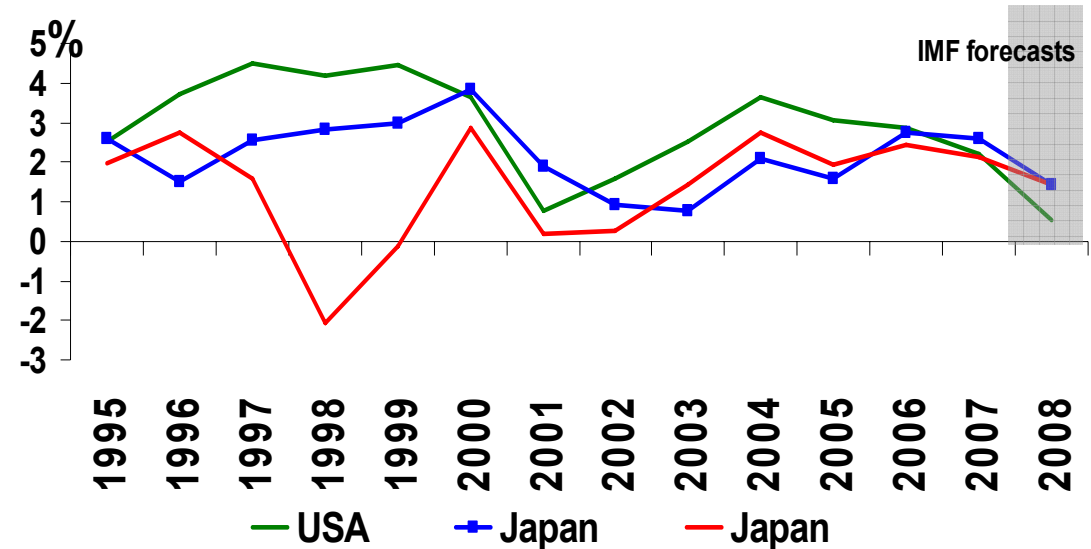
- The “decoupling” argument is put to the test



\* Euro has appreciated against the dollar by **15%** since June 2007.

## III.4 A reduction in global growth following the crisis

- The probability of a current recession in the US is now above 90%
- IMF (4/2007): USA: 2.2% 2007 and 0.5 in 2008, Japan: 2.1% 2007 and 1.4% 2008, Eurozone: 2.6% 2007 and 1.4% 2008. Forecasts are now lower than they were 3 months ago.
- Forecasts for the emerging economies are also lower, especially for the BRIC economies (Brazil, Russia, India and China).





## II.5 Anatomy of the Greek economy

---

(% yoy growth)	2007	2008	Weights
<b>GDP (constant prices)</b>	<b>4.0</b>	<b>3.5</b>	<b>100.0%</b>
<b>Private Consumption</b>	<b>3.1</b>	<b>3.0</b>	<b>72.3%</b>
<b>Government Consumption</b>	<b>3.2</b>	<b>3.0</b>	<b>15.1%</b>
<b>Investment</b>	<b>5.9</b>	<b>6.0</b>	<b>27.8%</b>
<b>Exports</b>	<b>7.6</b>	<b>6.4</b>	<b>22.3%</b>
<b>Imports</b>	<b>6.1</b>	<b>5.8</b>	<b>-37.5%</b>
<b>Inflation</b>	<b>2.9</b>	<b>3.7</b>	<b>---</b>
<b>Current Account Deficit (% GDP)</b>	<b>2.8</b>	<b>2.0</b>	<b>---</b>
<b>Government Debt (% GDP)</b>	<b>94.5</b>	<b>91.0</b>	<b>---</b>
<b>Unemployment</b>	<b>8.0</b>	<b>7.5</b>	<b>---</b>

Source: Ministry of Economy & Finance, EFG Eurobank forecasts

## II.5 Channels of influence on the Greek economy

Optimistic scenario for 2008: Real growth of 3.5%

- 1) Reduction in global growth → Exports, tourist receipts ↓
- 2) A rise in interest rates:
  - 800 mn ↑ in interest payments of Public Debt
  - 1,500 mn ↑ for households & companies
- 3) Fall in construction
- 4) Shipping profits normalized
- 5) Lower profits from international activities



\* Balkans, Central Europe, CIS

Source: BoG

- The reduction in Wealth is minor in Greece, hence the effect on consumption minor

## II.5 Greek dependence of Eastern Europe is larger today

- Total Greek FDI in Southeastern Europe are €12 bln (1<sup>st</sup> half 2007) – approximately 9% of total FDI in the region.
- No.2 investor in Albania, Bulgaria, FYROM and Serbia.

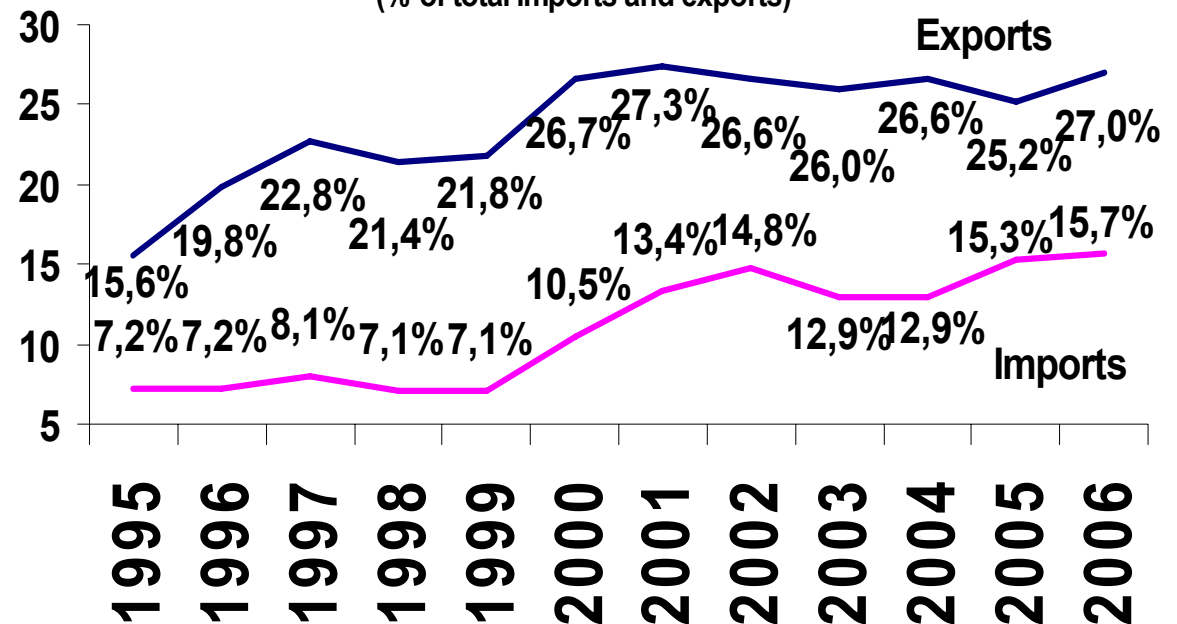
Real GDP growth rate

	2006	2007	2008
Turkey	6.9	5.0	4.0
Bulgaria	6.3	6.2	5.5
Romania	7.9	6.0	5.4
Russia	7.4	8.1	6.8
Ukraine	7.1	7.3	5.6
Poland	6.2	6.5	4.9

Source: IMF

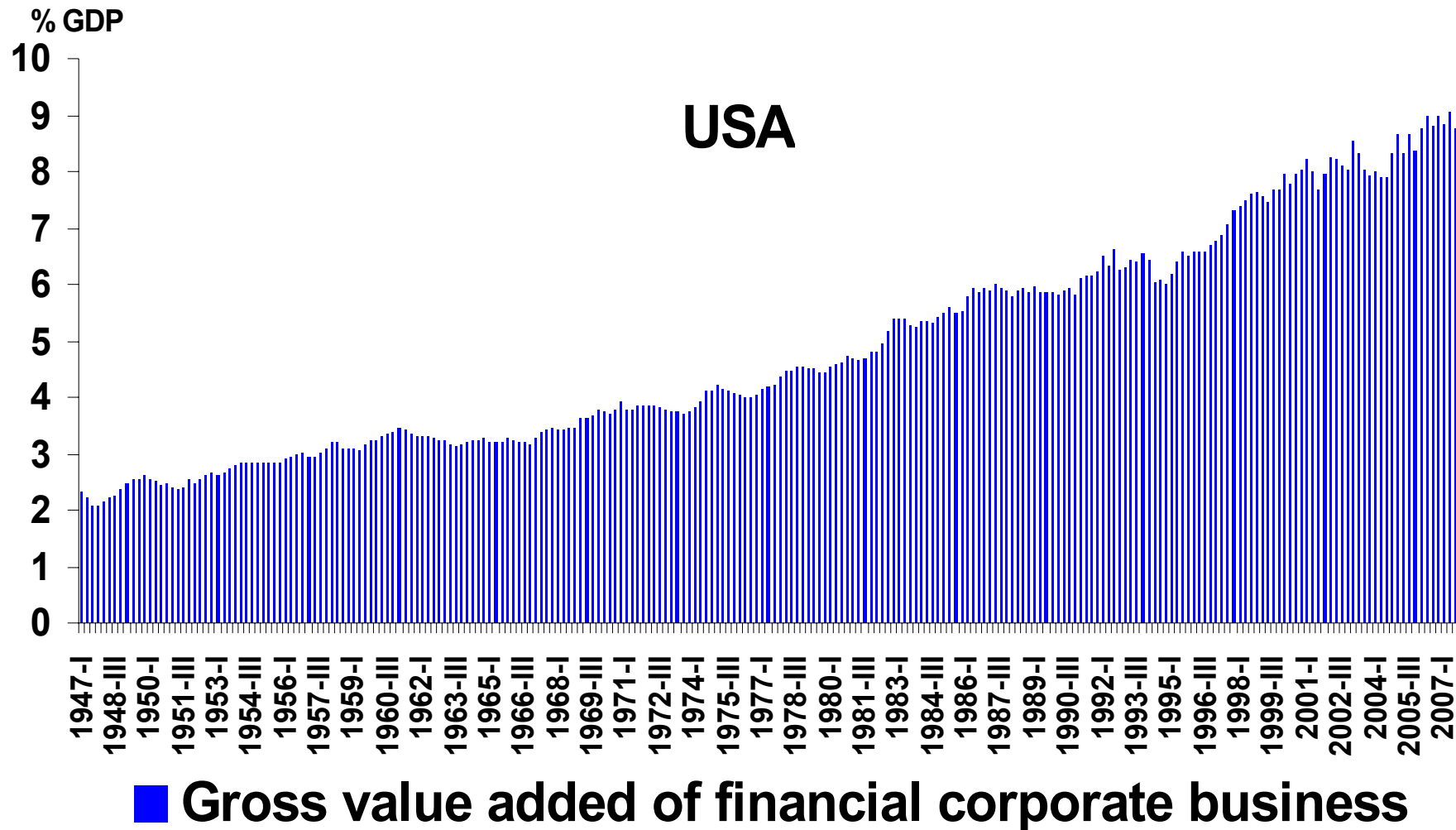
Trade with Eastern Europe

(% of total imports and exports)



Source: DOTS

## II.5 Will the expanding financial industry suffer?



Source: Bureau of Economic Analysis

# PART IV:

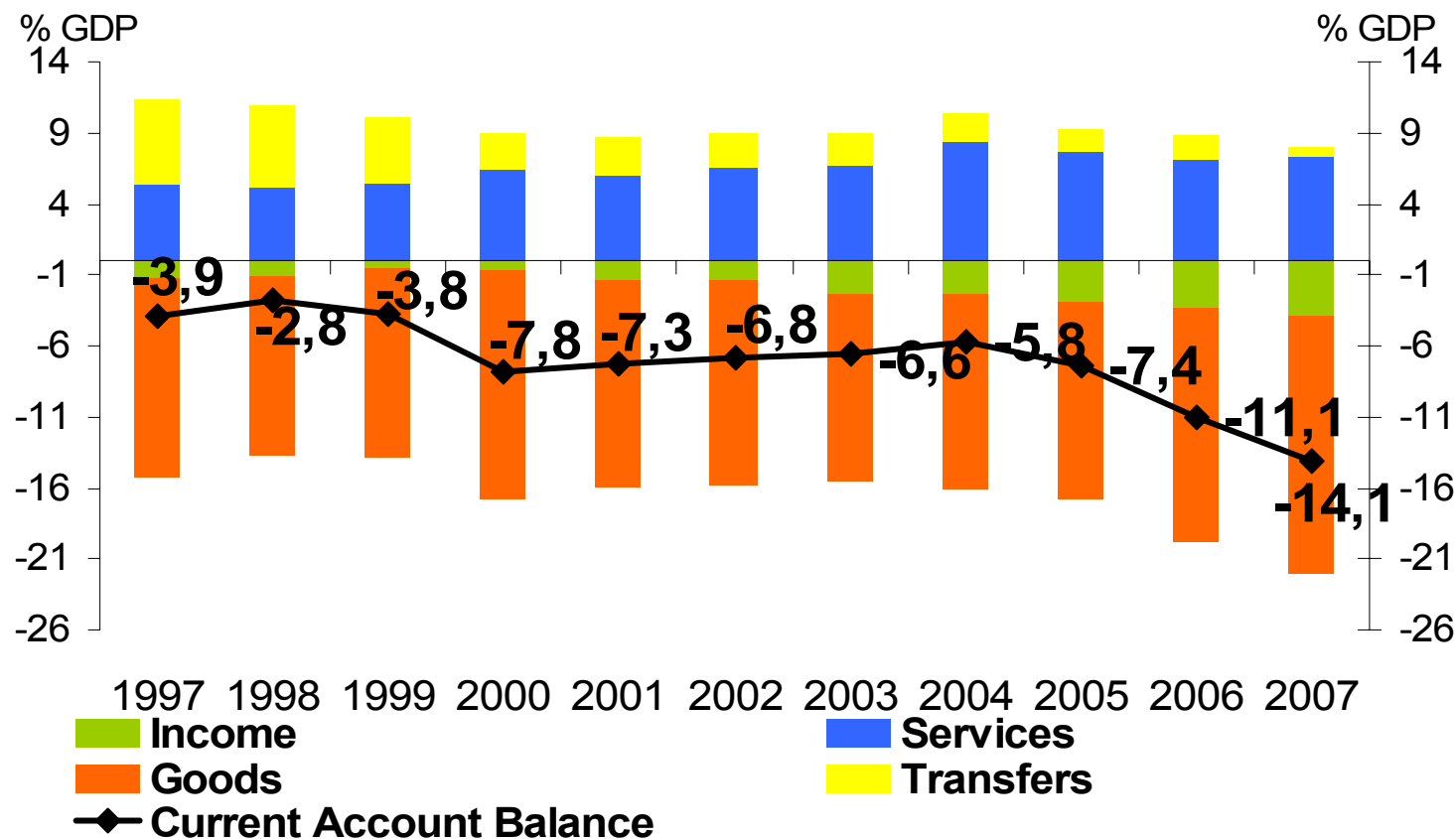
## THE UNCERTAIN FUTURE GROWTH PROSPECTS IN GREECE



*FT: “Greeks will  
become immigrants ...”*

## IV. Competitiveness ...

- ... the deepest thorn of the Greek economy
- Visible at the macro level in the rising **current account deficit**



Source: BoG

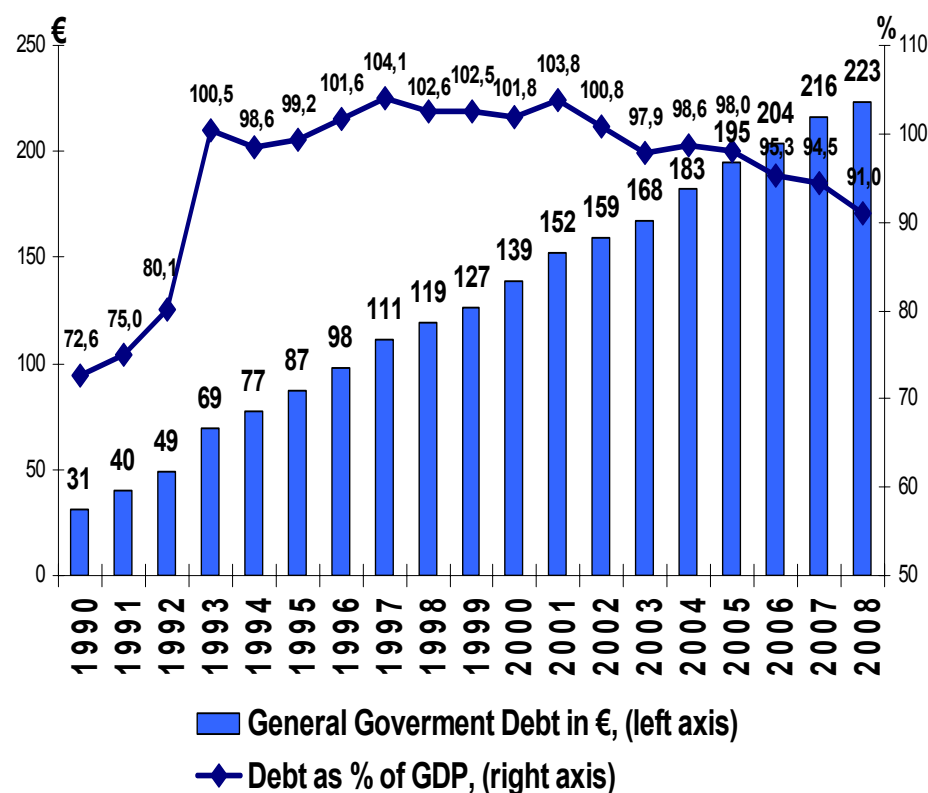
## IV. Competitiveness rankings

---

- **World Bank: Greece ranks 100<sup>th</sup> in 2007 among 178 countries in the ease of doing business**

	<b>Rank</b>	<b>Starting a Business (days)</b>	<b>Difficulty of Hiring Index (0-100)</b>	<b>Investor Protection Index (0-10)</b>	<b>Time for export (days)</b>	<b>Paying Taxes (hours)</b>
<b>Greece</b>	<b>100</b>	<b>15</b>	<b>44</b>	<b>3</b>	<b>20</b>	<b>264</b>
<b>OECD</b>		<b>6</b>	<b>25</b>	<b>6</b>	<b>10</b>	<b>183</b>
<b>Portugal</b>	<b>37</b>	<b>7</b>	<b>33</b>	<b>6</b>	<b>16</b>	<b>328</b>
<b>Czech Republic</b>	<b>56</b>	<b>17</b>	<b>33</b>	<b>5</b>	<b>16</b>	<b>930</b>
<b>Turkey</b>	<b>57</b>	<b>6</b>	<b>56</b>	<b>5.3</b>	<b>14</b>	<b>223</b>
<b>Bulgaria</b>	<b>46</b>	<b>32</b>	<b>17</b>	<b>6</b>	<b>23</b>	<b>616</b>
<b>Romania</b>	<b>48</b>	<b>14</b>	<b>78</b>	<b>6</b>	<b>12</b>	<b>202</b>

## IV. High Public Debt & Aging Population



	2005	2010	2050
Health Expenditures (% GDP)	5.1	5.4	6.8
Education Expenditures (% AEP)	3.4	3.1	3.1
% of older employees (55 – 64)	10.9	12.0	17.4
Old-age Dependency Ratio	26.8	28.0	60.4
Number of pupils&students (thousands)	1888	1768	1444

Source: European Commission



# THANK YOU FOR YOUR ATTENTION!!

My thanks to the research department of Eurobank EFG  
for able research assistance and support

For more info, please consult the Eurobank website:

<http://www.eurobank.gr/research>



New Europe:

Οικονομία & Αγορές:

Global Economic & Market Outlook:

G. Hardouvelis



A quarterly analysis of the countries of New Europe

Μηνιαία έκδοση με θέματα για την ελληνική και  
παγκόσμια οικονομία

A quarterly in-depth analysis of major market and  
economic trends across the globe with our detailed  
forecasts

