# THE SOVEREIGN DEBT DEBATE AND GREECE

**January 11, 2011**

**Houghton Street, London, WCA2A 2AE**

The Hellenic Observatory

LSE

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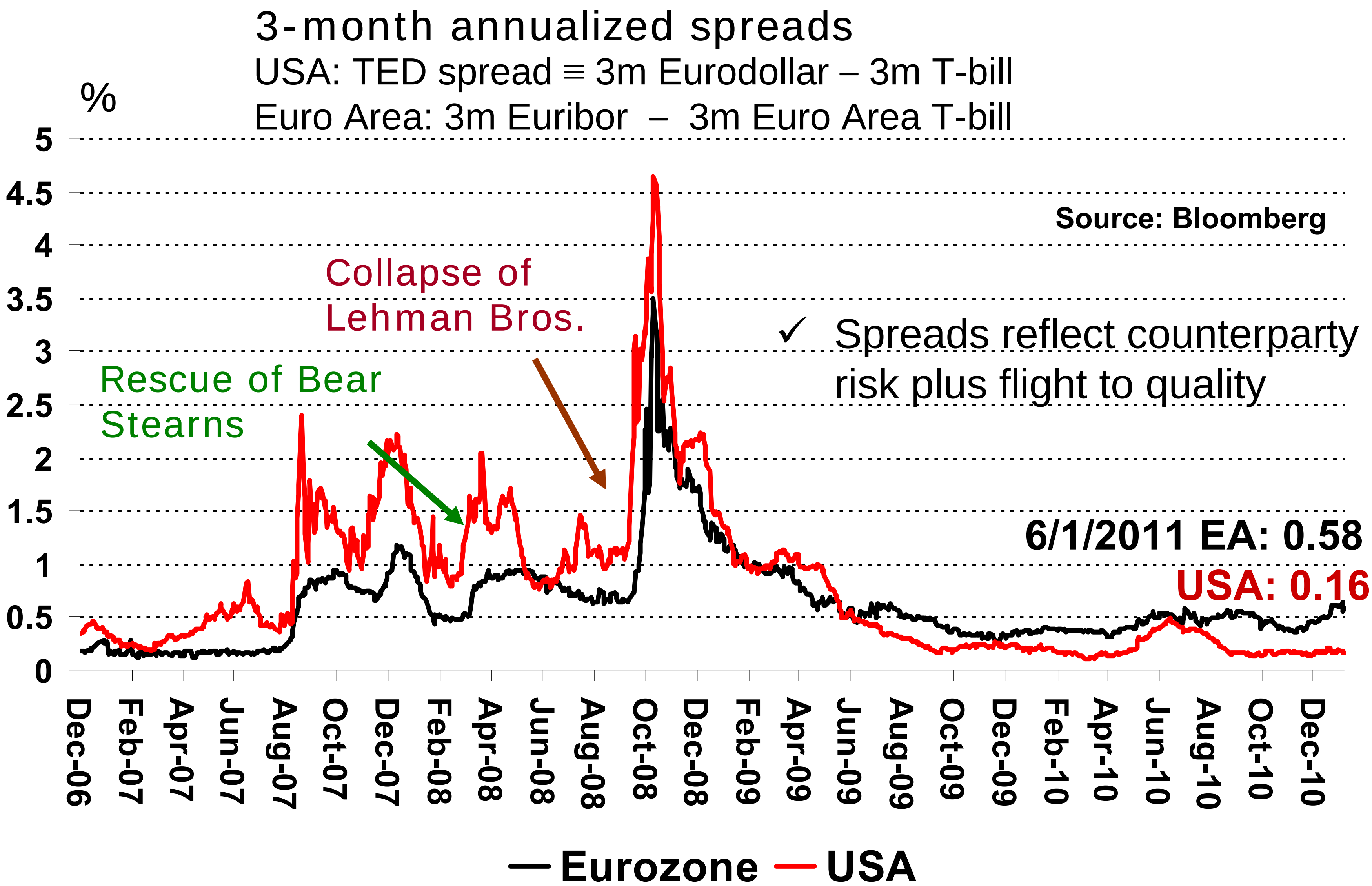
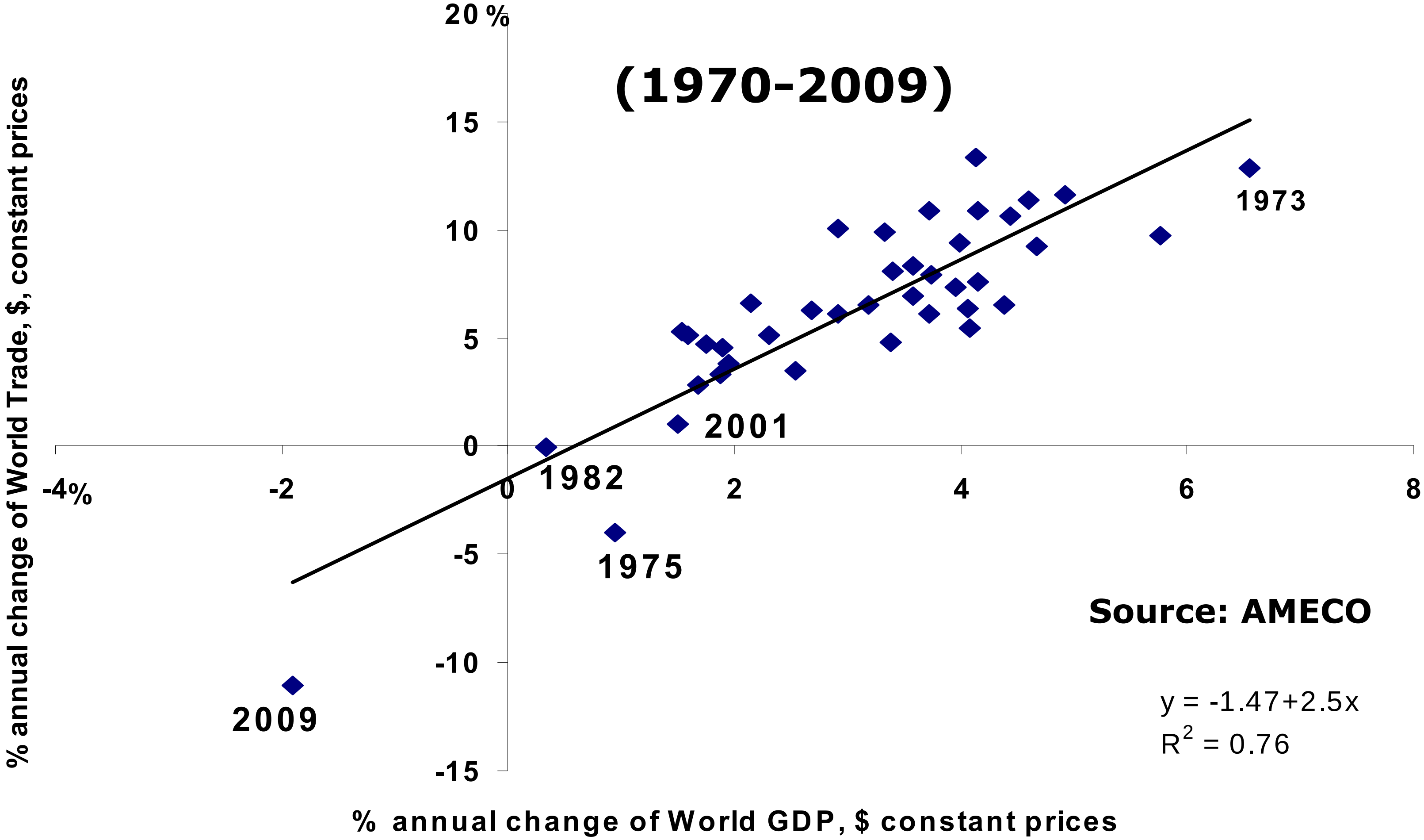
Eurobank EFG



# I. The financial crisis turned into an economic crisis in late 2008

- ✓ Trade finance was an early casualty of the slowdown in credit growth
- ✓ In 2009, world trade fell a lot more than justified by the drop in output



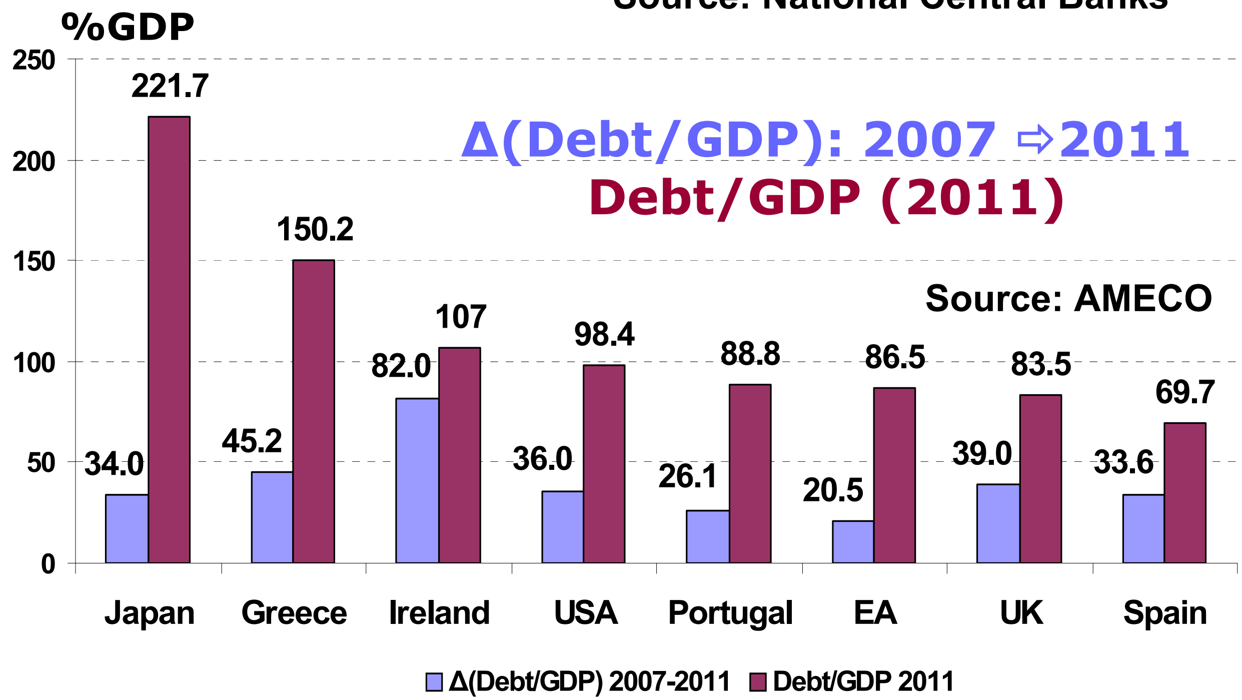
# I. The world avoided a deeper recession thanks to expansionary fiscal & monetary policies

- ✓ Monetary policy responded with unusual vigor, Quantitative Easing in USA, UK
- ✓ Large change in government spending as well
- ✓ Hence, a repetition of the experience of the 1930s was avoided
- ✓ Future growth is burdened by large General Government Debt-to-GDP ratios

## Expansionary monetary policy by central banks, Aug 2007 - Nov 2010

| | Decline in policy rate | Increase in Central Bank Assets | Current C. B. Assets |
|---|---|---|---|
| USA | - 5.00 % | 169 % | $ 2.35 tn |
| Euro Area | - 3.00 % | 60 % | € 1.91 tn |
| UK | - 5.25 % | 200 % | £ 0.25 tn |

Source: National Central Banks



# I. Risk premia rose; likely to remain high, higher than 2007 pre-crisis levels

| 5-yr credit default swap rates for: | End-June 2007 PRE-CRISIS | End-August 2008 PRE-LEHMAN | End-March 2009 CRISIS PEAK | End-October 2009 PRE-GREEK CRISIS | Jan 6, 2011 TODAY |
|---|---|---|---|---|---|
| JP Morgan | 19.3 | 143.9 | 201.1 | 63.2 | 83.8 |
| Citigroup | 11.7 | 305.5 | 631.5 | 179.8 | 150.2 |
| USA | - | - | - | 19.3 | 39.9 |
| Germany | 4.0 | 11.9 | 57.5 | 20.3 | 56.0 |
| Japan | 2.2 | 19.2 | 92.0 | 49.3 | 72.8 |
| China | 12.4 | 87.1 | 160.5 | 79.2 | 70.6 |
| Turkey | 145.8 | 297.1 | 401.6 | 188.7 | 140.6 |
| Russia | 43.2 | 261.5 | 501.1 | 190.2 | 141.1 |
| Spain | 3.4 | 50.4 | 111.9 | 70.3 | 347.7 |
| Greece | 5.5 | 62.0 | 196.0 | 140.2 | 1034.4 |
| Portugal | 4.2 | 50.9 | 105.0 | 56.0 | 506.8 |
| Italy | 7.6 | 39.4 | 151.0 | 72.5 | 238.9 |
| Ireland | | 11.0 | 264.1 | 133.2 | 617.4 |

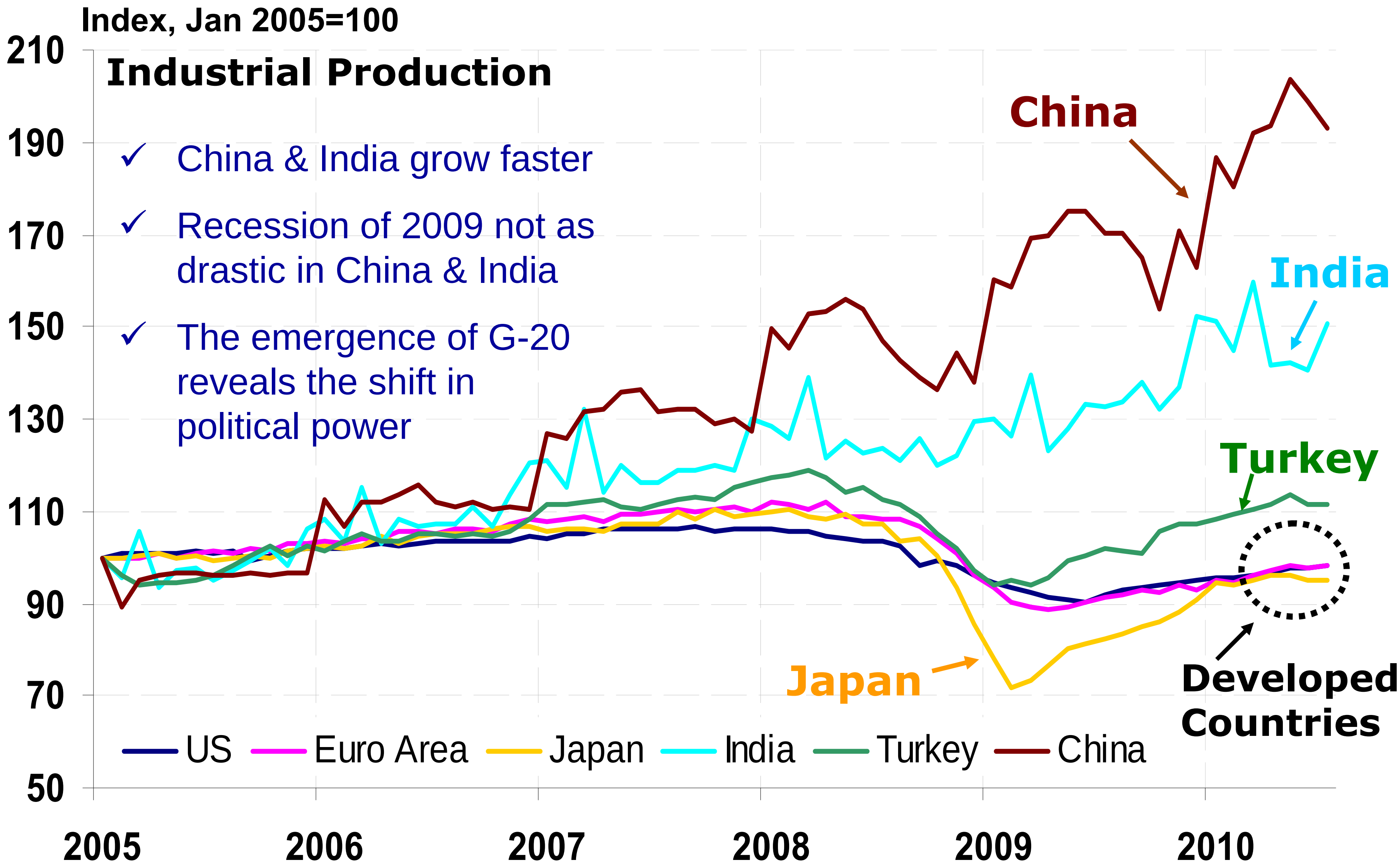
Source: Bloomberg

# I. Slower world growth ahead

The Great Recession is likely to leave its <u>permanent</u> marks:  A more stable world financial system with stricter regulation and supervision, yet with lower world growth in the next decade due to:

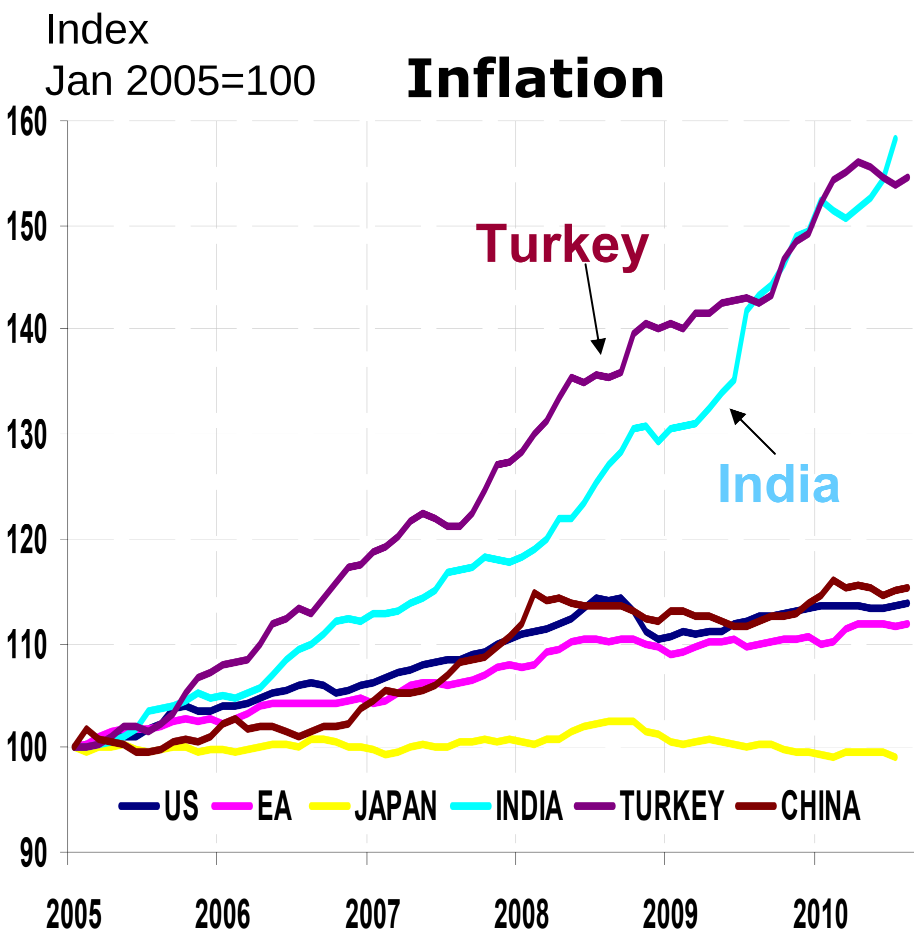
1) **Higher real interest rates**
   - ✓ Risk premia will stay high relative to the pre-crisis period
   - ✓ The cost of financial intermediation will increase due to stricter regulation: Basel III
   - ✓ Crowding out in the bond market by governments that compete for funding
   - ✓ Central bank interest rates will increase
2) **Future deleveraging** of the government sector, hence more restrictive fiscal policy relative to the pre-crisis period
   - ✓ Governments spent their way out of a huge recession, but in the future they cannot be as expansionary
3) **Mediation of global imbalances** will reduce world aggregate demand, as the US consumer will increase its savings rate (perhaps also if yuan appreciates) and, hence, exports to the US will decline
   - ✓ The Chinese, Indian or European consumer cannot fill in the gap left by the Americans

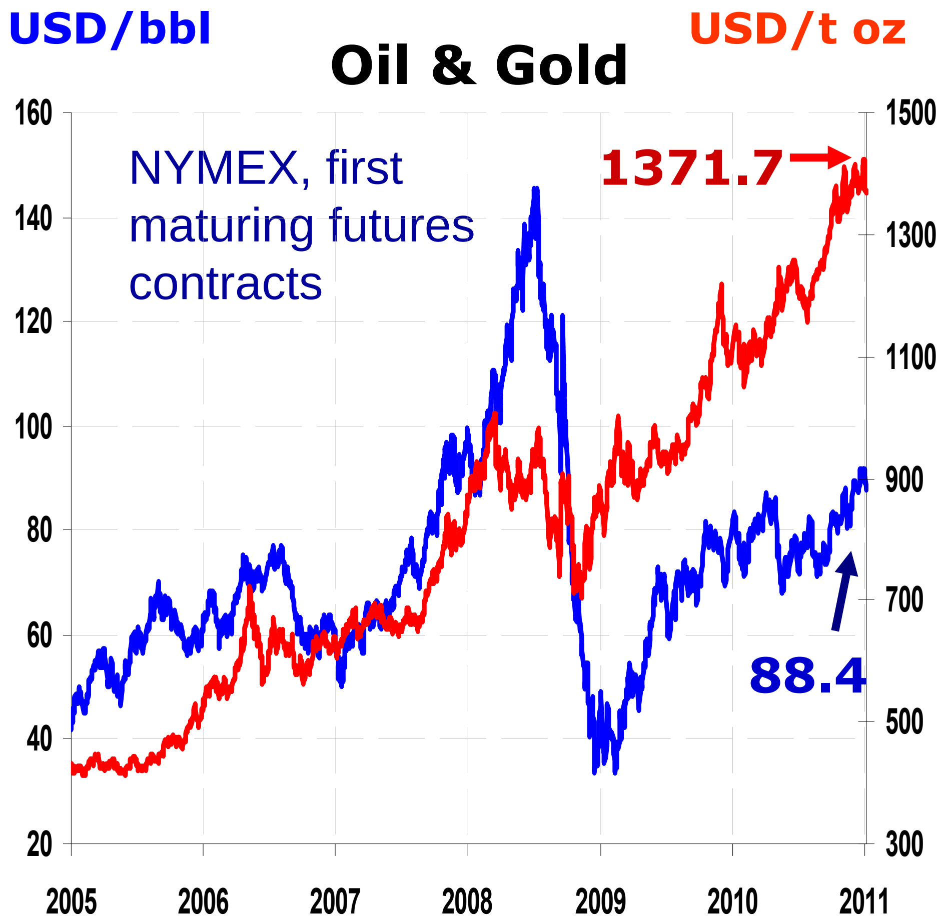
# I. A two-speed world: Emerging countries outperform




Source: Ecowin, Eurobank EFG Research

# I. Inflation: Stabilizing at low levels in the West




**Source: Bloomberg, Eurobank Research**

# II

I. The global economic environment

**II. EMU tensions**

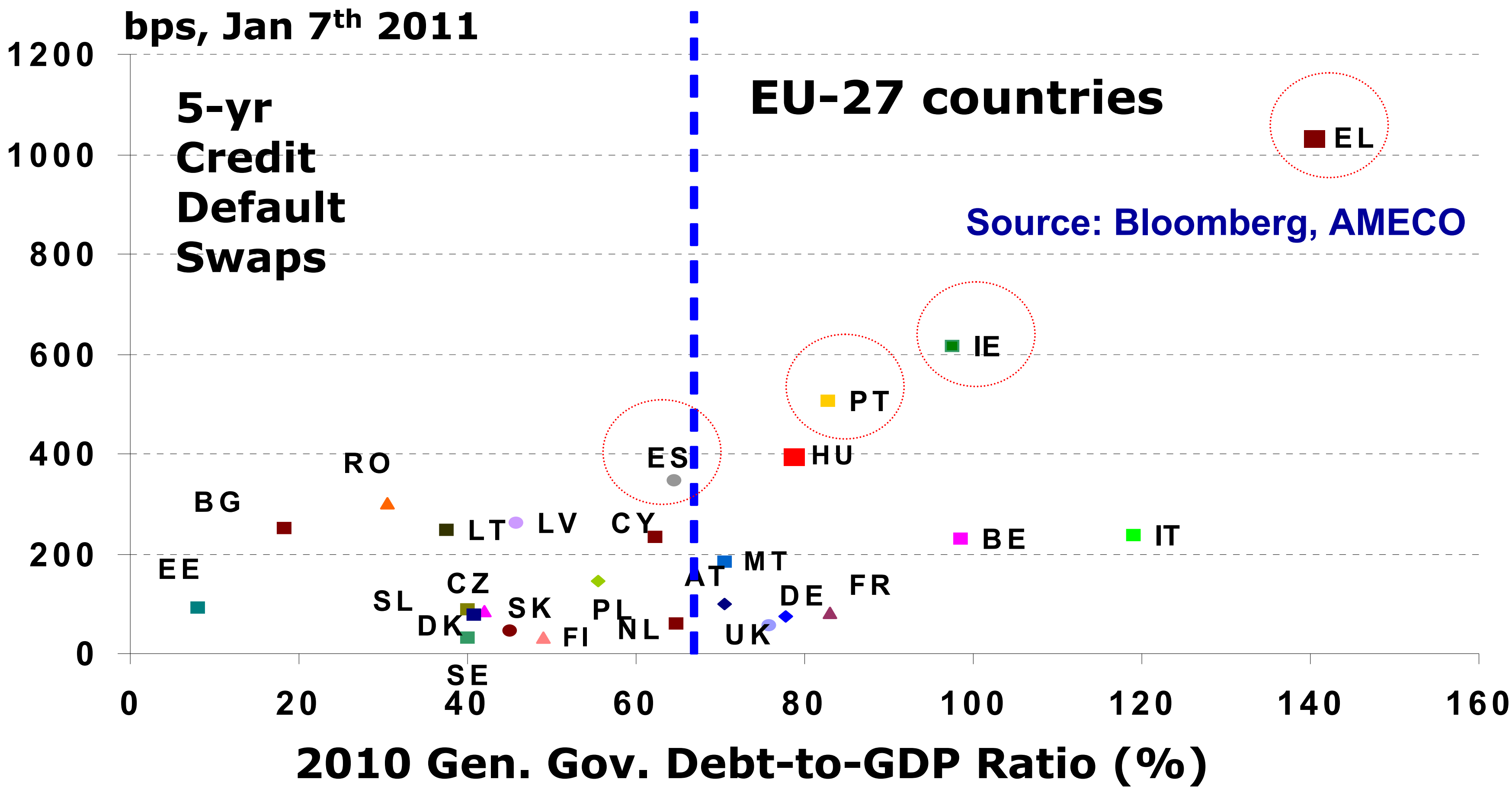
III. How Greece reached the point of default

IV. The Greek stability program

V. Summary

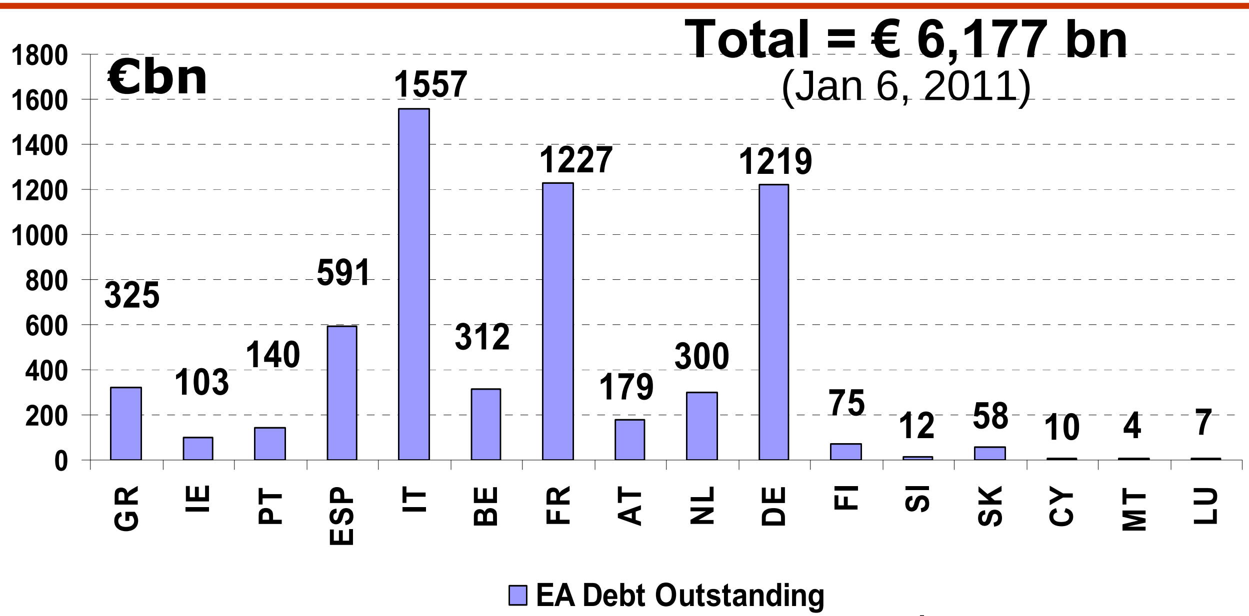
VI. Appendix: Can growth come back in Greece?

# II. High sovereign debt does not characterize all countries in EMU Periphery



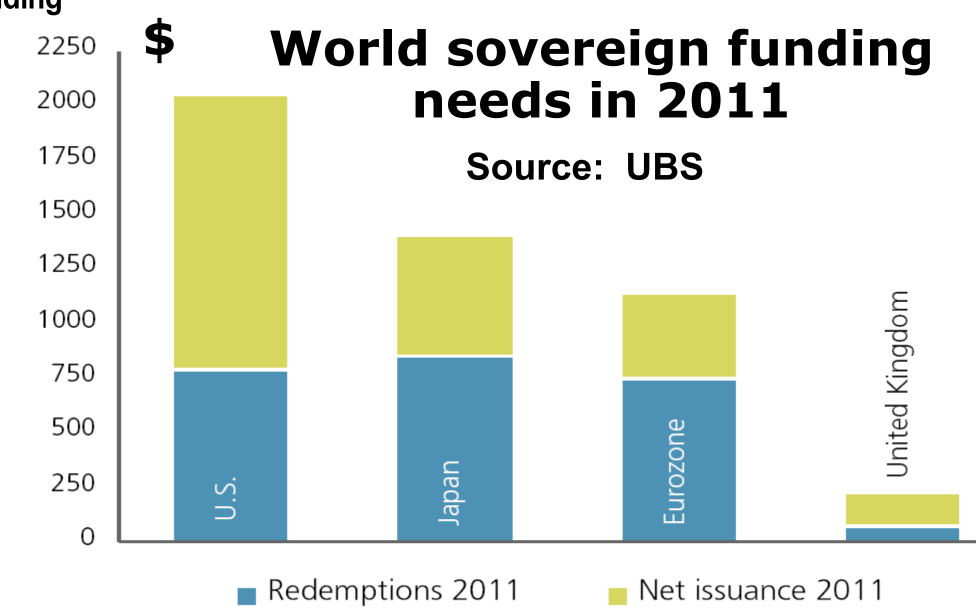

- ✓ Current Public Debt/GDP is not the only variable that unsettles markets
- ✓ Other variables that shape the size of market risk premia are: (a) Growth prospects; (b) Size of future deficits (c) Private debt; (d); Banking sector fragility; (e) Real estate bubbles, etc.

# II. Euro Area's Outstanding Sovereign Debt



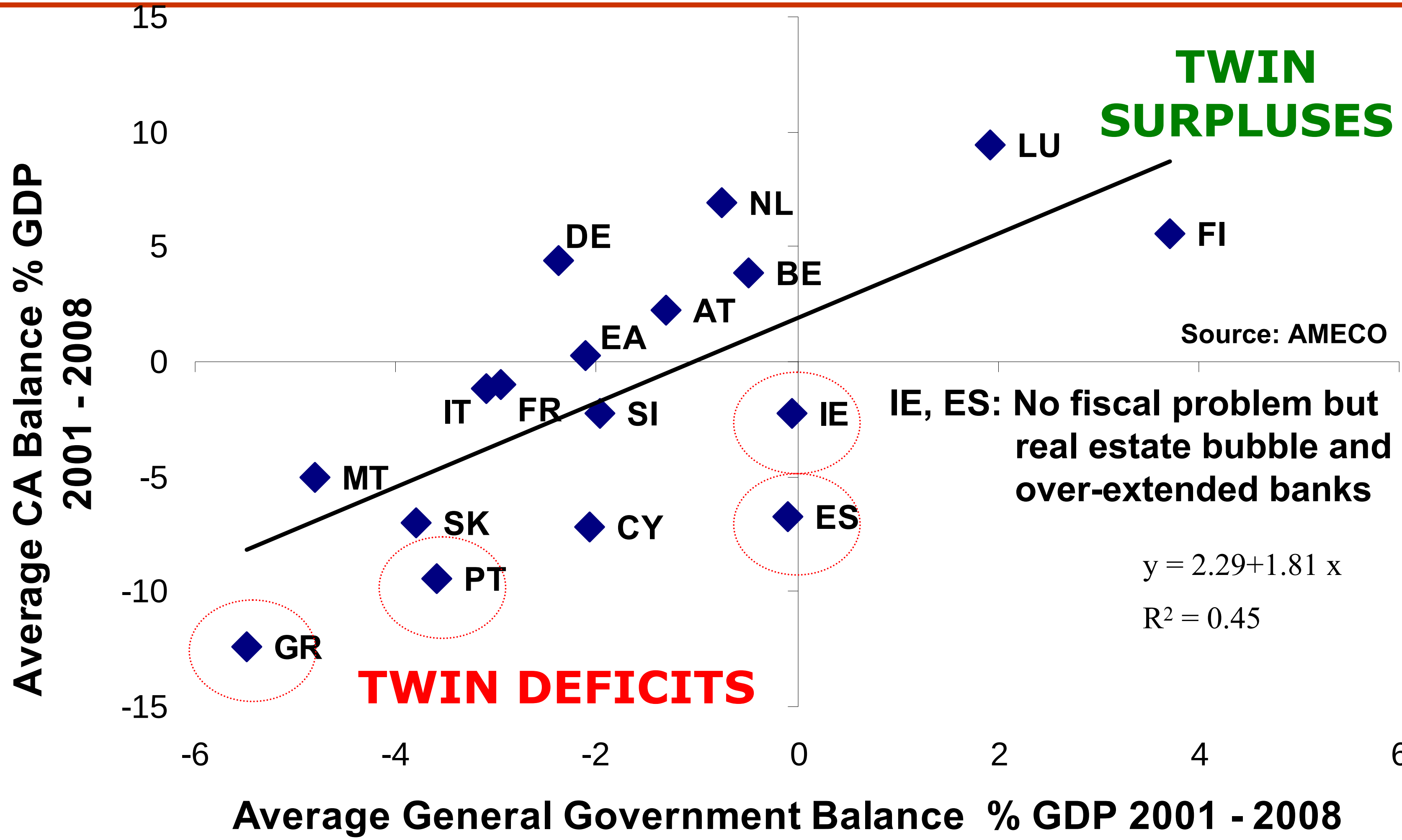

Source: Bloomberg, Eurobank EFG Research

- ✓ In 2011, funding needs are bigger in the US and Japan
- ✓ Clearly, sovereign debt is not the only problem in EMU
- ✓ Yet, markets will be preoccupied with sovereign funding needs in the EMU Periphery



# II. Competitiveness gaps within EMU creates a two-speed Europe

Eurobank EFG

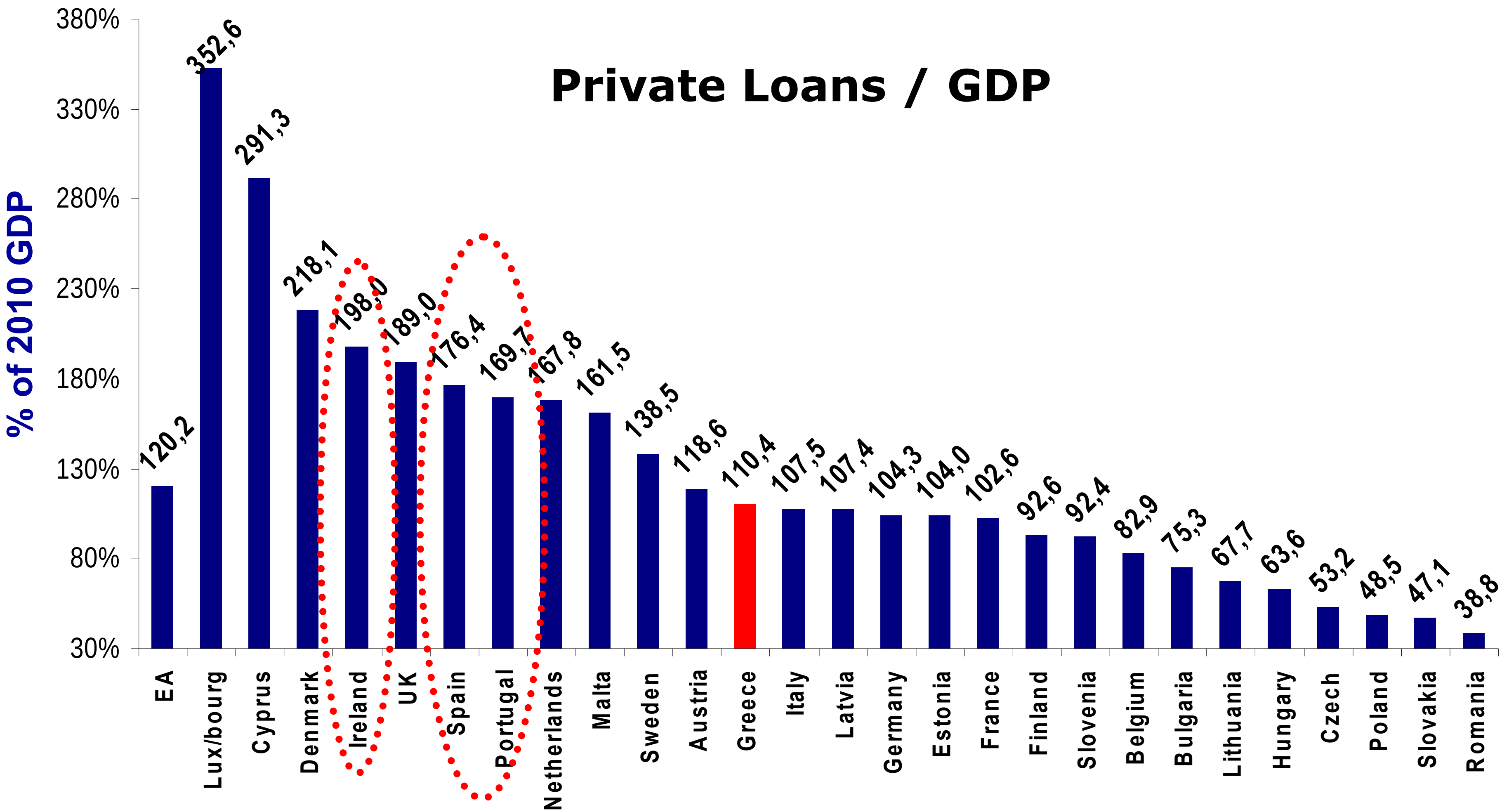



***The worry:***

1) ***Current account deficits****: Not caused by rational expectations of future higher incomes and an influx of capital seeking investment opportunities, but rather excessive optimism, leverage & consumption*

2) ***Fiscal deficits****: Gov money was not channeled to investment*

# II. Private sector debt is high in Ireland, Spain and Portugal



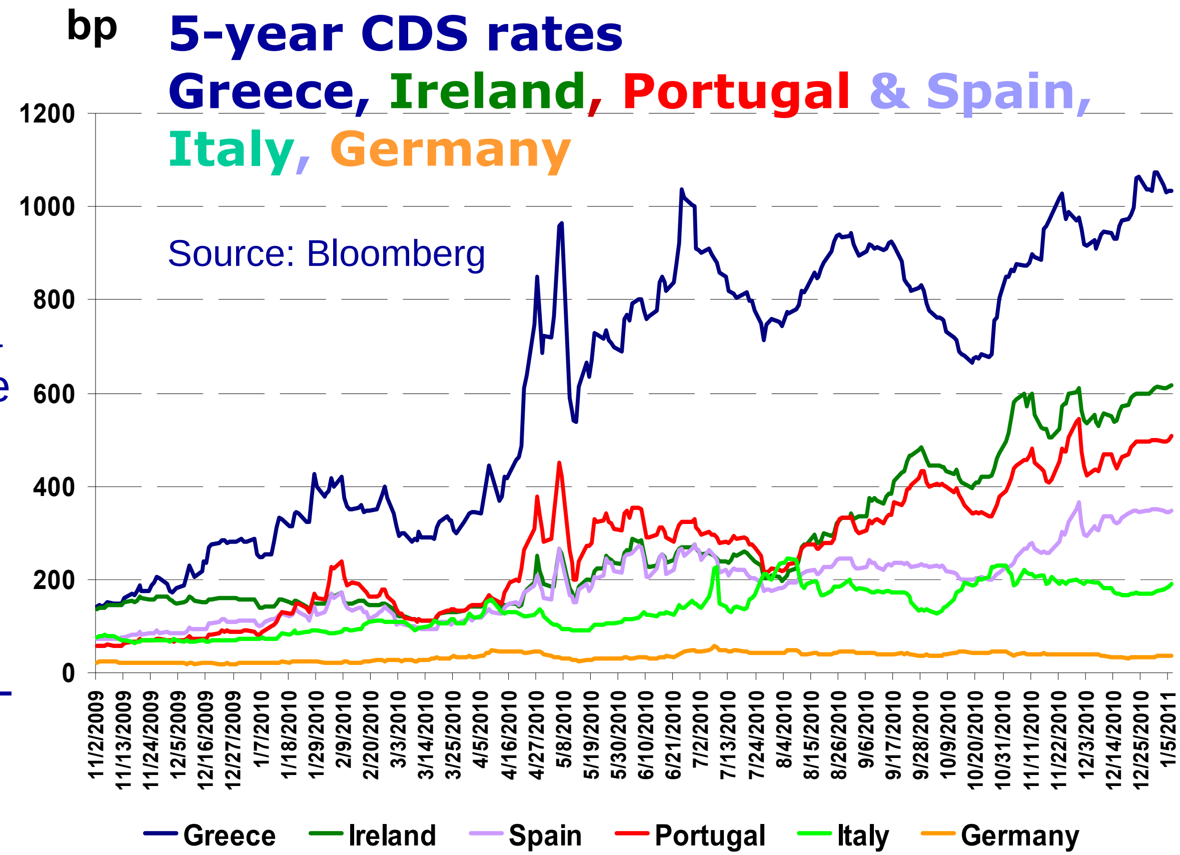

*Note: **ECB data**. Loans to non MFIs excl. Gen. Government from MFIs excl. Eurosystem, **August 2010**, **% of 2010 GDP** (EU forecasts). The data **include securitizations** and are trustworthy for cross sectional comparisons, but not for time series analyses as individual series contain unexplained abrupt breaks due to either full or partial inclusion of securitizations over time.*

# II. Financial markets unsettled since Greek crisis erupted in November 2009

Eurobank EFG

**Market nervous throughout 2011** expected to remain

- ✓ On January 6th , 5-yr Greek CDS was **1034.5 bps** implying
  - ❖ a cumulative risk-neutral **probability of 40.1%** for a **total capital loss** any time during the 5-year period,
  - ❖ or a **99.9%** cumul prob for a **capital loss of 10%**
- ✓ Even more worrisome is the following: On January 6th the 2-year Greek Government bond yield was 13.1%, a spread of 1216 bps over Bunds!!



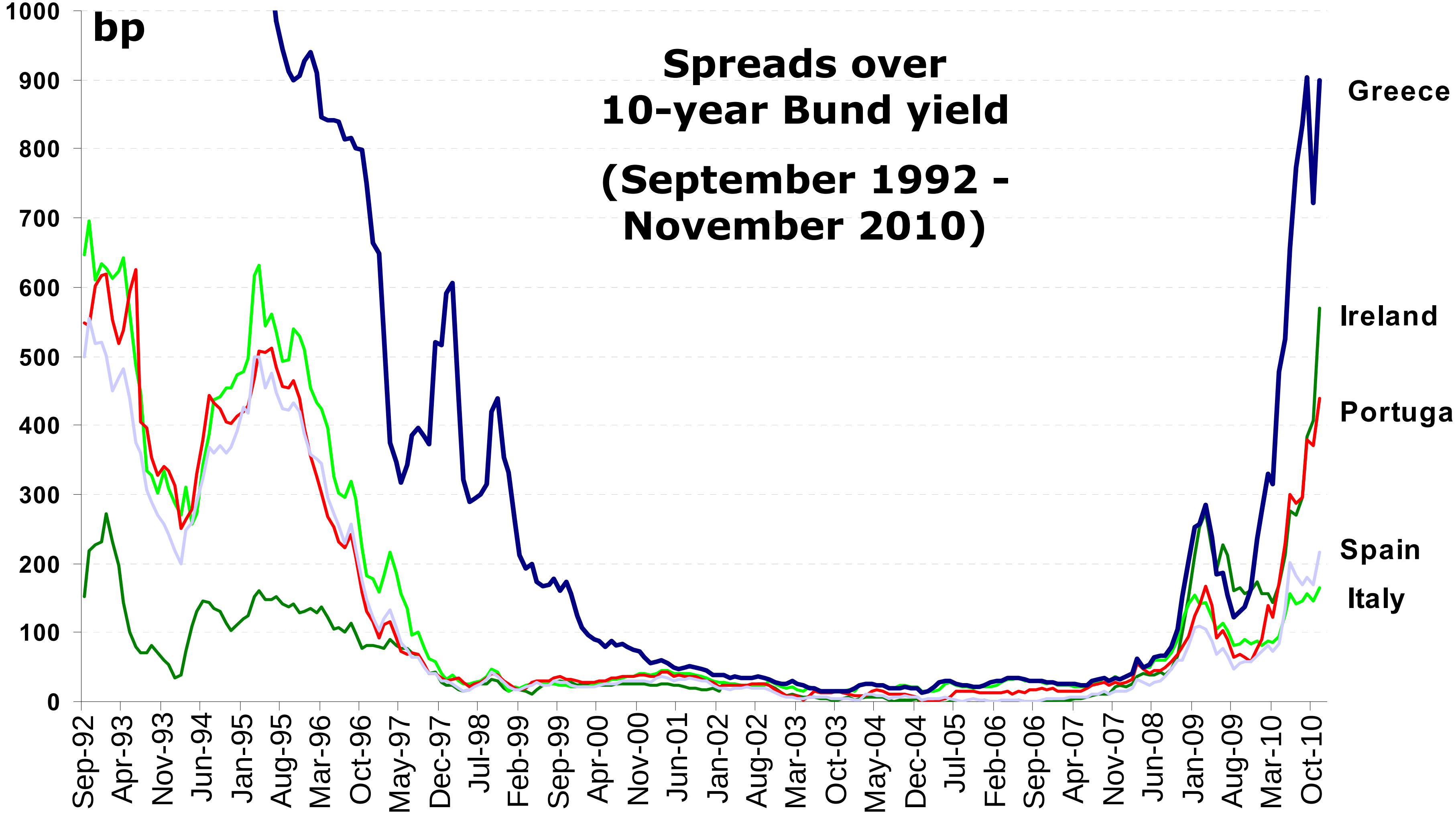

- ✓ Yet Greece does not need to go the market to get financed for 2 years! Illiquidity? Overreaction? The market seems to believe that:
  - ❖ Either the Greeks are incapable of absorbing the €110 bn rescue funds
  - ❖ Or the EMU members will not be able to deliver the funds

# II. CDSs incorporate the possibility of a significant haircut in Greek & Spanish debt obligations

| Haircut 5 yr CDS (Jan 6, 2011) | Marginal 1-yr Risk-neutral Probability | | Cumulative 5-yr Risk-Neutral Probability | |
|---|---|---|---|---|
| Size | Greece | Spain | Greece | Spain |
| 100% | 10.3% | 3.5% | 40.1% | 15.7% |
| 90% | 11.5% | 3.9% | 43.4% | 17.3% |
| 80% | 12.9% | 4.3% | 47.4% | 19.2% |
| 70% | 14.8% | 5.0% | 52.1% | 21.7% |
| 60% | 17.2% | 5.8% | 57.8% | 24.8% |
| 50% | 20.7% | 7.0% | 64.8% | 29.0% |
| 40% | 25.9% | 8.7% | 73.3% | 34.9% |
| 30% | 34.5% | 11.6% | 83.7% | 43.7% |
| 20% | 51.7% | 17.4% | 94.9% | 58.1% |
| 10% | 94.0% | 31.6% | 99.9% | 80.7% |

✓ On January 6, 2011, the 5-yr CDS for Greece was 1034.5 bps and for Spain 347.7 bps

# II. The evolution of the 10-year Bond Spreads




**Note:** Monthly Averages; Annualized yields to maturity on fixed coupon bonds.
Eurostat estimates whenever monthly 10-yr yields were not available.

**Source:** Eurostat

# II. Current S&P country ratings

**EU-27 Long Term Credit Rating**
(S&P Ratings, January 10, 2011)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **AAA** | **LU** | **NL** | **SE** | **UK** | **AT** | **DK** | **FI** | **FR** | **DE** |
| **AA+** | **BE** | | | | | | | | |
| **AA** | **SI** | **ES (AA+)** | | | | | | | |
| **AA-** | | | | | | | | | |
| **A+** | | **SK** | **IT** | | | | | | |
| **A** | **CZ** | **EE** | **MT** | **IE (AA)** | **CY (A+)** | | | | |
| **A-** | **PL** | **PT (A+)** | | | | | | | |
| **BBB+** | | | | | | | | | |
| **BBB** | **BG** | **LT** | | | | | | | |
| **BBB-** | **HU** | | | | | | | | |
| **BB+** | **RO** | **EL (A-)** | | **LV (BB) ↑** | | **Junk status** | | | |
| **BB** | | | | | | | | | |
| **BB-** | | | | | | | | | |

Note: In parentheses, different **older Ratings** as of October 31, 2009

# II. EMU Policy response: Late & ad hoc, but decisive

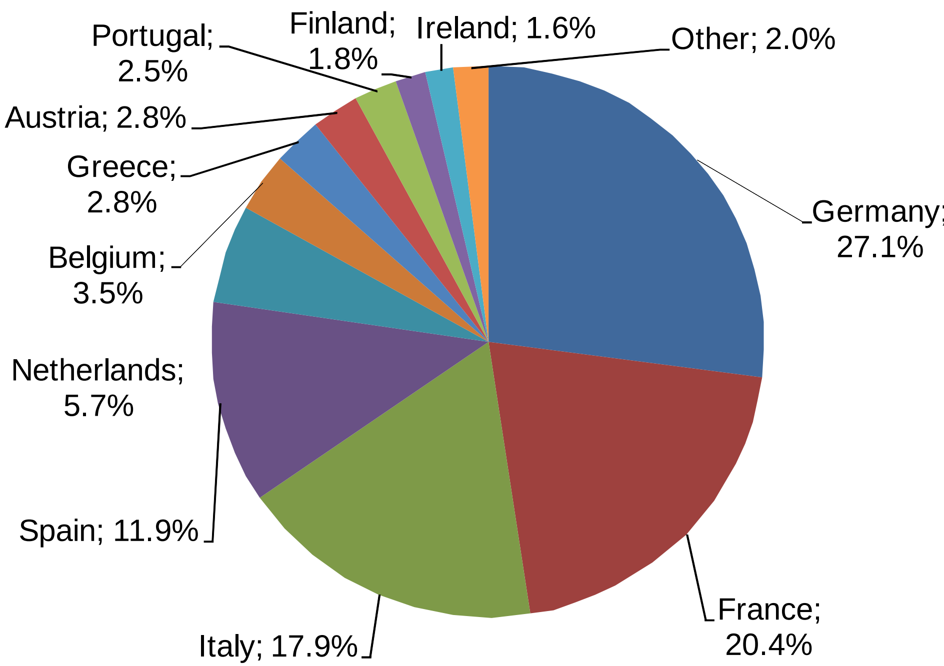
1. An MOU on May 3-5 between IMF/EMU on one side and the Greek government on the other, with conditionalities and €110bn 3-yr loan package for Greece
   - ✓ **€ 80bn EMU funds**
   - ✓ **€ 30bn IMF funds with lower interest rate**

2. Euro Area support program of € 750bn initiated on May 9-10
   - ✓ **€ 60bn immediate assistance,**
     - ❖ *Extension of EU Commission facility for "circumstances beyond their control", Article 122.2*
   - ✓ **€ 440bn "European Financial Stability Facility"**
     - ❖ *loan guarantees from EMU States*
   - ✓ **€ 250bn IMF funding**
     - ❖ *on a "case by case basis"*
   - ✓ **ECB nuclear option**
     - ❖ *Secondary market purchases of sovereign debt*

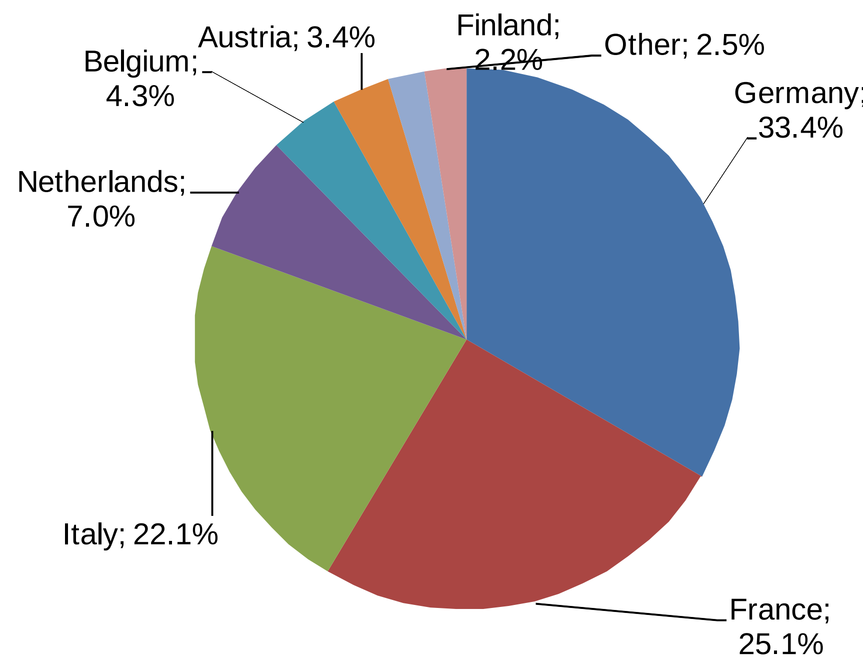
# II. Euro Area Crisis Resolution Mechanisms

| | Present EFSM | Present EFSF | Future ESM |
|---|---|---|---|
| **Mechanism endorsement procedure** | ECOFIN, qualified majority | Eurogroup, approval from member states national parliaments | European Council, Modification of the Lisbon Treaty is a prerequisite (approval of member states parliaments and not referendums) |
| **Activation date** | From 5/2010 | 8/2010 - 6/2013 | Permanent Mechanism to be activated by 1/1/2013. The ESM will replace the two existing mechanisms. |
| **Size of funding** | € 60 bn | € 440 bn | Not specified yet |
| **Source of funding/ guarantees** | EU Budget, bilateral loans | Euro Area countries, Issuance of EFSF bonds | Not specified yet |
| **To whom it applies** | All EU members | All Euro Area members | All Euro Area members |
| **Activation procedure** | ECOFIN, qualified majority after recommendation from the European Commission and the ECB | Eurogroup, unanimous decision after recommendation from the European Commission, the ECB and the IMF. | Unanimous decision of the Euro Area countries |

# II. The key within EMU




**Initial EFSF Contributions**




**Adjusted EFSF contributions with Greece, Ireland, Portugal and Spain out**

**Source: EFSF Framework Agreement, EFG Eurobank Research**

- ✓ The Initial Contribution to the European Financial Stability Facility reflects the relative size of each economy
- ✓ This contribution increases the moment EFSF is tapped

# II. EMU Policy response: The current state of affairs

- ✓ A Monetary Union is not a regime of fixed exchange rates, nor a Currency Board. EMU nations share a central bank and a common currency.
- ✓ Greece cannot take a "leave of absence" from EMU, it would have to leave the EU
- ✓ Deeper political union is not acceptable by member nations and EMU dissolution means high economic cost and severe loss of political capital. ⇨ **Stricter EMU fiscal mechanism** is coming that would enhance EMU stability and be **beneficial for undisciplined countries**

**Van Rompuy Task Force legislative proposals** include:

- ❖ Adoption of fiscal rules from all EU countries (regardless of their deficit levels)
- ❖ Member States with debt levels above the 60% threshold should follow a faster adjustment path towards their medium term objectives for debt reduction.
- ❖ The Excessive Deficit Procedure can be triggered even with deficit below the 3% threshold but with an unsustainable (forecasted) deficit path.
- ❖ Sanctions in the form of deposits should be imposed – using a reverse voting procedure – to the member states that fail to take appropriate actions to reduce deficit and/or debt.
- ❖ Introduction of a permanent crisis resolution mechanism for the euro area aiming to address financial distress and contagion.

**European Council Decisions** (December 16-17, 2010)

- ✓ European Stability Mechanism will replace the current mechanisms (EFSM, EFSF). Changes in the Lisbon Treaty, a prerequisite for implementation.
- ✓ Approve Van Rompuy Task Force proposals

# II. Are E-bonds likely?

## NOT NOW, BUT THEY MAY BECOME A REALITY IN THE FUTURE

- ✓ Proposals for E-bonds were made since early 2010, e.g. Stefan Collignon
- ✓ E-bonds ought to be legally formed so as not to trigger CDS calls
- ✓ Structured E-bonds (blue-bond, red-bond) with the 60% Debt/GDP separating mark, proposed by Jacques Delpa & Jacob von Weizsäcker (2010) of Bruegel
- ✓ Two weeks before European Council of Dec 16-17, Jean-Claude Junker & Giulio Tremonti proposed structured E-bonds, up to 40% of Debt/GDP through a new European Debt Agency
- ✓ One day before European Council of Dec 16-17, Frank-Walter Steinmeier & Peer Steinbrück argued for E-bonds, revealing the idea is being discussed in Germany

## WHO BENEFITS FROM E-BONDS?

- ✓ They diversify risk, benefiting every country
- ✓ It is assumed the EMU Periphery would benefit, as they would be able to finance their debt at cheaper rates, borrowing credibility from stronger countries. Ricardo Cabral (2010) argues the opposite, claiming countries that issue E-bonds lose their option to default as E-bonds are no longer issued in domestic jurisdiction
- ✓ For the EMU Periphery, structured E-bonds relieve some market pressures plus they provide a strong incentive mechanism to <u>quickly</u> bring the debt down to below 60% of GDP.

# II. What will the ECB do?

## STAY ON THE SIDELINES, ENSURING FINANCIAL SECTOR STABILITY

- ✓ ECB is of the opinion that fiscal crises ought be solved via fiscal measures
- ✓ It has loosened its collateral requirements and agreed to extend its special liquidity programs to stabilize market conditions
- ✓ Under its nuclear option, the SMP, it has bought around €70 bn of bonds, an action different from the US or UK Quantitative Easing, as the injection of liquidity is sterilized by issuing one-week term deposits
- ✓ Future debt monetization is unlikely as it risks generating inflation
- ✓ Will the liquidity provision continue in case of future rising inflation? This is a big risk for Ireland and Greece, as the remaining EMU countries have reduced their ECB dependency

## IS THE ECB POSITIVE ON FISCAL COORDINATION?

- ✓ Yes, up to a certain degree, as coordinated fiscal measures reduce market pressures
- ✓ But if coordination is pushed tighter, fiscal policy makers my turn out to be <u>strategic leaders</u> in a game with the ECB, leading the ECB to lose some of its independence (Roel Beetsma & Massimo Giuliordi (2010))

# II. Drastic recent changes in the demand for ECB liquidity

| | EE-16 | | | Greece | | | Ireland | | | Portugal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | a | b | c | a | b | c | a | b | c |
| Jun-07 | 465 | 28,026 | 1.7 | 4.3 | 353 | 1.2 | 25.5 | 1,604 | 1.6 | 0.2 | 416 | 0.1 |
| Jun-10 | 870 | 32,578 | 2.7 | 94.3 | 543 | 17.4 | 94.8 | 1,690 | 5.6 | 40.2 | 549 | 7.3 |
| Oct-10 | 534 | 31,855 | 1.7 | 92.5 | 517 | 17.9 | 130.0 | 1,599 | 8.1 | 40.0 | 555 | 7.2 |

| | Spain | | | Belgium | | | Austria | | |
|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | a | b | c | a | b | c |
| Jun-07 | 18.2 | 2,761 | 0.7 | 37.5 | 1,220 | 3.1 | 14.8 | 848 | 1.7 |
| Jun-10 | 126.0 | 3,487 | 3.6 | 36.3 | 1,217 | 3.0 | 24.2 | 1,035 | 2.3 |
| Oct-10 | 67.9 | 3,473 | 2.0 | 5.8 | 1,153 | 0.5 | 7.2 | 1,008 | 0.7 |

| | Germany | | | France | | | Italy | | |
|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | a | b | c | a | b | c |
| Jun-07 | 243.4 | 7,381 | 3.3 | 39.0 | 6,879 | 0.6 | 20.8 | 3,092 | 0.7 |
| Jun-10 | 226.0 | 7,641 | 3.0 | 133.0 | 8,190 | 1.6 | 36.0 | 3,991 | 0.9 |
| Oct-10 | 103.0 | 7,397 | 1.4 | 41.6 | 8,059 | 0.5 | 33.7 | 3,967 | 0.8 |

Note: **(a)** Total Funding (€bn), **(b)** Banking Sector's Total Assets (€bn), **(c)** % (a)/(b)

# III

I. The global economic environment

II. EMU tensions

III. **How Greece reached the point of default**

IV. The Greek stability program

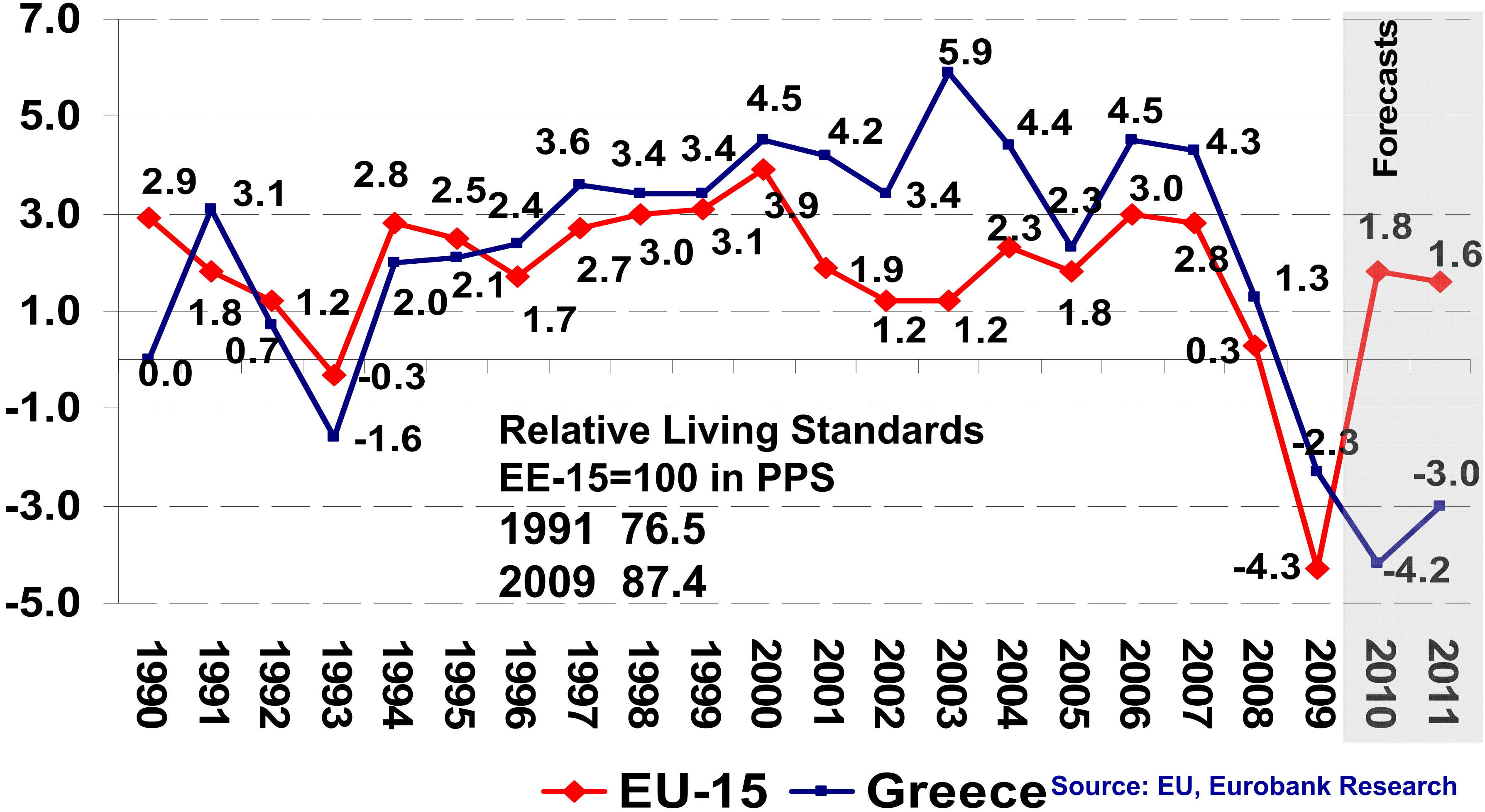
V. Summary

VI. Appendix: Can growth come back in Greece?

# III. Greece: General characteristics

| 2009 | Greece | EA-16 | World |
|---|---|---|---|
| Population (mil.) | 11.3 | 328.6 | 6,756.0 |
| Geographical Area (km²) | 132.0 | 2,578.8 | 510,072 |
| GDP per capita (€) | 21,082 | 27,271.4 | 7,704.9 |
| Living standards (UN ranking among 182 countries) | 25 | Median 17 | |
| Life expectancy (years) | 80 | 80.5 | 66.1 |
| Cars per 1000 inhabitants (2006) | 407 | 506 | |
| Suicides / 100 thousand inhabitants | 2.8 | 8.8 | |
| Primary Sector (% GDP) | 4.0 | 2.2 | 6.0 |
| Secondary Sector (% GDP) | 16.9 | 24.7 | 30.6 |
| Tertiary Sector (% GDP) | 79.1 | 73.0 | 63.4 |
| Tourism (% GDP) | 9.8 | 15.2 | 9.4 |
| Construction (% GDP) | 4.5 | 5.3 | |
| Public Sector (Gen. Gov. Expenditures % GDP) | 50.5 | 50.7 | |
| Exports (Goods & Services, % GDP) | 18.8 | 36.3 | |
| Imports (Goods & Services, % GDP) | 28.5 | 35.0 | |
| Private Consumption (% GDP) | 72.6 | 57.6 | |
| Investment (% GDP) | 16.8 | 19.7 | |
| Gen. Gov. Debt (% GDP) | 115.1 | 78.7 | |

# III. Real growth rates in Greece were higher than in EU-15 from 1996 through 2009

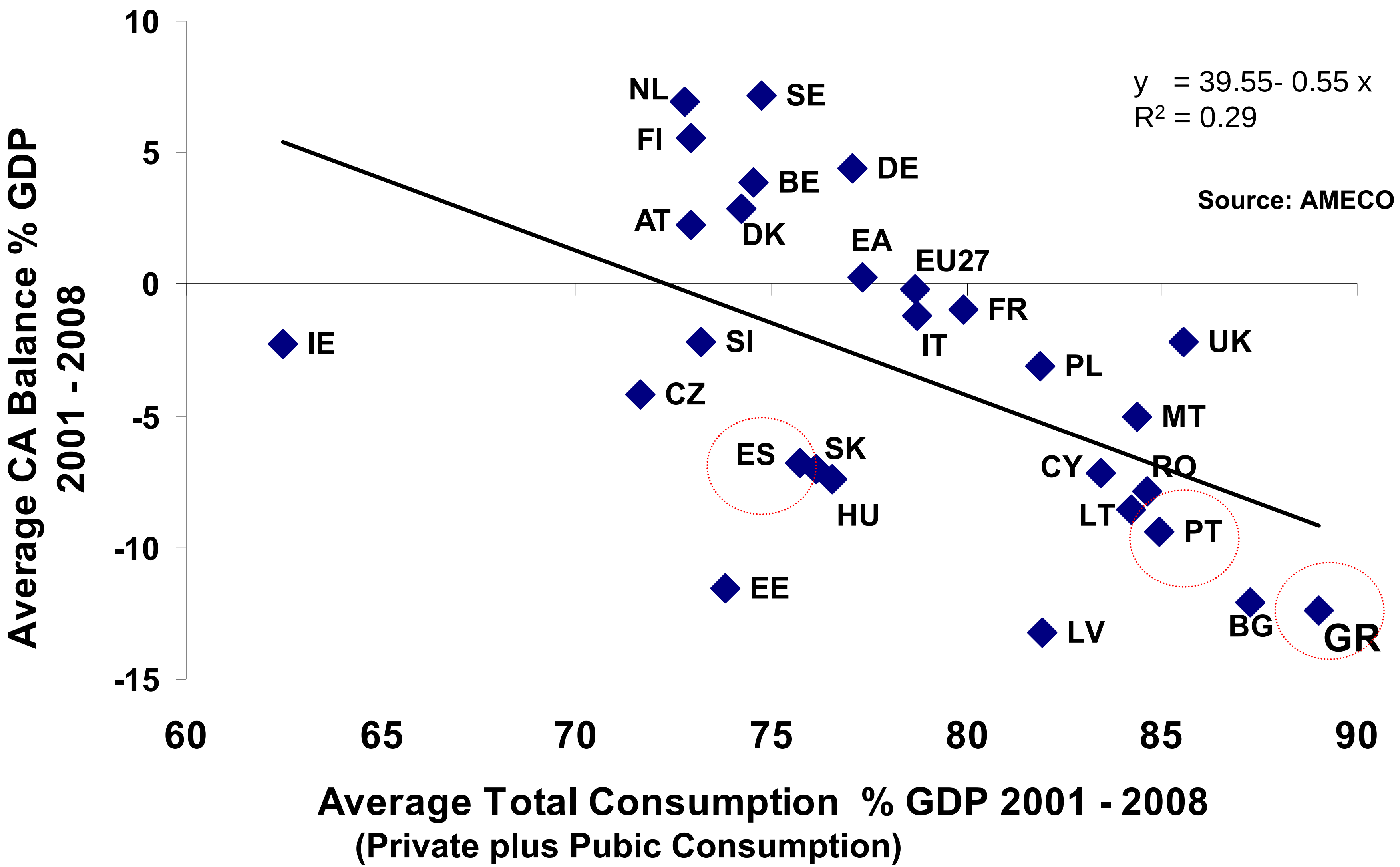



Source: EU, Eurobank Research

**Greece:** **From boom to bust & market worries, How come?**

Answer: **Not an equilibrium growth**

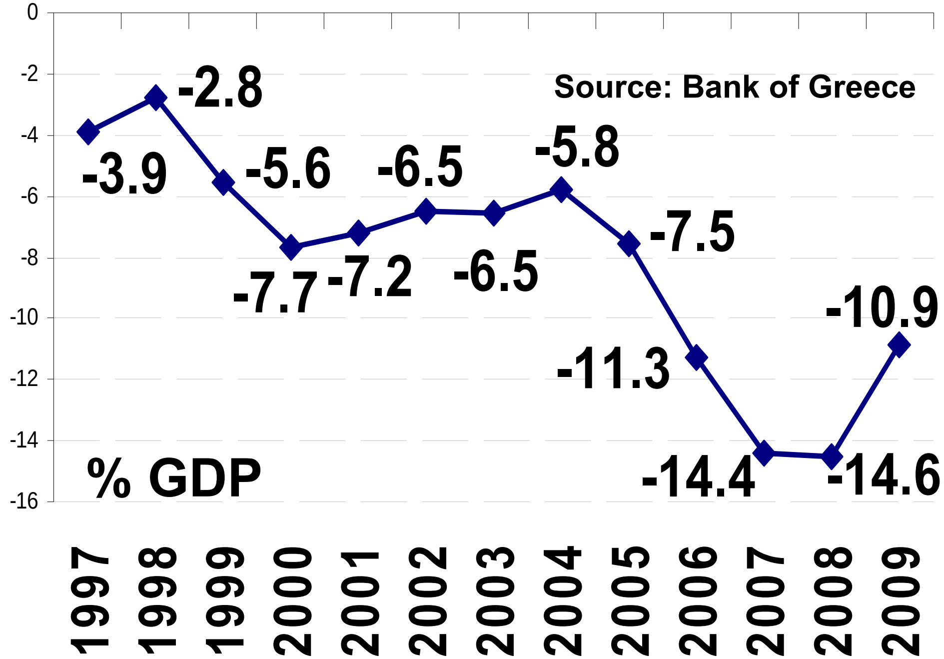
# III. Over-consumption in Greece



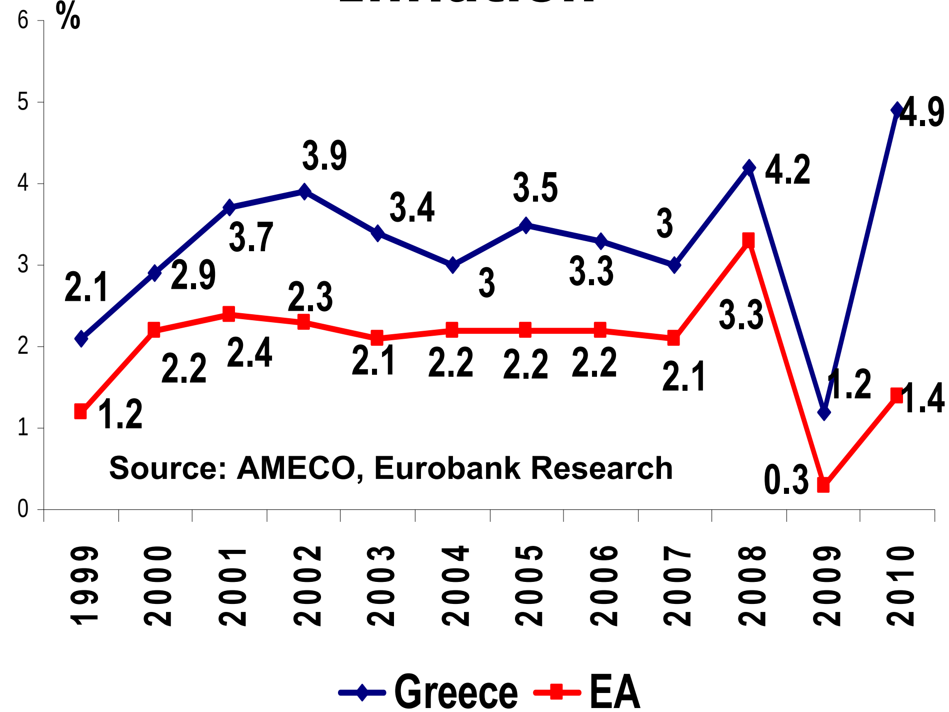
# III. Lack of competitiveness showed up in current account and in inflation differential

Eurobank EFG

## Current Account Balance




## Inflation




| | | |
|---|---|---|
| **Current Account (€ mil)** | | **-25,818.7** |
| Goods | **2009** | **-30,767.3** |
| Services | | **12,640.2** |
| Income | | **-8,984.3** |
| Current Transfers | | **1,292.6** |

# III. Ease of Doing Business rankings reveal lack of competitiveness

Eurobank EFG

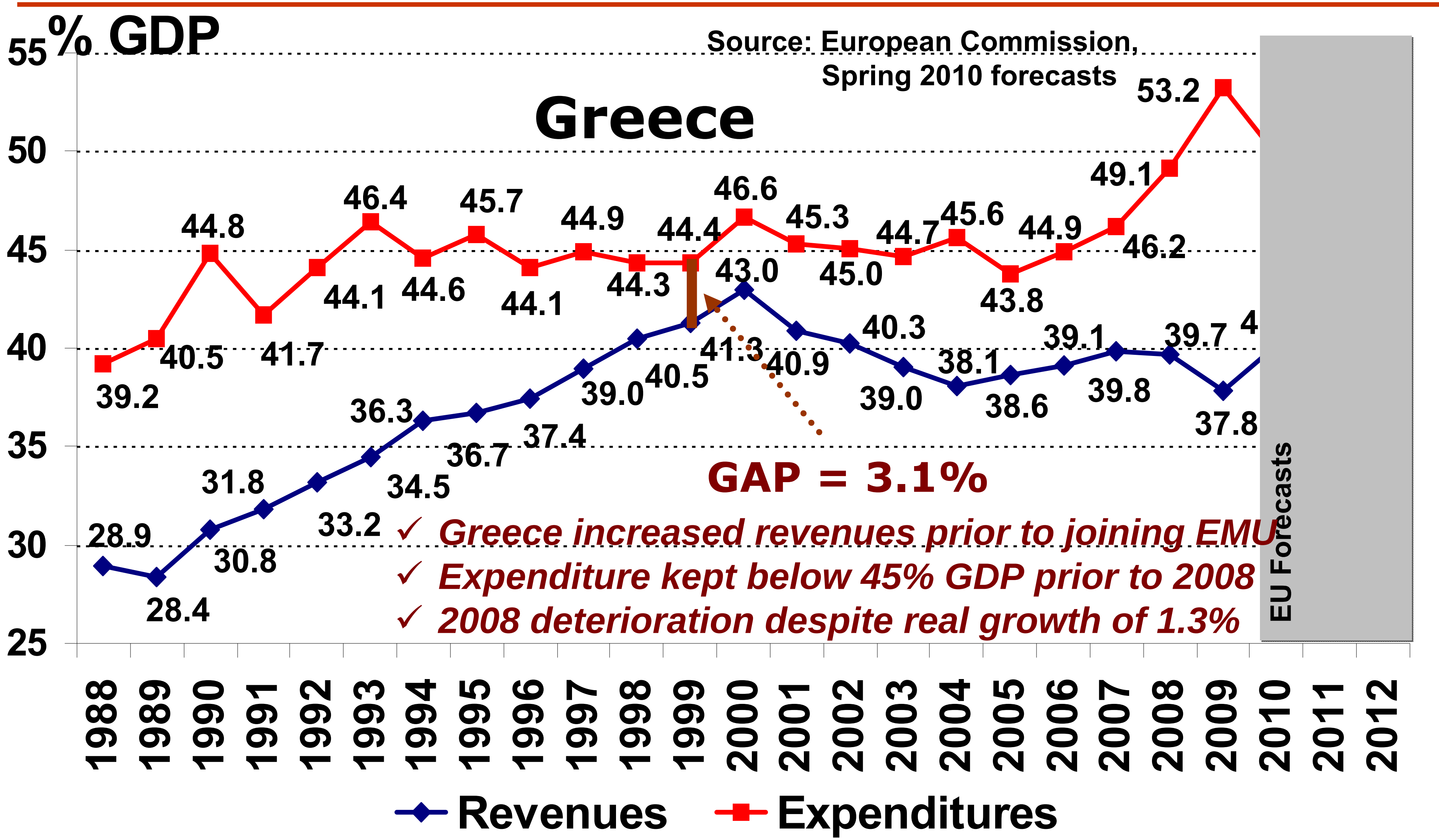
| | Rank | Starting a business (days) | Cost of registering property (% p. value) | Protecting Investors (0-10) | Exportin g Goods (days) | Paying Taxes (hours per year) |
|---|---|---|---|---|---|---|
| OECD | | 13.8 | 4.4 | 6.0 | 10.9 | 199.4 |
| Ireland | 9 | 13 | 6.3 | 8.3 | 7 | 76 |
| Bulgaria | 51 | 18 | 3.0 | 6 | 23 | 616 |
| Portugal | 47 | 7 | 7.4 | 7 | 15 | 218 |
| Romania | 56 | 10 | 1.3 | 6 | 12 | 222 |
| Spain | 49 | 47 | 7.1 | 5 | 9 | 197 |
| Turkey | 65 | 6 | 3.0 | 5.7 | 14 | 223 |
| Czech Rep. | 63 | 20 | 3.0 | 5 | 17 | 557 |
| Greece | 109 | 19 | 12.7 | 3.3 | 20 | 224 |

Source: World Bank *Ease of doing business 2011*

- ✓ World Bank: In 2010 Greece ranked $109^{th}$ out of 183 countries
- ✓ This was due to a) increased cost of registering property (from 1% to 10%) b) Delays in the implementation of reforms aiming to boost competitiveness

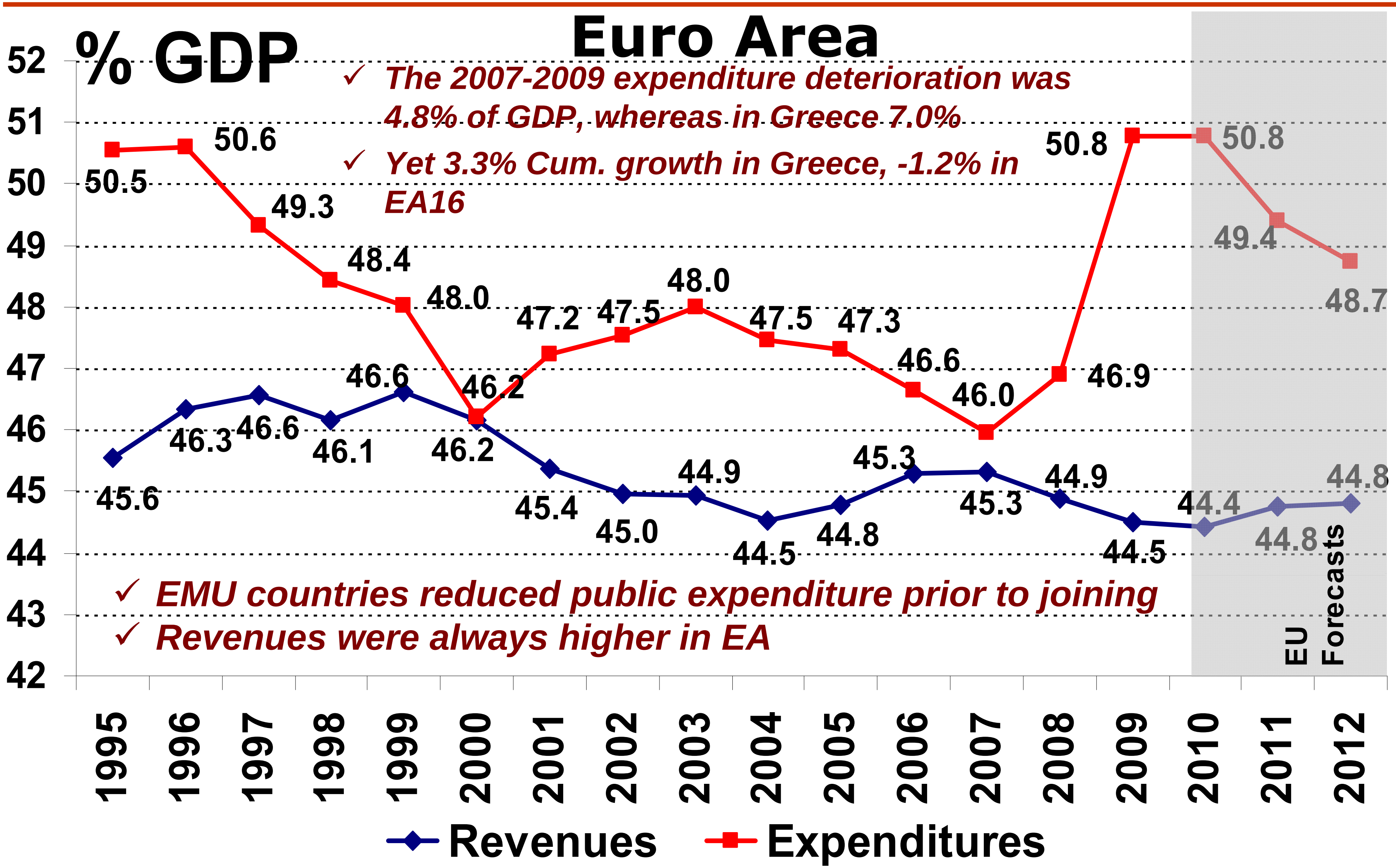
# III. Almost always in fiscal trouble, but fiscal mess grew prior to the onset of the 2009 recession

Eurobank EFG




- ✓ 1999 is examination period for entering EMU: Deficit **erroneously** revised to 3.1% of GDP, with ex-post switch in military expenditure accounting

# III. Deterioration was not due just to the recession as a comparison with EA16 reveals




Source: European Commission, Autumn 2010 forecasts

# III. Breakdown of Expenditure and Revenues

| | Total expenditure % GDP | | Intermediate consumption % GDP | | Employee Comp. % GDP | | Interest Rate % GDP | | Social benefits % GDP | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 2007 | 1995 | 2007 | 1995 | 2007 | 1995 | 2007 | 1995 | 2007 |
| **Greece** | 45.8 | 44.7 | 5.0 | 5.7 | 10.0 | 11.2 | 11.3 | 4.5 | 13.5 | 17.6 |
| **EA16** | 50.6 | 46.0 | 4.9 | 5.0 | 10.9 | 10.0 | 5.4 | 3.0 | 16.8 | 15.8 |

| | Total revenues % GDP | | Indirect taxes (VAT) % GDP | | Direct taxes % GDP | | Social Contributions % GDP | |
|---|---|---|---|---|---|---|---|---|
| | 1995 | 2007 | 1995 | 2007 | 1995 | 2007 | 1995 | 2007 |
| **Greece** | 36.6 | 39.7 | 12.1 | 12.5 | 6.6 | 8.0 | 11.2 | 13.4 |
| **EA16** | 45.6 | 45.4 | 12.2 | 13.5 | 11.1 | 12.4 | 17.0 | 15.1 |

Source: AMECO, data for EA16 go back to 1995

- ✓ Expenditure in Greece switched from interest payments to social benefits
- ✓ The large interest payments of the past is a **strong argument against default today**
- ✓ A drop in interest payments occurred in all of EA16
- ✓ Social contributions increased in Greece but declined in EA16

# III. The saga of deficit and debt revisions

| 2009 | Budget deficit | | Public Debt | |
|---|---|---|---|---|
| | € bn | %GDP | € bn | %GDP |
| 2009 Budget **(submitted December 2008)** | **5.2** | **2.0** | **237.9** | **91.4** |
| Revised SGP **(January 2009)** | **9.2** | **3.7** | **239.4** | **96.3** |
| EDP notification **( April 2009)** | **9.3** | **3.7** | **251.2** | **99.6** |
| EDP notification **(October 2nd 2009)** | **14.4** | **6.0** | **257.9** | **107.2** |
| EDP notification **(October 21st 2009)** | **30.0** | **12.5** | **272.3** | **113.4** |
| EDP notification **(April 2010)** | **32.3** | **13.6** | **273.4** | **115.1** |
| Eurostat Revision* **(November 2011)** | **36.2** | **15.4** | **298.0** | **126.8** |

**Source: Ministry of Finance**

(*) The November 2011 Debt numbers include more public utilities and transportation companies in the definition of General Government. The October 2010 EDP notification is not presented as it did not include revised estimates for Greek deficit and debt figures, citing the workload of Eurostat officials who were auditing the Greek data.

Note: Nominal GDP revisions often took place together with deficit & debt revisions, affecting slightly the reported percentages of GDP.

# IV

I. The global economic environment

II. EMU tensions

III. How Greece reached the point of default

**IV. The Greek stability program**

V. Summary

VI. Appendix: Can growth come back in Greece?

# IV. Latest EU/IMF/ECB adjustment program: Key characteristics

- ✓ Emphasis on **fiscal discipline, structural reforms and competitiveness**, but **no explicit growth strategy**
- ✓ Key characteristics:
  - ❖ **Real growth resuming in 2012** but staying well below the 1996-2007 historical norm
  - ❖ **Inflation subdued,** never above ECB target of 2%
  - ❖ Interest rate risk premia vs. Germany forecasted to decline
  - ❖ **Front-loaded** reforms and drastic first-year fiscal tightening with a large subsequent fiscal cushion, and with no zeal to ever zero the deficit
  - ❖ **Privatization Revenues** €7 bn in 2011-15 (at least €1 bn in 2011)
  - ❖ EU/IMF/ECB detailed **conditionalities** with quarterly targets as a strong disciplinary device
  - ❖ Drastic reduction in real wages, but effort to minimize the burden on the poor
  - ❖ Real **pension solution,** which controls for hidden future liabilities
- ✓ **Debt-to-GDP ratio declines to 131%** by year 2020 in the baseline scenario
- ✓ Yet, assuming real growth of 1% higher per year, which is closer to historical norm, EU/IMF forecasts that it would lead to a Debt-to-GDP ratio in 2020 of **91%**

# IV. The latest EU/IMF/ECB adjustment program

## Assumptions

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2020 |
|---|---|---|---|---|---|---|---|---|
| GDP Growth (%) | -2.6 | -4.2 | -3.0 | 1.1 | 2.1 | 2.1 | 2.7 | 2.7 |
| GDP deflator (%) | 1.8 | 3.0 | 1.5 | 0.4 | 0.8 | 1.2 | 1.3 | 1.8 |
| Nom. GDP (€ bn) | 233 | 230 | 227 | 230 | 236 | 244 | 253 | 309 |
| Int. Rate (%) | 4.9 | 4.6 | 5.0 | 5.4 | 5.7 | 5.7 | 5.7 | 5.7 |
| Bund Rate | - | 225 | 275 | 350 | 350 | 350 | 350 | 350 |
| Spread over Bund | - | 550 | 525 | 350 | 300 | 300 | 300 | 250 |

## Sensitivity analysis

| Debt-to-GDP | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2020 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 127 | 141 | 152 | 158 | 158 | 150 | 134 | 131 |
| Higher growth +1% per year | 127 | 139 | 148 | 151 | 147 | 140 | 132 | 91 |
| Lower growth -1% per year | 127 | 143 | 157 | 151 | 166 | 169 | 169 | 178 |
| 2% higher int. rate on new debt | 127 | 141 | 152 | 158 | 159 | 155 | 153 | 145 |

*Source: Revised EU/IMF/ECB adjustment programme*

# IV. More on the latest EU/IMF/ECB program

Eurobank EFG

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2020 |
|---|---|---|---|---|---|---|---|---|
| Current Account (%GDP) | -11.1 | -10.4 | -7.1 | -6.1 | -5.2 | -4.3 | -3.3 | --- |
| Gen Gov Rev. (%GDP) | 37.8 | 39.8 | 42.4 | 43.2 | 44.2 | 43.4 | 42.0 | 40.3 |
| Prim. Expenditure (%GDP) | 47.9 | 43.1 | 43.2 | 42.2 | 40.7 | 37.3 | 36.1 | 34.4 |
| Interest Expense (%GDP) | 5.3 | 6.4 | 6.6 | 7.5 | 8.3 | 8.7 | 8.5 | 7.4 |
| (€ bn) | 12.4 | 14.7 | 15.0 | 17.3 | 19.6 | 21.3 | 21.4 | 22.9 |
| Gen Gov Deficit (%GDP) | -15.4 | -9.6 | -7.4 | -6.4 | -4.8 | -2.6 | -2.5 | --- |
| (€ bn) | -36.2 | -22.3 | -17.0 | -14.7 | -11.5 | -6.2 | -5.1 | --- |
| Primary Balance (%GDP) | -10.1 | -3.3 | -0.8 | 1.1 | 3.5 | 6.0 | 6.0 | 6.0 |
| Gen Gov Debt (%GDP) | 127 | 141 | 152 | 158 | 158 | 154 | 150 | 131 |
| (€ bn) | 295 | 324 | 345 | 363 | 373 | 376 | 380 | 405 |

*Source: EU/IMF/ECB adjustment programme, author calculations*

# IV. Material risks exist

a) Will the recession end soon? Low European growth may cause Greek economic growth to stall; EU funds are not sufficiently mobilized yet, while privatizations have taken the back seat. Drastic initiatives on growth required.

*Yet, Greece is a relatively closed economy and over half of its exports are channeled outside the Euro Area. In addition, core EU still growing. Once sentiment stabilizes, private investment may stop declining, giving a boost to domestic output*

b) Risks of the Gargantuan task of grabbing tax evasion without instituting moral hazard through frequent tax amnesties

*Yet, a switch to a stable and transparent tax regime requires time to implement and in the meantime revenue collection expected to suffer*

c) Risk of silent anger from the population in 2011, with the rise in unemployment and decline in incomes and if government fails to address the rampant tax evasion

*Yet, MOU requirements to push structural reforms– if followed – could avert this anger*

d) High bond risk premia likely to persist, which could prohibit Greece from tapping the bond market in two years or so

*Yet, Irish precedent helps lengthening the maturity of the EMU €110 bn; Lengthening the maturity of the remaining debt is a last-resort option.*

# IV. Should Greece default ?

The argument goes that if the EU/IMF/ECB Program succeeds and in **2012-2013** Greece begins generating the first **primary surpluses**, then it would be **tempted to restructure its huge debt**. However, this event has low probability because:

1. A **Greek default would be an EMU decision**, not a Greek decision. Stakeholders of GGBs are primarily Greeks and other EMU members. They do not want a default. It is unlikely European banks would unload their Greek bonds at a huge loss.
   i. Greek banks own approximately €45 bn, pension and other funds another €25bn, individuals around €15bn. Thus, a haircut would force the government to bail out its banking sector and its pension system
   ii. EMU banks hold a major chunk of GGBs, most of it posted at the ECB as collateral. EMU members would object to a default. It may create FI bankruptcies in EA-16.
   iii. The ECB holds significant amounts of GGBs both directly (~ €30 bn) and in the form of collateral. Greece cannot go against its own lender of last resort
   iv. EMU countries have given €80 bn in loans (& IMF €30 bn), on which Greece cannot default
2. Risks of **contagion** in the European financial sector have flared up
3. Fear of a **deposit run** during the default/restructuring process, plus **inability to tap the markets** for a long time after a default
4. **Interest costs** will increase for the Greek **private sector** as well, reducing growth
5. The country needs to install a **culture** of “honoring one’s debt obligations” for growth to be reignited

# IV. Factors which markets may underestimate

1) Reforms are **drastic** & **on time,** particularly the pension, labor and fiscal ones - Government online with the programmes requirements

2) Unusually benevolent political environment

3) Revenue generation remains in question but action is taken

4) While the biggest current risk factor, an end of the recession by H2 2011 is within reach

5) In the intermediate-run, growth can come back - making the level of debt less onerous

   i. A strong private sector, which is under-levered with rich citizens, plus a conservative banking sector

   ii. There is a **strong growth potential** in Greece, especially if competitiveness is restored

# V. Summary: The crisis as an opportunity for change

- ✓ The international crisis is an opportunity for a new global financial system
  - ❖ Lower future world growth, with developing world leading the way and with stricter financial regulation
- ✓ The EMU crisis is an opportunity for fixing its internal fiscal mechanism
  - ❖ Van Rompuy Task Force proposals will bring added fiscal discipline, plus ESM could bring long-run stability; E-bonds could materialize
- ✓ Greece is in a transitional stage:
  - ❖ It either does nothing and gets trapped in a prolonged period of stagnation and huge unemployment, with contracting living standards
  - ❖ or uses the 3-year EU/ECB/IMF lending window efficiently to fix itself up, yet carrying the burden of past sins in the form of both higher unemployment and higher debt
- ✓ Indeed, the Greek crisis is an opportunity to fix its long neglected general public sector and pursue the structural reforms that were avoided for decades.
  - ❖ Despite huge risks, Greek society is ready and government is in line with MOU with EU/IMF/ECB
  - ❖ Pension reform a big plus and can be supplemented; Labor reforms induce flexibility
  - ❖ Many reforms still pending: Health sector, Public sector enterprises, Local governments, Educational reform
  - ❖ State has to capture the underground economy, simplify the tax system and reduce marginal tax rates
- ✓ The stricter the EU supervision, the more likely it is for Greece to succeed

# THANK YOU FOR YOUR ATTENTION !

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# VI.

I. The global economic environment

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**VI. Appendix: Can growth come back in Greece?**

# VI. Appendix: Can growth come back in Greece?

1) **Reforms are drastic**

2) **Boost aggregate demand to end the recession in 2011**
   - ✓ Mobilize EU funds
   - ✓ Stabilize consumer and investor sentiment
   - ✓ Mobilize the private sector in common projects, PPPs

3) **Follow a clear long-term strategy to boost potential GDP**
   - ✓ Greece has a strong private sector but lacks an organized public sector
   - ✓ Continue on structural reforms and product & service markets
   - ✓ Boost capital intensity, education, quality of institutions
   - ✓ Minimize corruption and bureaucracy

# VI.1 Pension reform is drastic

- ✓ New pension Law adopted on July 8. Contains safeguard clauses for parametric changes to be triggered in June 2011, pending full actuarial report.

| Old Regime | 2010 | 2020 | 2035 | 2060 |
|---|---|---|---|---|
| Pension Exp. (% GDP) GR | 11.6 | 13.2 | 19.4 | 24.1 |
| Dependency* | 56 | 59 | 78 | 102 |
| Pension Exp. (% GDP) EA | 11.2 | 11.6 | 13.2 | 13.9 |

Source: European Commission 2009

** Ratio of pensioners to contributors*

- ✓ Characteristics:
  - ❖ Fix system's parameters in order to reduce the expected <u>increase</u> in future annual state pension liabilities (by 2060) from 12.5% of GDP to 2.5% of GDP.
  - ❖ Retirement age **for everyone** at 65 by 2015, increasing in line with life expectancy after 2020 and every 3 years, and including a minimum contributory period of 40 years by 2015
  - ❖ **Early retirement** will be restricted to the age of **60** by 2015, will be penalized more than before (6% loss per year)
  - ❖ Size of pension linked to **life-time contributions** (now: Best 5 years of last 10 of working life) and is price indexed, upper limit to be reduced
  - ❖ List of heavy and arduous professions to be reduced drastically, under a ceiling of 10% of labor force

# VI.1 Labor reforms are drastic and continue …

- ✓ Maximum of firings per month more than doubled to 5% for most large companies
- ✓ Minimum wage of new entrants in labor force expected to be reduced from €740/month by ca 16% to €621/month
- ✓ Reduce overtime premia
- ✓ In public sector, wages & pensions bill down **-15%** yoy in 2010 (-1.6% of 2009 GDP)
- ✓ In private sector, minimum nominal wages freeze for 2010, increase in line with Euro Area inflation for 2011-2012

| 2010 Q2 | GR | EU16 |
|---|---|---|
| **Employment** | | |
| Total (15-64) | **60.1** | **64.4** |
| Men (15-64) | **71.5** | **70.6** |
| Women (15-64) | **48.7** | **58.1** |
| Young (15-24) | **20.7** | **33.8** |
| **Unemployment** | | |
| Total (15-64) | **12.0** | **10.0** |
| Men (15-64) | **9.5** | **9.9** |
| Women (15-64) | **15.4** | **10.1** |
| Young (15-24) | **31.4** | **20.4** |

**Recent developments:**

- ✓ Firm-level agreements prevail over industry-level and country-level
- ✓ Symmetry in central arbitration
- ✓ Elimination of automatic extension of sectoral agreements to those not represented in the negotiations
- ✓ Local contracts in areas of high unemployment can now contain wages at levels below minimum

# VI.1 Fiscal reforms are drastic and continue …

- ✓ “Kalikrates” Law adopted in June, reforming public administration at the local level, reducing the number of municipalities from 1034 to 325, plus eliminating one layer of state bureaucracy (by dissolving 54 prefectures and transferring their powers to the existing 13 peripheries).
- ✓ New Financial Management Law (NFML) adopted on July 29, amending the budget process:
  - ❖ 3-year fiscal strategy (by end of March 2011 the first three year budget plan for the 2012-2014 period is expected according with the revised MoU)
  - ❖ Top-down budgeting with explicit ceilings for state budgets and expenditure estimates by line ministries
  - ❖ Standard contingency margins, commitment controls, supplementary budget for over spending
  - ❖ Commitment register, publish monthly data on General Government, report all arrears monthly
- ✓ The 2011 Budget was constructed according with the NFML.
- ✓ Single Payment Authority becomes gradually operational for Central Government and in March for General Government.
- ✓ Details for general government (including local governments, pension funds, etc) revealed in the 2011 budget process
- ✓ An OMB-equivalent in the Parliament and a revenue rule is adopted already
- ✓ Independence of the Statistical Agency established last December and new regulations for Statistical Action Plan.

# VI.1 More reforms …

**Taking place now**:

- ✓ Reform of the tax legislation (new tax law **adopted in April 2010** and effective from January 1, 2011 on 2010 incomes, new bill on the reform of the tax collection framework by end of January 2010)
- ✓ Competitiveness & Business environment measures (business start-ups, adoption of the services directive etc.) by end of January
- ✓ Simplify public sector remuneration following a Functional review by end of March
- ✓ New investment law by mid January 2010
- ✓ Liberalization of the road freight transport already **voted by the Parliament**
- ✓ "Fast track" law for investments already **voted by the parliament**.
- ✓ The opening up of the closed professions by mid January 2010
- ✓ Outsourcing the auditing of hospitals (currently 10 largest audited by PWC)
- ✓ Public sector enterprises: Balance sheets of 10 largest loss-makers on the internet, restructurings, limits on State guarantees of their borrowing, wage cuts
- ✓ Restructuring of railroads, turning them profitable in 2011

**Scheduled to be completed by the end of March 2011**:

- ✓ The actual implementation of the local administration reform
- ✓ The actual implementation of the Services Directive
- ✓ The actual implementation of the business start-up law (general electronic commercial registry, one stop shops for start ups etc)
- ✓ Measures to facilitate FDI and investment in strategic sectors of the Greek economy
- ✓ Strengthening the independence of the Hellenic Competition Committee
- ✓ Electronic registering of drug prescriptions, further reduction in drug costs, patient-doctor benchmarking to avoid unnecessary prescriptions

# VI.1 Privatization revenues for 2011 and beyond

- ✓ **Slow start** perhaps due to the bad market environment.
- ✓ EU/ECB/IMF program assumes **€7bn** for the 2011-2015 period and at least €1bn in 2011
- ✓ Privatizations could easily bring more than **€10 bn** over a 4-year period. Main cash cows are: Ports (privatization or concession contracts), gambling (new casino licenses, internet gambling, 34% stake on OPAP), energy sector (natural gas companies) and real estate
- ✓ Presently, State claims it wants to **retain at least 51% in "strategic" firms** (e.g. PPC). Concession contacts to be used for real estate holdings, ports and airports
- ✓ The first planned privatizations are mainly soft and include full privatization of casino's, stock market listing through SPVs for 10 ports, concession contracts for the highway system, selling of EYDAP's 10%, EYATH's 23%, Hellenic Post's 39%, Railways: sell of TRAINOSE's 49% (passengers and freight services), real estate development through SPVs, concession contracts for the Athens and Thessalonica freight terminals
- ✓ State (Ministry of Finance) owns real estate assets worth over €270 bn. Most of it could be deployed through long-term leases
- ✓ The government will enable the effective liberalization of the wholesale electricity market.

# VI.1 Unusually benevolent political environment

**Subdued Social Unrest:**

- ✓ When PM addressed the nation after the February Davos meetings and for the first time revealed a wage freeze and indirect tax increases, 2/3 of the population applauded.
- ✓ Demonstrations are 1/20 the size of earlier ones
- ✓ Citizens seem aware of the fiscal problem and of the years of public waste and ballooning debt and are ready for sacrifices, demanding equal distribution of burdens

**Strong government at the right moment in history:**

- ✓ New government elected in October 2009 for four years ⇨ Government can pursue restrictive fiscal and tough structural policies without compromising its reelection objective, as long as economy recovers in 2012
- ✓ Strong parliamentary majority and strong leadership by the PM allows government to pursue its plans undeterred
- ✓ In contrast to past experience and thanks to the rising bond spreads, it only took five months for the newly elected government to gain control of the unraveling crisis ⇨ Now it is ahead of the MOU requirements

# VI.1 Budget execution satisfactory thus far

**During the 12 months of 2010:**

- ✓ Deficit **down 36.5%** yoy, which is higher than the annual target of **-33.2%** yoy
- ✓ No discrepancy with numbers provided by BoG on a cash basis
- ✓ Primary expenses **down 10.7%** yoy *vs.* annual target of **– 9.0%** yoy
- ✓ Net revenues **up by only 5.5%** yoy *vs.* annual target of **+6.0%** yoy
- ✓ Note that this is the central budget deficit and not the ESA 95 gen. gov. deficit

## Central Government Budget: January-December 2010

| Ordinary Budget | January-December 2010 (€bn) | January-December 2010 (%YoY) | Annual target (%YoY) |
|---|---|---|---|
| 1. Net Revenues (a-b) | 51.14 | 5.5 | 6.0 |
| a. Gross revenue | 56.12 | 5.0 | 5.7 |
| b. Tax returns | 4.98 | 0.5 | 3.0 |
| 2. Expenditure (α+β+γ) | 65.37 | -9.0 | -7.5 |
| α. Primary expenses | 51.80 | -10.7 | -9.0 |
| β. Transfer to hospitals for the settlement of part of past debt | 0.34 | | |
| γ. Interest costs | 13.22 | 7.3 | 7.6 |
| Public Investment Budget (PIB) | | | |
| 3. Revenue | 3.06 | 50.2 | 41.7 |
| 4. Expenditure | 8.44 | -12.0 | -11.3 |
| 5. Budget deficit (1-2+3-4) | 19.60 | -36.5 | -33.2 |

Source: Ministry of Economics

*Source: Ministry of Economics*

# VI.1 Government begins to address cracks in an outdated revenue collection mechanism

**Revenue** developments are encouraging

- ✓ VAT receipts were up by **11.1%** yoy in November and by 4.8% yoy in the January to November period
- ✓ VAT receipts are increasing for four successive months (August 10% yoy, September 16.9% yoy, October 15% yoy), due to:
  - ❖ Fight against tax evasion
  - ❖ Second leg of VAT increase effective on July 1st
- ✓ Revenues from the settlement of past tax obligations ca € 0.7 bn in November. Additional revenues of at least € 0.5 bn are expected in December.
- ✓ Custom revenues increased by 33%yoy in November 2010

In order to address the revenue shortfall mentioned above, the government will implement from January 2011 onwards an anti-tax evasion plan which includes

- ✓ Centralization of data collection
- ✓ Dedicated task forces focused on high-income individuals (earners) and firms
- ✓ Centralized taxpayer service directorate
- ✓ Centralization of filing enforcement and other medium term measures (new legislation on risk based compliance framework etc.).

The respective tax bill is expected to pass from the parliament **by end of January**

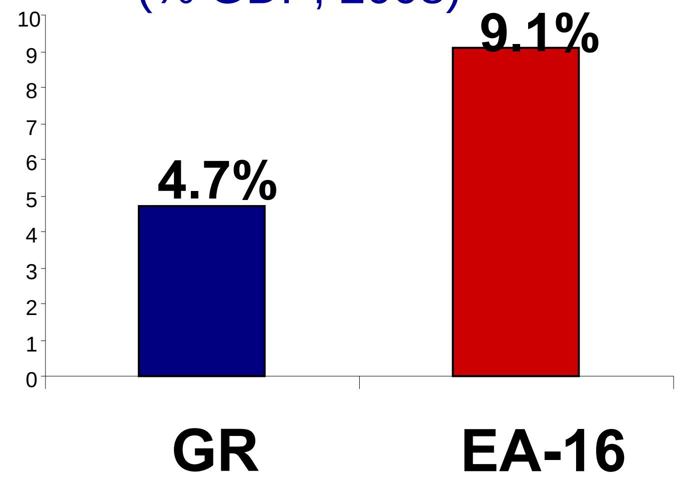
# VI.1 Program contains cushions

Existing cushions help absorb negative shocks and avoid a derailment of the program

- ✓ The fiscal adjustment in 2011 smaller than in 2010
- ✓ For next year, opportunity to grab **tax evasion** through <u>imputed income</u> on self-employed, who are **36%** of labor force but contribute only **7.5%** of total tax revenues.
- ✓ Receipt revolution and the new tax bill forces revelation of company revenues and raises VAT
- ✓ Public waste is huge, e.g. annual drug expenses of €9.2 bn is **3** times bigger per capita than in Spain – can be cut without affecting the economy

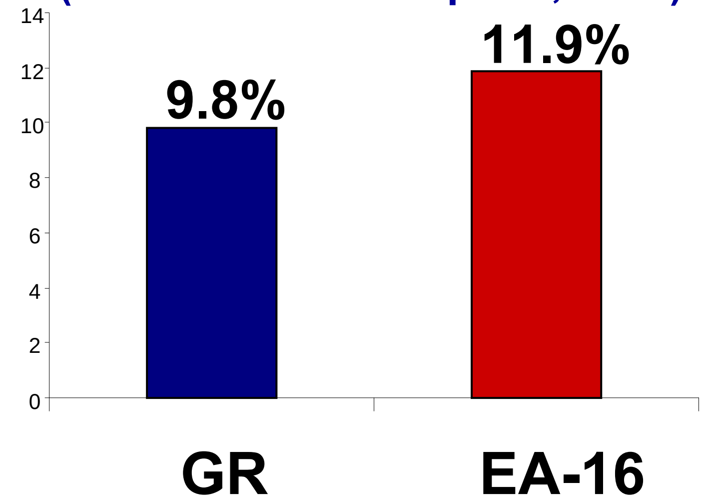
**Taxes on Household Income**

(% GDP, 2008)




**VAT receipts**

**(% Private Consumption, 2008)**




*Source: Eurostat*

# VI.2 Escaping the recession in 2012: Investment plus the external sector

- ✓ Drastic decline in consumption and investment thus far. Consumption expected to continue falling in 2011
- ✓ Recovery hinges on economic climate stabilizing and investment turning positive later in 2011
- ✓ Imports had a positive impact in 2009 and in 2010 as they fell in both years.
- ✓ Real imports expected to decline further in 2011
- ✓ Real Exports expected to increase in 2011:

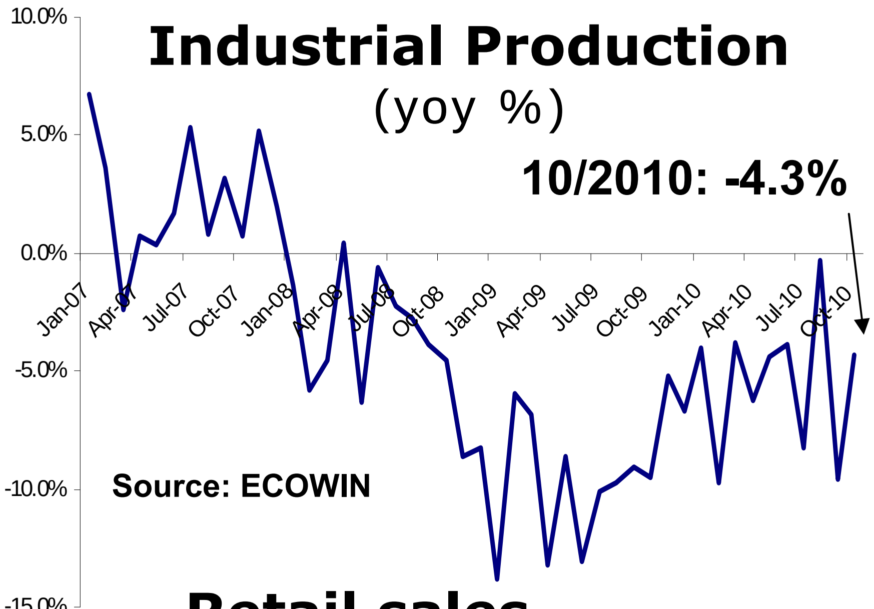
**Export growth**

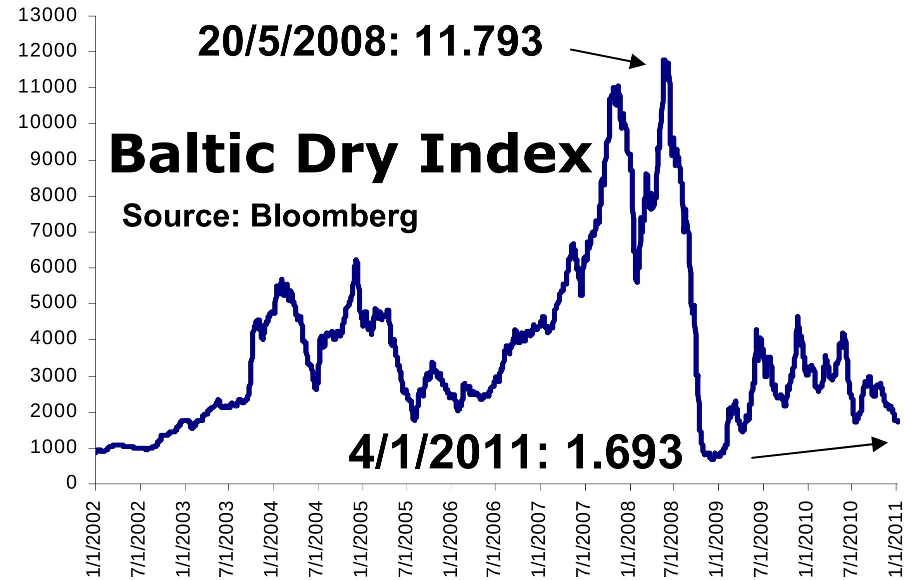
**(Exports of Goods, current dollars, Greece Vs World, y-o-y)**

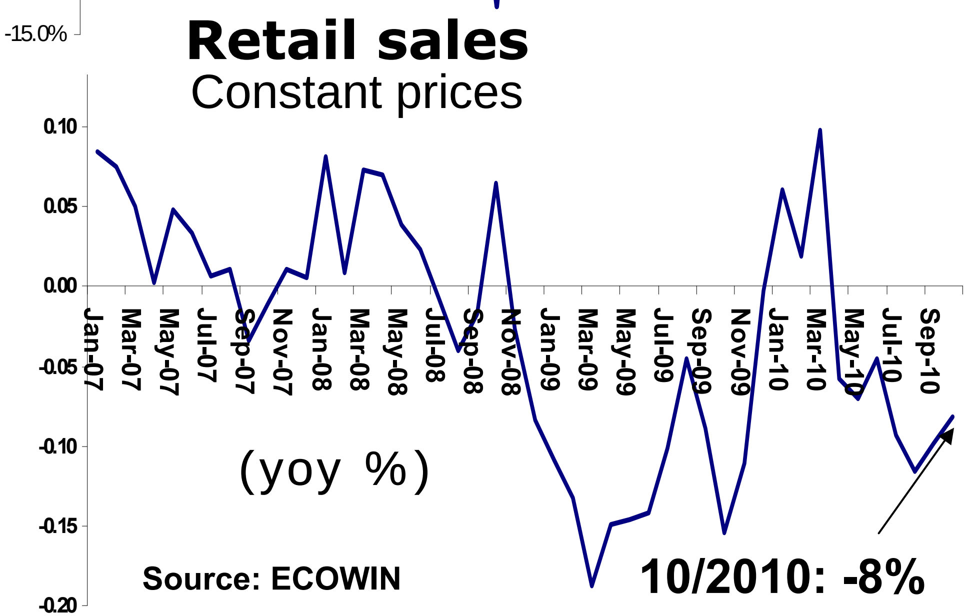

**Source: IMF dots, Eurobank EFG Research**

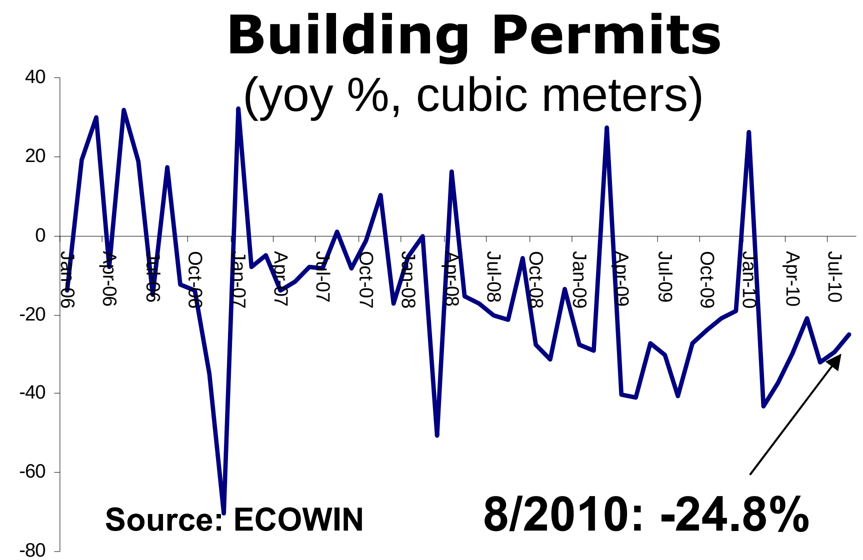
- ❖ due to correlation with global trade [elasticity of trade w.r.t. regional growth: 2]
- ❖ Productivity ↑ plus real wage cuts in the private sector ⇨ ULCs ↓
- ❖ Since an 1% increase in exports increases medium term GDP by 0.23 ppts, the contribution to GDP from exports can be high

# VI.2 Current Greek Recession: Basic Indicators

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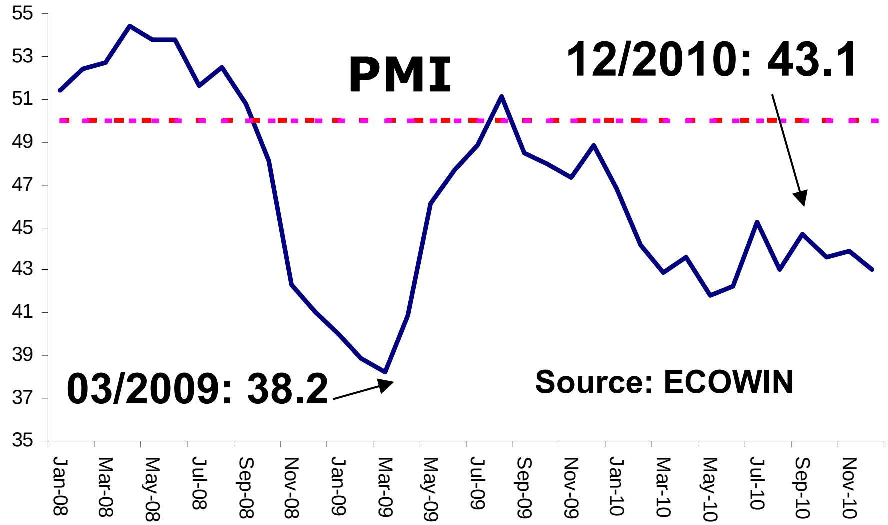
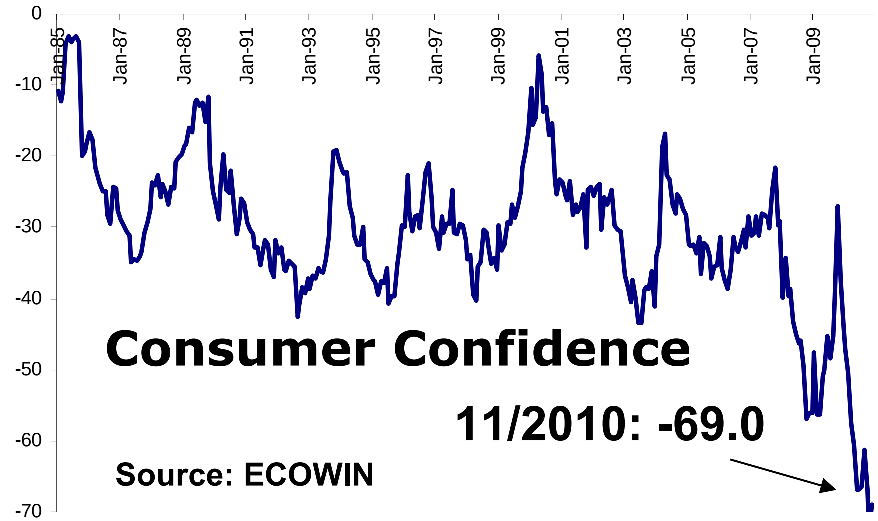
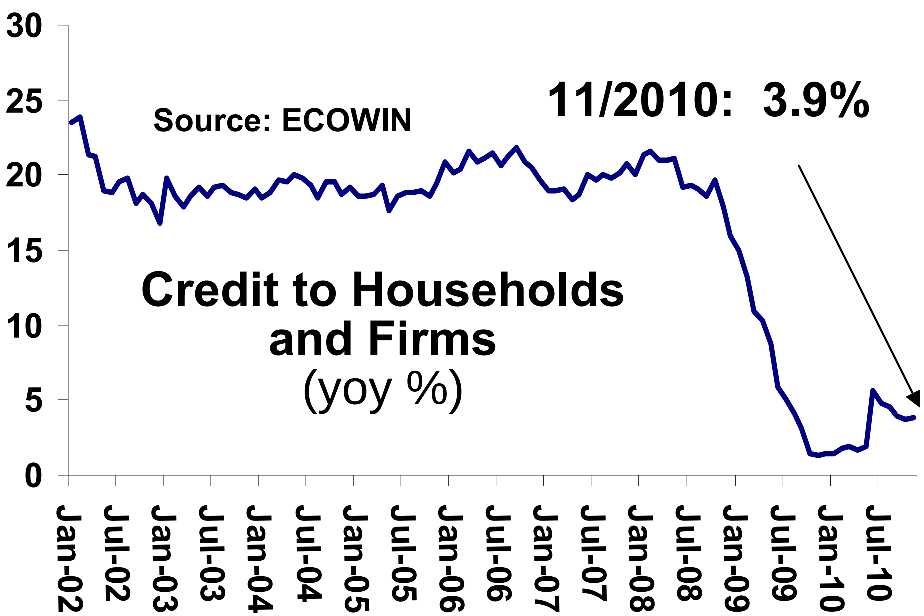
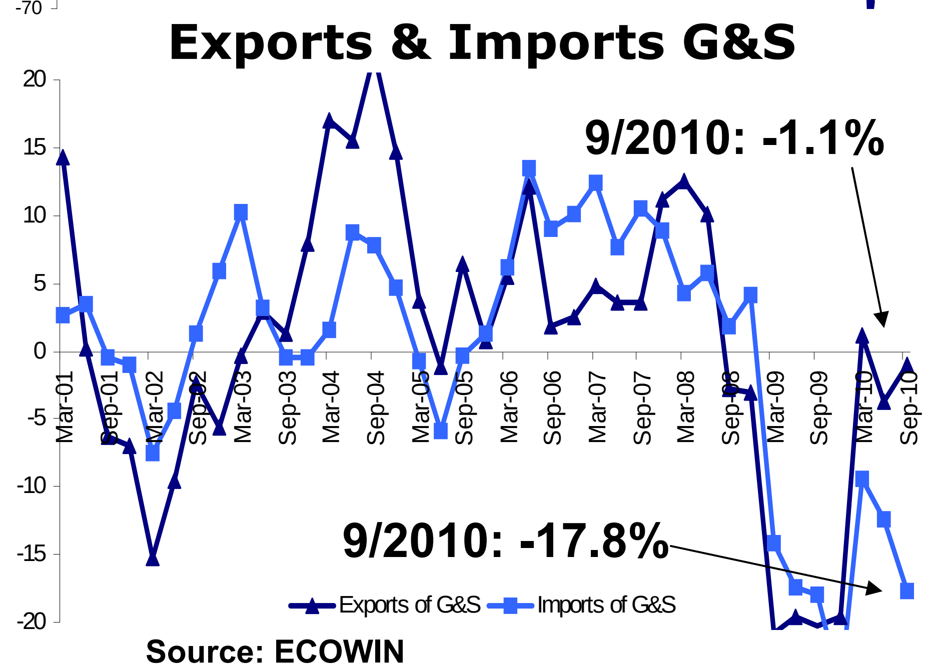
# VI.2 Current Greek Recession: Basic Indicators



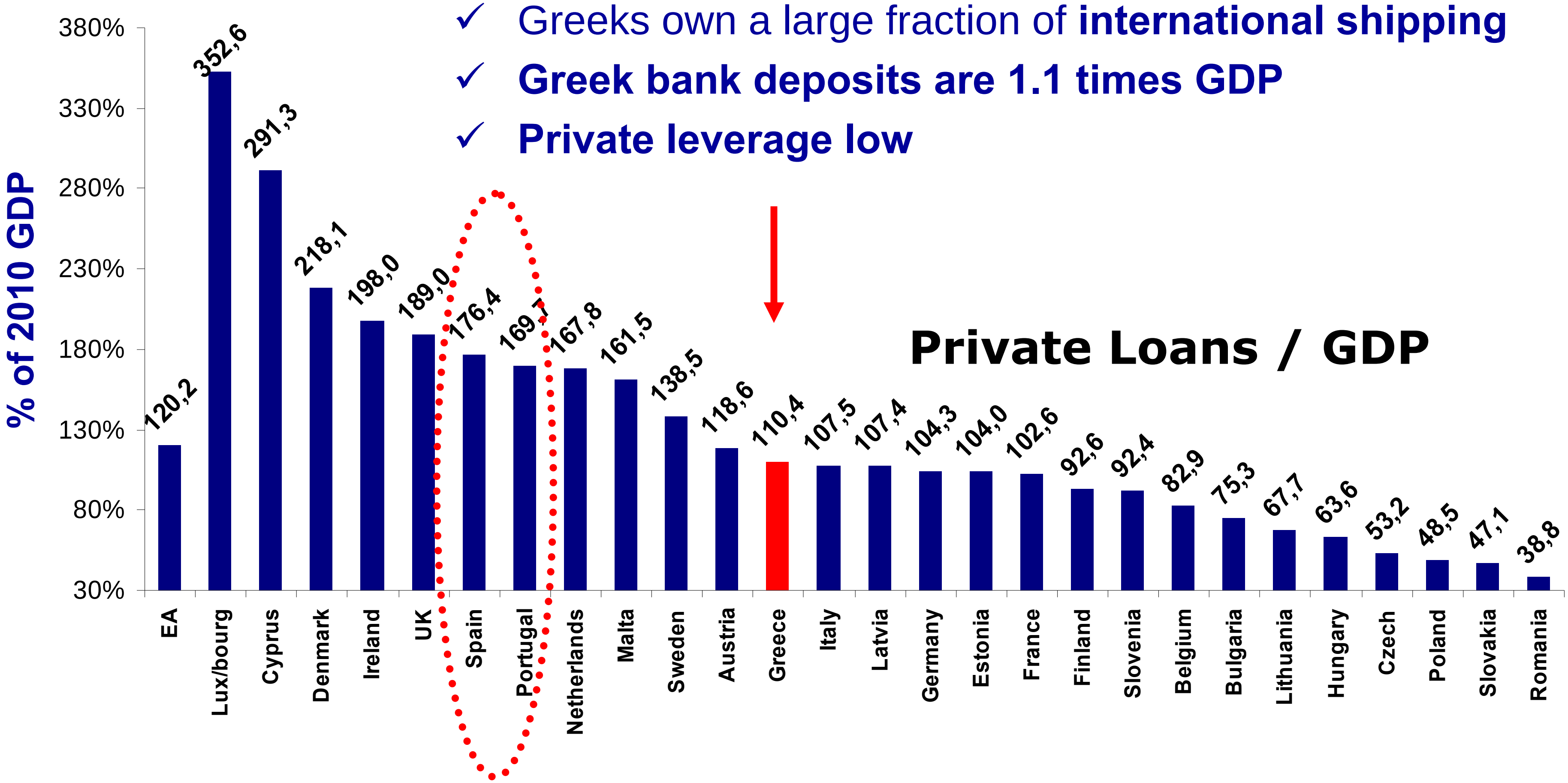



# VI.3 Long-term strengths: Greek private sector is rich and under-levered

Eurobank EFG

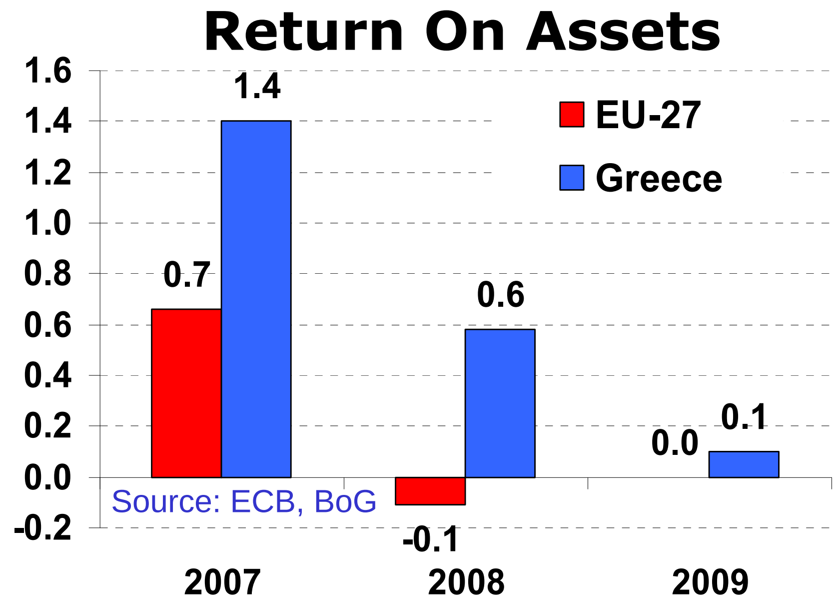
- ✓ Greeks own a large fraction of **international shipping**
- ✓ **Greek bank deposits are 1.1 times GDP**
- ✓ **Private leverage low**




*Note: **ECB data**. Loans to non MFIs excl. Gen. Government from MFIs excl. Eurosystem, **August 2010**, **% of 2010 GDP** (EU forecasts). The data **include securitizations** and are trustworthy for cross sectional comparisons, but not for time series analyses as individual series contain unexplained abrupt breaks due to either full or partial inclusion of securitizations over time.*

# VI.3 Greek banks: Healthy and holding on thus far

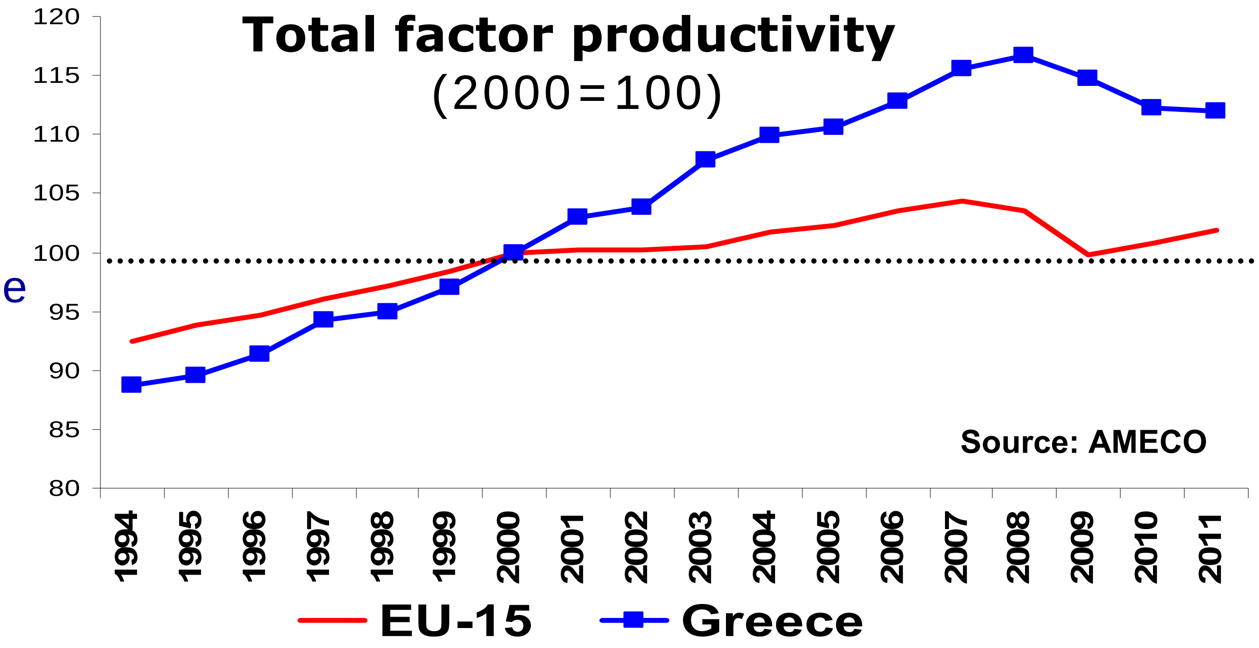
- ✓ Greek banks did not cause the recession in the country, like it occurred in the US or in Western Europe
- ✓ Greek banks strongly capitalized (CAD ratio at 11.2%, Tier I at 10.1%); Easily passed recent stress tests except for ATE.
- ✓ Greek banks borrowed in the repo market to finance their expansion abroad; Domestic banking system is deposit rich (L/D 118% for banking groups); ECB lending of €92bn will decline once interbank market opens up




- ✓ Contingent liquidity (now over 20% of deposits) will be further boosted (covered bonds, government's liquidity scheme, limited refinancing needs)
- ✓ Asset quality worries seem overblown (NPLs at 9% in 2010-Q2, experience of two crisis years, NE countries); Greek private sector is not over-leveraged; Pre-provision margins 40% wider than EU; absence of toxic assets and no real estate bubble.
- ✓ Substantial CEE/SEE exposure offsets Greek strain as profits to track regional economic recovery; Region represents 1/4 of total lending for the 4 large Greek banks and corresponds to c.40% of total revenues.

# VI.3 Why growth can resume in Greece: Long-term strategy required

- ✓ Past growth in Greece was mainly demand-driven
- ✓ Yet, it also featured improvements in all three factors of production: Capital (physical & human), labor, and technology which includes organizational features:

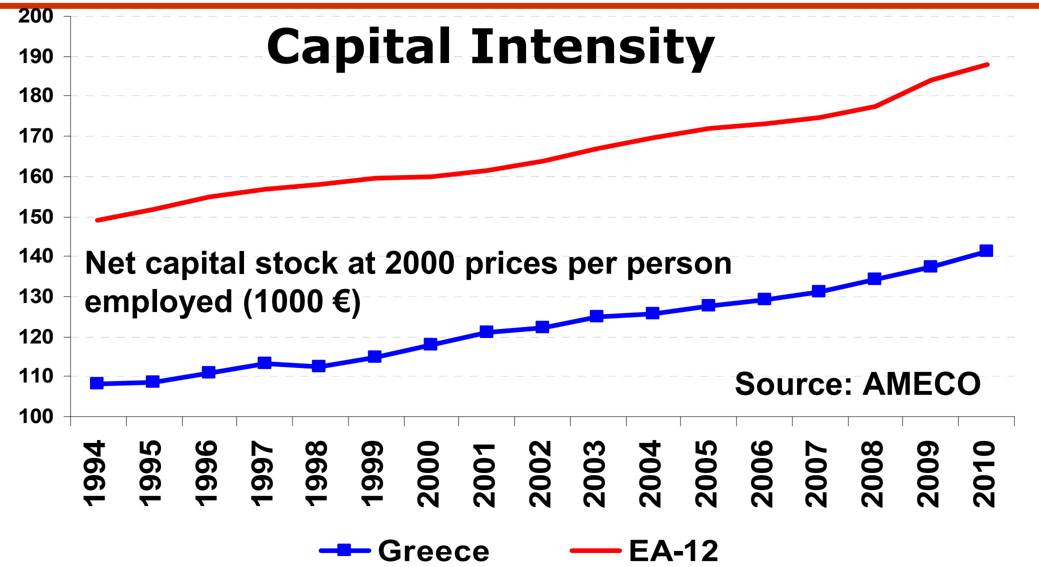


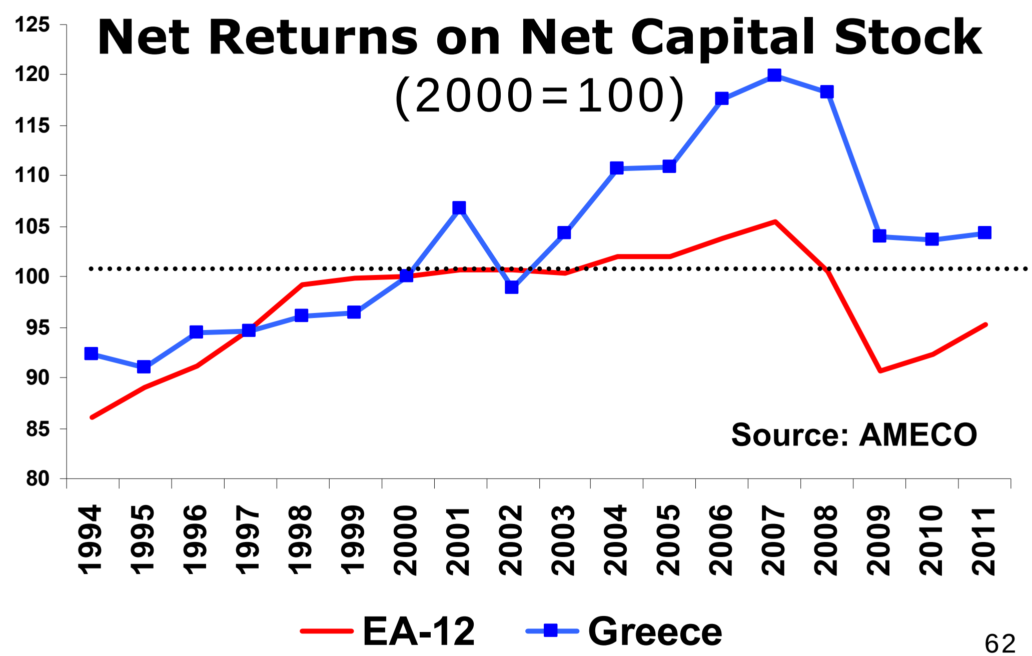

- ❖ Investment in equipment real growth averaged 11.8% during 1996-2008, against a 4.5% EA-12 average
- ❖ Injection of cheap (unskilled) labor from illegal immigration (boosted the grey economy mostly)
- ❖ Education rates went up (Ratio of students to teachers 1998: 12.3, 2007: 8.6)
- ❖ Quality of institutions benefited from Euro Area participation: Monetary and exchange rate stability, EU law embodied in Greek law, modernization and internationalization of some Greek businesses, some markets opened up to competition

# VI.3 Positive news: Capital intensity is low, good return on capital, labor can grow

**High productivity growth can continue** in the future, once the recession is over, as:

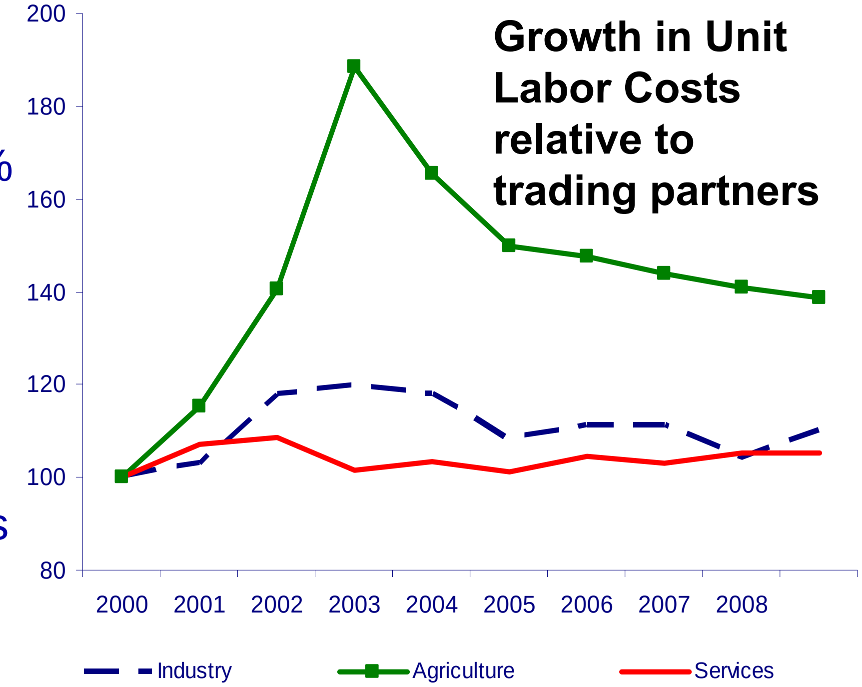
- ✓ Capital intensity lower than EU average; Greece is like Switzerland with islands: infrastructure needed
- ✓ Return on capital is growing quickly suggesting incentives to invest
- ✓ Investment can pick up the moment market conditions normalize; Funding is currently available from EU funds
- ✓ Labor will also grow
  - ❖ in quantity (immigration, increase in the participation rate to the labor force)
  - ❖ in quality (the Greek labor force is already highly educated, measures will increase matching of training with market needs)



# VI.3 Growth benefits expected from structural reforms

- ✓ Organization of production and the economic and institutional environment matter:
  - ❖ Zonzilos et al ( BoG, 2009): More than 50% of GDP growth in Greece is due to TFP growth
  - ❖ Sideris ( BoG, 2009): If Greece had the average EU-15 institutional quality, its growth rate would have been 22.7% ↑
  - ❖ EU-Commission (2009): Structural reforms ⇨ output growth ↑ in the long-run
  - ❖ IOBE (2010): 17% GDP ↑ from structural reforms




- ✓ Crowding-in of the shrinking public sector
- ✓ Competitiveness losses were not huge and can now be recovered thanks to the MOU reduction in real wages
- ✓ Capturing the underground economy (25-30% of GDP) can improve efficiency, not only statistics

# THANK YOU AGAIN!

## FOR PAYING ATTENTION
## EVEN TO THE APPENDIX

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