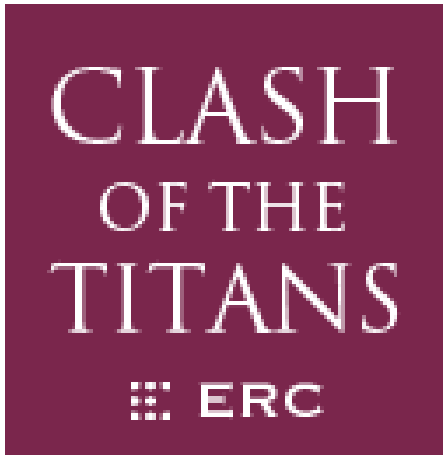


Welcome to the Clash of the Titans

Economic Predictions for 2012

Current research: financial-real economy linkages and Eurobonds

John Muellbauer (Nuffield College and Institute for New Economic Thinking at the Oxford Martin School)

ERC event London Dec 6th 2011

Preface

- You may find my presentation less pessimistic on the global economy than most. However, risks of mass species extinction given human co-ordination failures on climate change, make me deeply pessimistic about the next century. The most brilliant summary of the evidence I have seen is:

"Climate Change: Lessons for our Future

from the Distant Past"

Sir David F. Hendry

http://www.economics.ox.ac.uk/Research/wp/pdf/paper485.pdf

Main objectives of much of my current research with John Duca and Anthony Murphy (Dallas Fed)&Janine Aron (Oxford)

- Understanding interactions between the financial sector and the real economy.
- Understanding the secular decline in US saving rate.
- Understanding potential financial instability.
- Interpreting data on the growth of credit, money and asset prices – crucial for central banks.
- Handling major evolutionary structural change in econometric modelling.

Vast change in US credit market architecture since 1970

- Spread in credit card ownership and instalment credit from 1960s to 2000s.
- Creation of Government Sponsored Enterprises to underwrite mortgages in the 1970s (e.g. Fannie Mae, Freddie Mac).
- Falling IT costs transformed payment and credit screening systems in 1980s and 90s.
- Expansion of sub-prime mortgages in 2000s.

Changes in credit market architecture were spawned by the deregulation of financial and credit markets

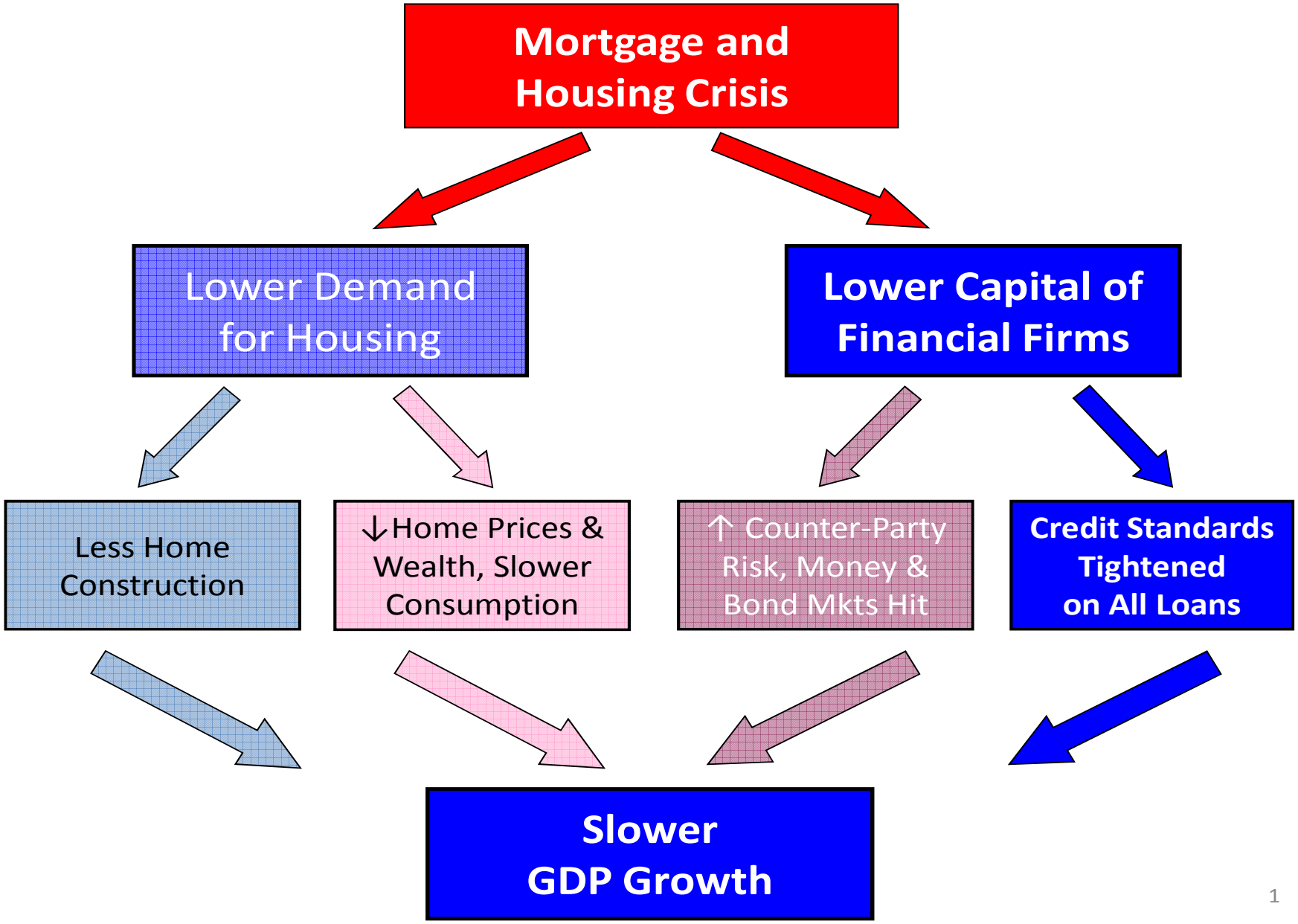
- interest rate ceilings lifted in the early 1980s
- deregulation of banks and investment banks
- rise of private label securitization backed by credit default obligations (CDOs) and swaps
- political pressure to extend credit to poor

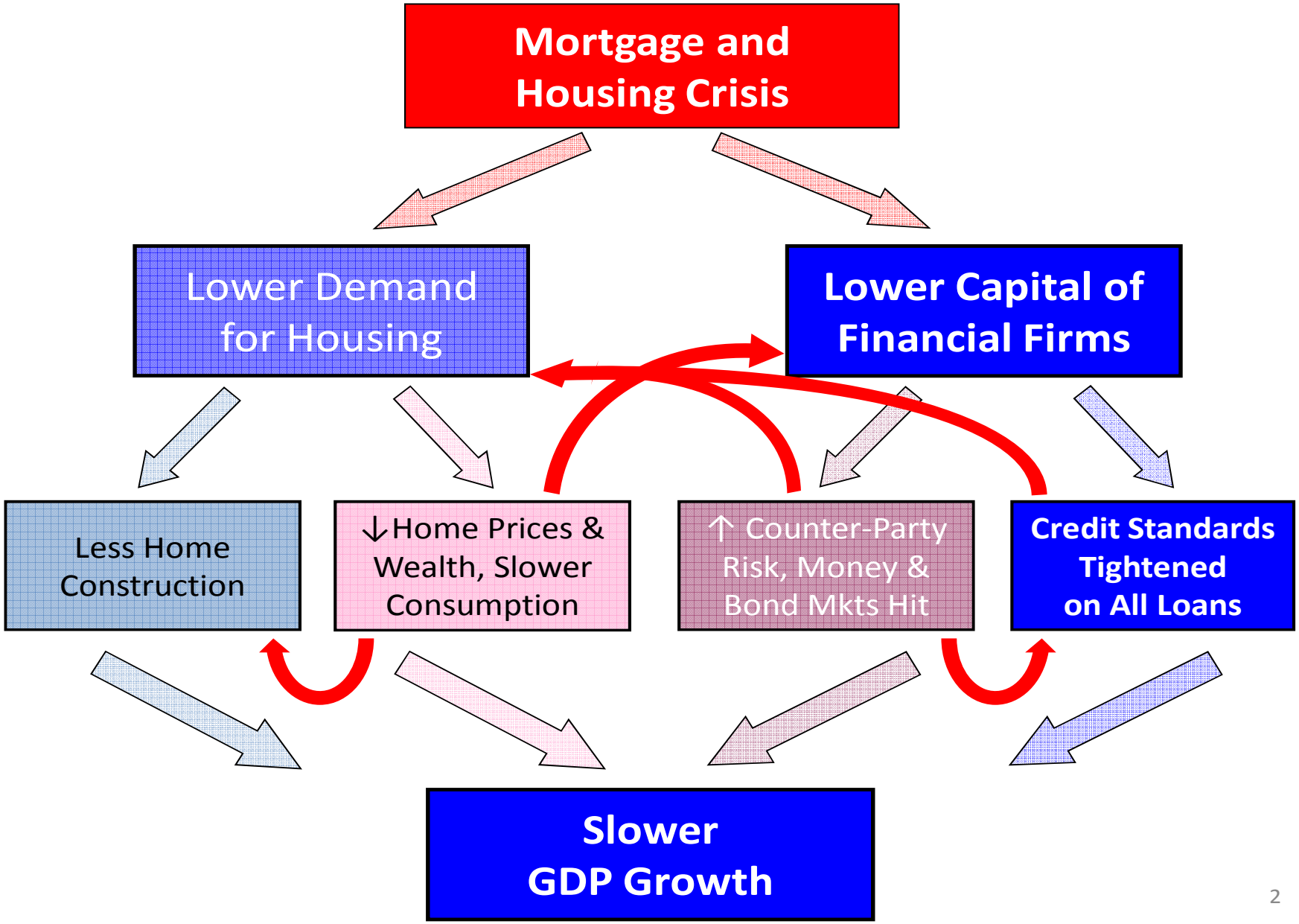
This led to the sub-prime boom and bust which conventional housing models missed.

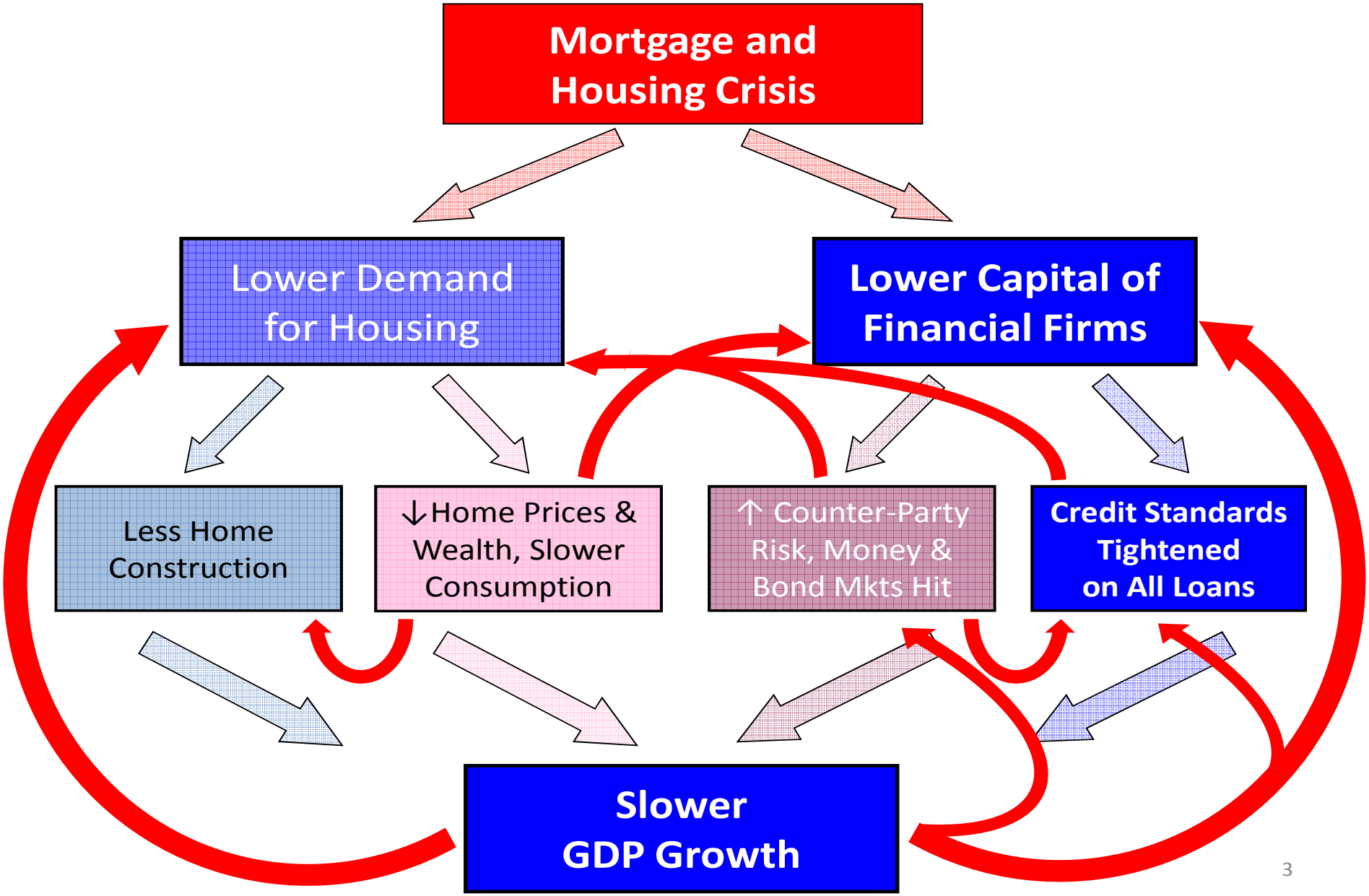
Our "credit-augmented permanent income hypothesis" for consumption

- Allows for **shifting access to consumer and mortgage debt**.
- **No** efficient market assumption—transactions costs affect housing, shifting risk premia alter most asset prices.
- Does **not** impose rational expectations assumption: uses University of Michigan survey for consumer expectations.
- Unlike in most DSGE models, asset prices are **not** just indicators of expectations.
- Consumers **not** assumed to be rational inter-temporal optimisers operating in perfect credit and asset markets who can smooth away all recessions: allow data to speak.

Modelling the household financial accelerator:




Mortgage and Housing Crisis
Lower Demand for Housing
Lower Capital of Financial Firms
Less Home Construction
↓Home Prices & Wealth, Slower Consumption
↑ Counter-Party Risk, Money & Bond Mkts Hit
Credit Standards Tightened on All Loans
Slower GDP Growth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Less Home Construction
↓Home Prices & Wealth, Slower Consumption
↑ Counter-Party Risk, Money & Bond Mkts Hit
Credit Standards Tightened on All Loans
Slower GDP Growth

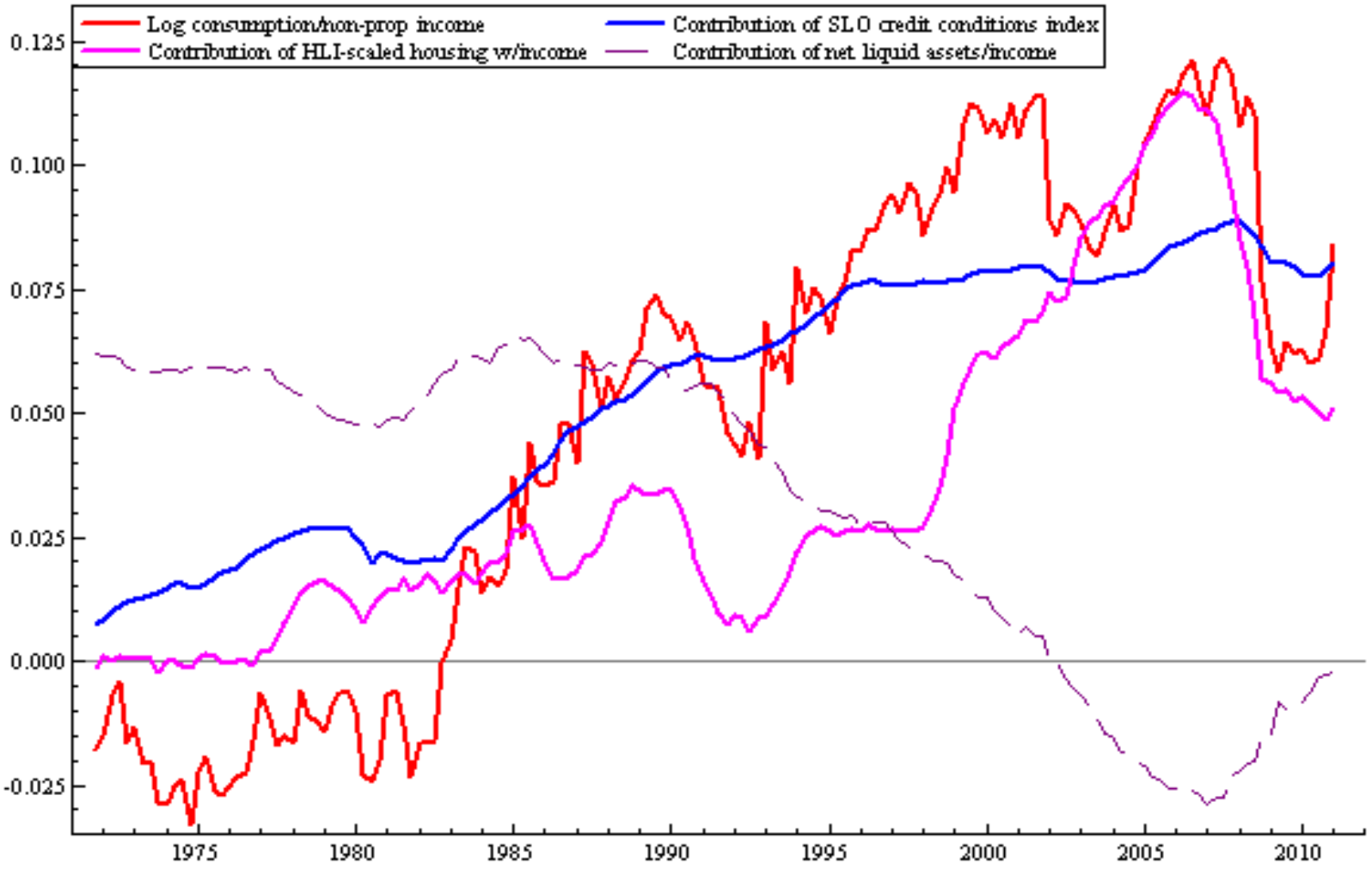
Modelling the household financial accelerator

- In Muellbauer and Murphy, "Is the UK Balance of Payments Sustainable?", Economic Policy 1990 (discussion by Mervyn King), we applied an early version of the hh financial accelerator to the UK's 1980s/90s local pre-run of the global economic crisis.
- Our current modelling is more sophisticated:
- We estimate **a system of equations** for consumer spending, mortgage refinance rate, equity withdrawal (growth of mortgages minus acquisition by households of housing), mortgage debt and house prices.
- Latent Interactive Variable Equation System (LIVES) to extract mortgage credit conditions index.

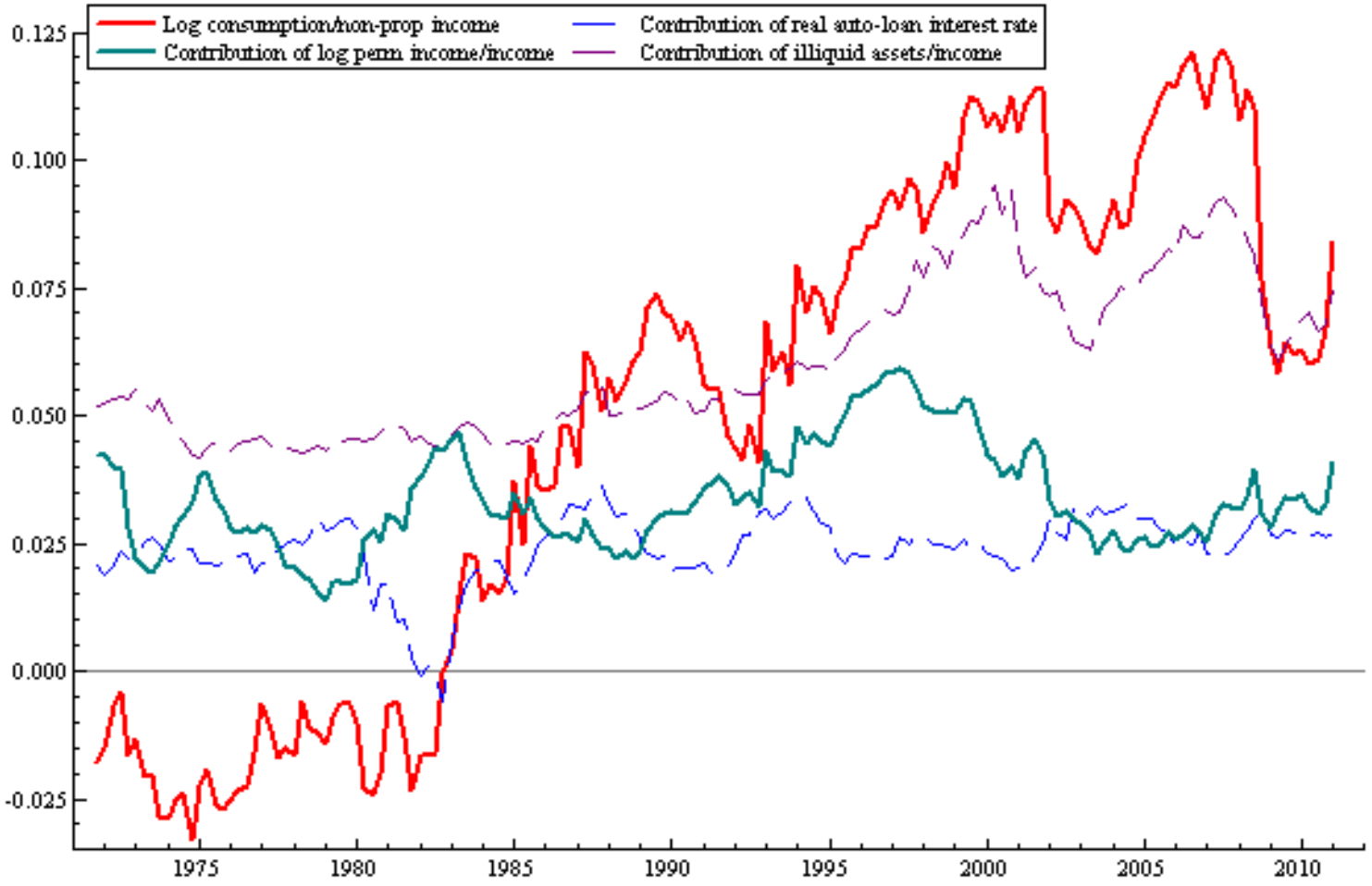
Some key insights

- **Impact of housing wealth on consumption** has grown with mortgage market liberalisation: at peak, $100 rise led to $3.6 increase in spending.
- **'Money' matters**: the impact of liquid assets minus debt on consumer spending per $ is about 6 times the size of the stock market wealth effect (often in pension plans).
- **Reveals household vulnerability to debt** when asset prices or incomes fall.
- Model **explains shifting correlation** of credit with consumption: increased access to credit increases both consumption and debt, but high debt, given access, is bad for consumption.
- **Need good models** to interpret flow of funds data and warn of possible financial instability.

Contributions of shifts in access to credit to log consumption/income



Contributions of log (perm income/income) etc. to log consumption/income



Conclusions: remarkable credit market transformation and vulnerability of US to credit crunches and asset price declines

- Debt-fuelled consumption busts problematic: it is hard to build up liquid assets and pay back debt, while asset prices can fall suddenly.
- Unsustainable credit architecture was a major problem.
- Massive policy interventions to stop even worse outcomes: record interest rate lows, fiscal boost…
- financial system bailouts and massive substitution by FHA to compensate for withdrawal of private credit, partic. for mortgages – effectively government-backed housing loans.
- Companion paper with John Duca and Anthony Murphy on US house prices suggests most of correction is done, after correctly forecasting a short-run decline after a housing tax credit expired.

Conditional Eurobonds to help resolve Europe's sovereign debt crisis

- Sovereign debt concerns raise questions on solvency of govt's and banking sector – shrinking credit supply feeds back on real economy, undermining solvency further.
- Sovereign spreads reflected rising market panic on this feedback loop and whether Eurozone would break apart.
- Under conditional Eurobonds, each country pays a risk-spread into a common fund which helps insure the guarantor governments who collectively underwrite Eurobonds.
- Gold and forex reserves could be used as collateral.
- The risk spreads formula, linked to competitiveness and debt/GDP, rewards countries for bringing down debt and structural reforms, punishes those who do not.
- NOT a 'transfer union', feared by Germany.
- see http://www.voxeu.org/index.php?q=node/7332
- http://www.economist.com/blogs/freeexchange/2011/11/euro-bonds#comment-1141150

My UK policy recommendations

- UK household + government + banking sector debt to GDP at world record levels.
- How to walk the tight-rope, combining fiscal austerity with growth promotion?
- UK is under-housed (quite different from Ireland, Spain and US).

Policy 1 : Reduce supply constraints, improve incentives for investment in private rented sector.

Planning system and implicit tax-payer subsidy for 100-fold planning gains for owners of land given planning permission, are the core problems.

My UK policy recommendations

Policy 2: Invest in infra-structure and human capital, paid for by public sector pay-cuts (instead of wasteful NHS restructuring), pension reform and mansion tax.

Higher education is one of UK's great export industries, hampered by clumsy new immigration restrictions.

Policy 3: Radically reform global tax-havens where UK has jurisdiction, to aid global efforts to reign in tax-avoidance and the power of the oligarchs.

- Some policies on the right lines: Sterling depreciation, credit easing. But why has BOE been so backward? Long history of not understanding credit markets.

Forecasts hinge on global assumptions

Three great risks are:

German brinkmanship leading to Eurozone disintegration and banking/credit crisis.

Stagnation in the US: policy paralysis and continued drag from property markets.

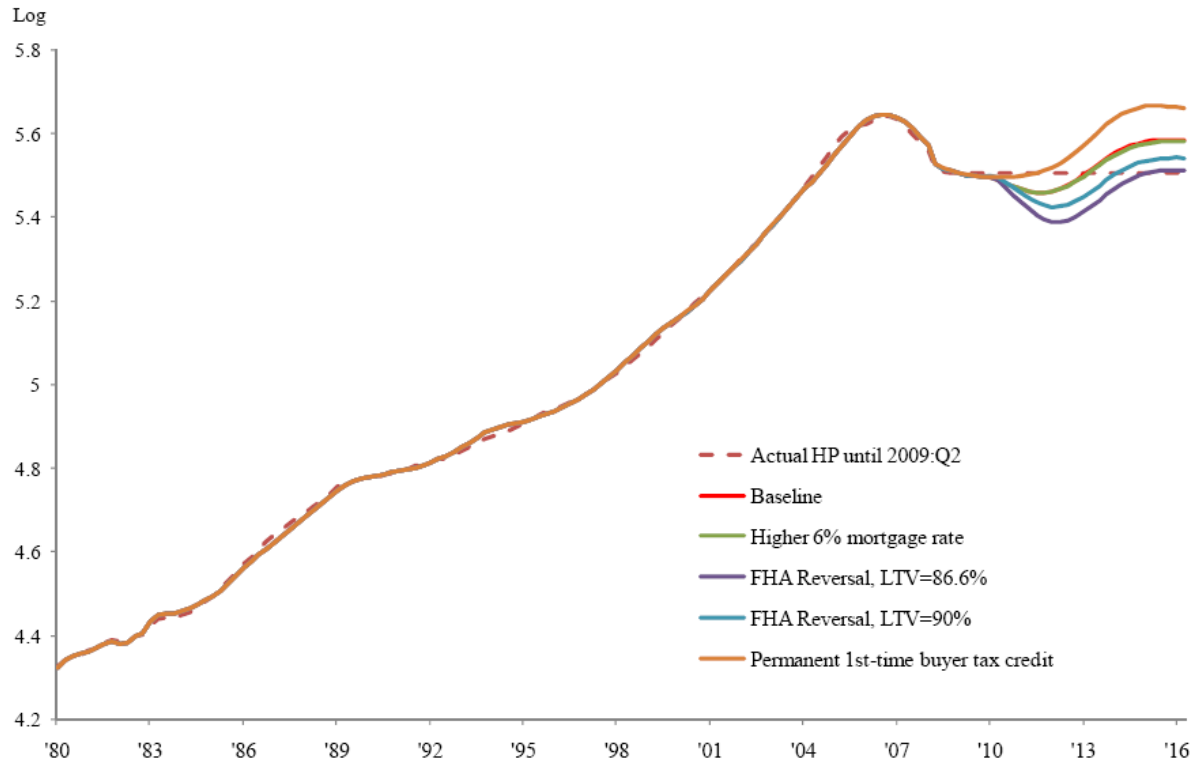
China hits the buffers: 35% consumption to GDP ratio (a world record low?); speculative property development a large share of investment; a model for corruption and 'get-rich-quick';local government revenue based on land sales for property development; shadow banking system hard to control; investment falls feed back on GDP and back on investment….

Forecasts hinge on global assumptions

- I believe Eurozone problems are soluble (with conditional Eurobonds, internal devaluations and structural reforms). However, UK GDP in 2011Q4 and 2012Q1 will have been affected by the crisis.
- US house price forecasts made in Dec 2009 by Duca, Murphy and myself correctly foresaw second leg of house price falls after tax credit was withdrawn in June 2010. http://www.aeaweb.org/aea/conference/program/retrieve.php?pdfid=446
- But bottom in average US nominal house prices in 2012, removing much of negative drag on US economy.

Our Dec 2009 US house price simulations –see Jan 2010 AEA programme.

Figure 6. House Price Simulations



Forecasts

	2011				2012			
	Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
GDP				-0.3	-0.1	0.4	0.6	
Inflation				4.3	3.0	2.7	2.5	
Unemployment				8.2	8.3	8.3	8.2	
Interest Rates				0.5	0.5	0.5	0.5	
French Bond Yields					2.9			

Forecasts hinge on global assumptions

- UK forecasts less dependent than Germany on China assumption: China slowdown would reduce oil and commodity prices – like a big tax cut for us, though exporters to China lose.
- US recovery will accelerate in 2012 assuming Eurozone crisis is soon fixed. By Q2, some benefits for UK will begin to feed through. Hence Q2 and Q3 will look better than 2011Q4 and 2012Q1.
- Inflation will drop as 'base effects' removed. Could drop more if China growth stalls.
- Unemployment lags behind GDP.
- Max French bond yield assumes Euro crisis fix.

Future of the Euro and the Euro Bond Market: A New Proposal

Giancarlo Corsetti

Cambridge University and Rome III

M. Hashem Pesaran

University of Cambridge and USC

Economic Research Council , December 6, 2011

(RA: Natalia Bailey)

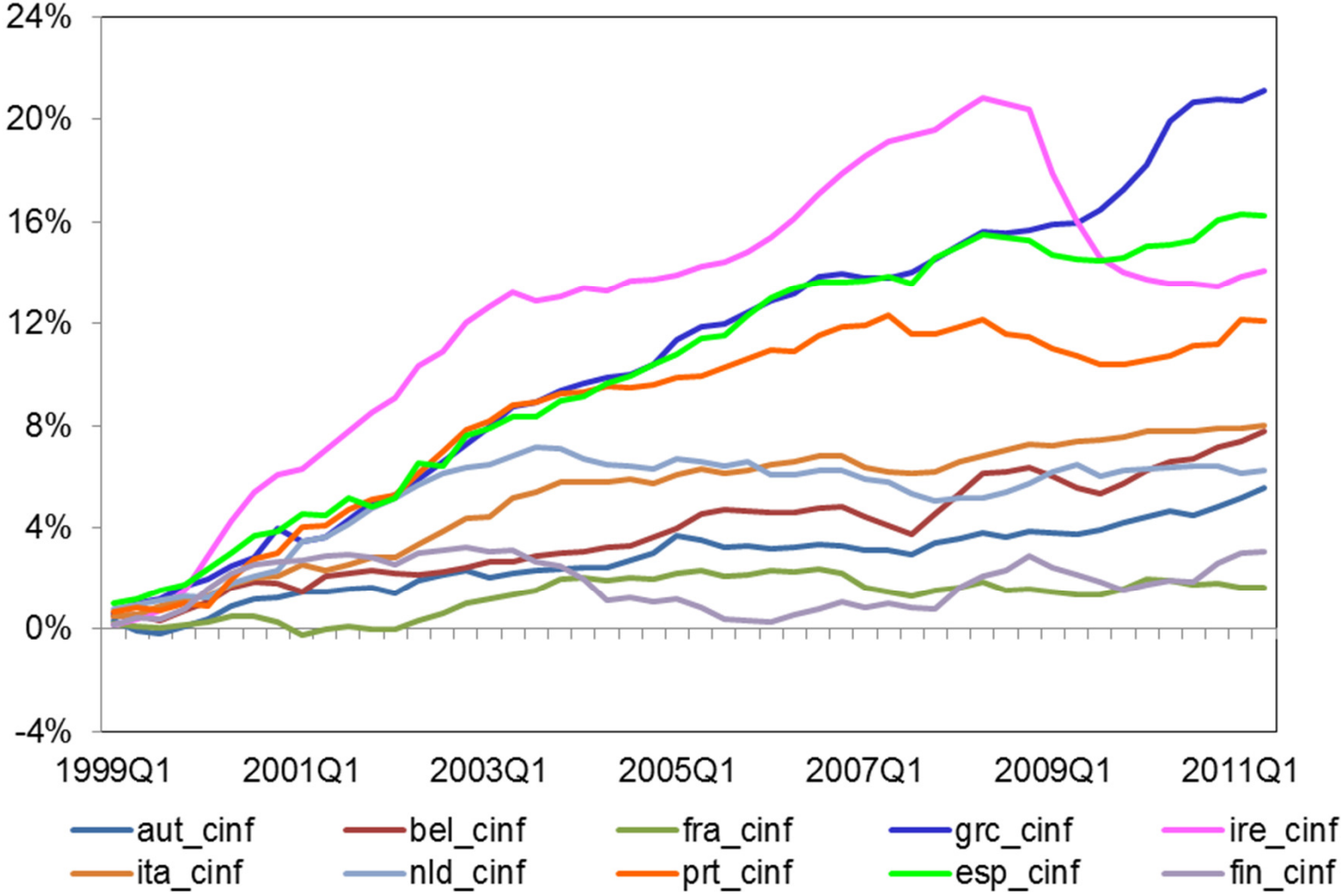
Crises in Euro Bond Markets

- Recent crises in euro bond markets have exposed some of the structural weaknesses of the single currency experiment that started in 1999.
- Euro was created on the premise that a common monetary policy and the stability growth pact would swiftly bring about sufficient convergence of price inflation across member countries, even without full harmonization of fiscal and debt management policies.
- But now that 12 years has passed since the establishment of euro, the evidence does not support the premise. Inflation rates have not converged and spreads across long rates have started to diverge leading to the sovereign debt crises that is threatening the euro itself.

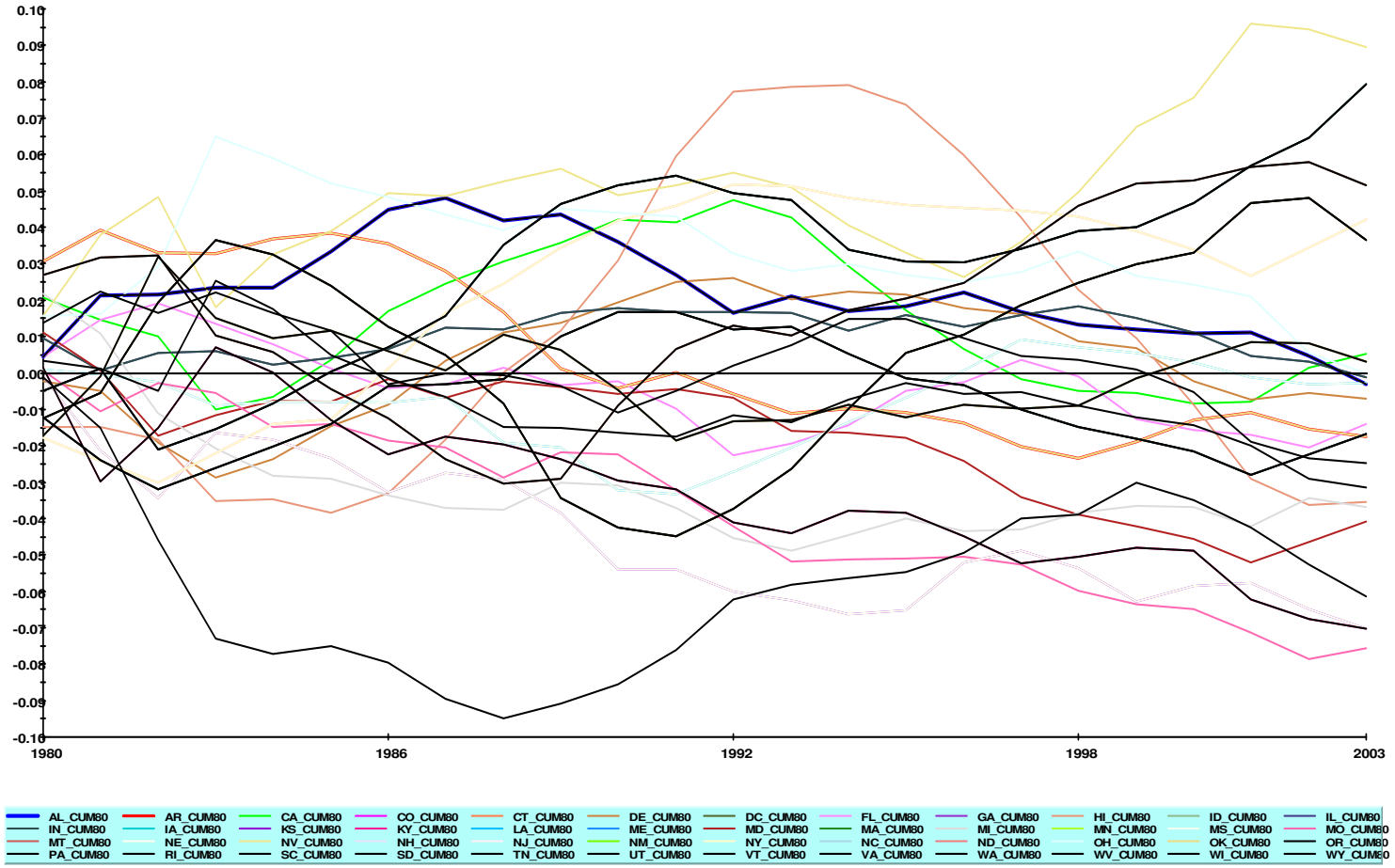
Cumulative Inflation Deviations in Europe and USA

- One of the most fundamental factors determining the fate of euro is the cumulative inflation differentials, either defined relative to an average, or relative to a dominant country, such as Germany.
- In the figure that follows we present cumulative inflation differentials for euro economies relative to German inflation.
- For comparisons, we also show inflation differentials for US States computed relative to a US average.

Cumulative Inflation (CPI) Differentials Relative to Germany for Euro Economies (1999Q1-2011Q2)



Cumulative Inflation Differentials Across US States (1980-2003)



Evidence on Inflation

- It is clear that inflation rates have been diverging across a number of euro economies, with Greece (21%), Ireland (14%) and Portugal (12%) showing the highest degree of divergence (over 12 years).
- In contrast, cumulative inflation deviations across the US states have been relatively stable (in the range -7.0% to 8.0% over 24 years1980-2003). Exceptions (not shown) are Texas, Arkansas and Arizona.

Long Run Equilibrium Conditions

- Long term determination of exchange rates are based on two arbitrage conditions, the Purchasing Power Parity (PPP, in goods markets) and the Uncovered Interest Parity (UIP, in money markets)
- Whilst they can deviate from their equilibrium conditions in the short run, they must hold in the long run, if markets are to function.

Long Run Determinants of Shadow Exchange Rates

- According to PPP

$$Log\left(\frac{E_t}{E_{t-1}}\right) = \pi_t - \pi_t^* + short\ term\ errors$$

- According UIP

$$Log\left(\frac{E_t}{E_{t-1}}\right) = R_t - R_t^* + short\ term\ errors$$

- Hence, over a sufficiently long period

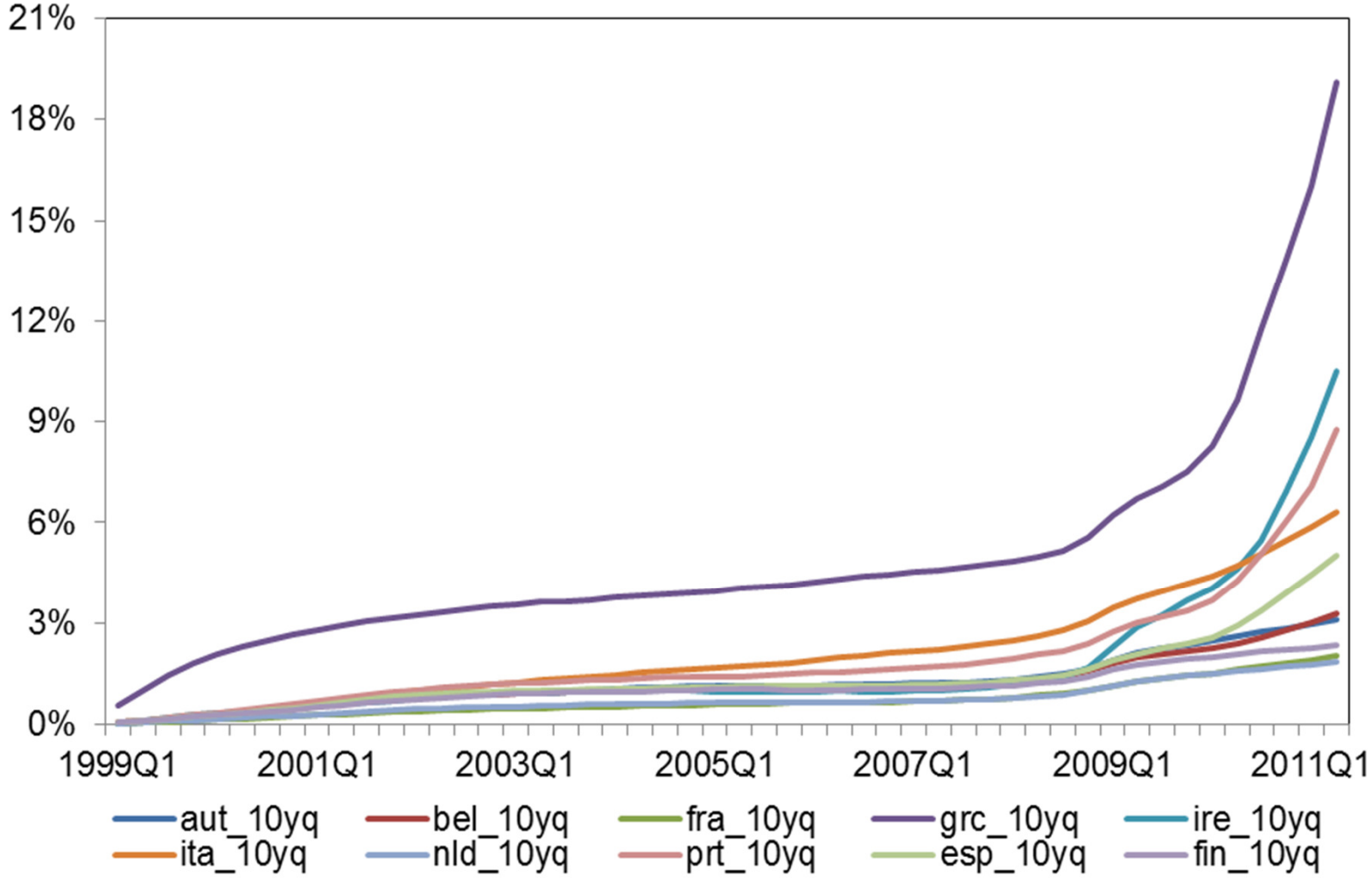
$$\sum_{t=1}^{T}\left(\pi_t - \pi_t^*\right) \approx \sum_{t=1}^{T}\left(R_t - R_t^*\right)$$

Empirical Evidence on PPP and UIP

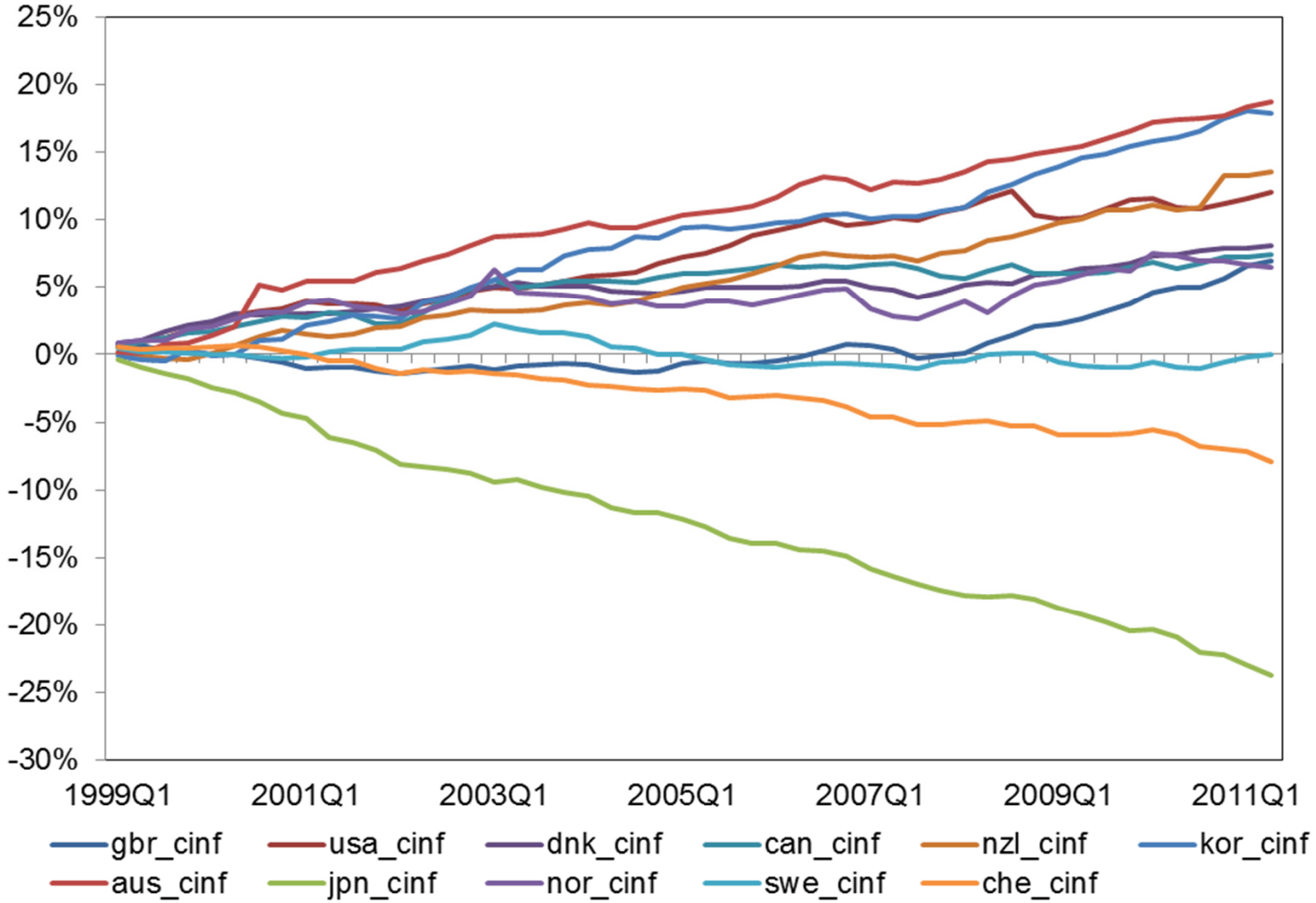
- Received wisdom from empirical studies suggests it could take 5-7 years for PPP to become binding.
- UIP tends to work over a shorter time period, but it might be 3-4 years before it becomes binding
- 12 years is sufficiently long for the joint application of PPP and UIP to euro economies.
- Hence, cumulating inflation and long rate differentials over a relatively long period we would expect

Cumulative Inflation spread ≈ Cumulative Interest rate spread

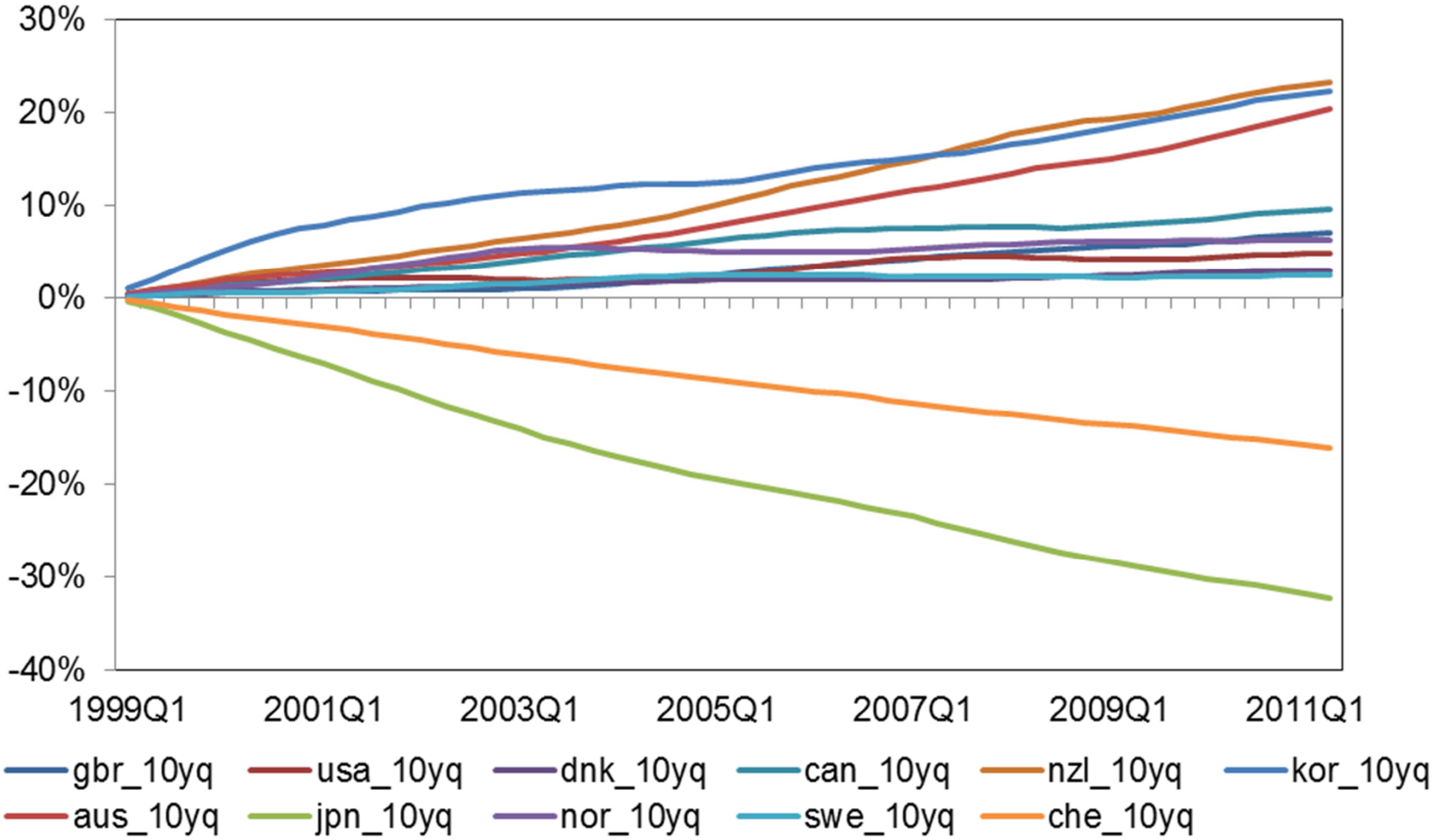
Cumulative Spread Relative to German 10Y Bond for Euro Economies (1999Q1-2011Q2)



Cumulative Inflation (CPI) Differentials Relative to Germany for Selected non-Euro Economies (1999Q1-2011Q2)



Cumulative Term Spread Relative to Germany 10Y Bond for selected Non Euro Economies (1999Q1-2011Q2)



Debt to GDP Ratios, Cumulative Inflation and Interest Rate Spreads (1999q1-2011q2, Relative to Germany)

Countries	Debt/GDP in % (2009Q1-2010Q4, IFS WEO)	Cumulative Inflation Differentials (in %)	Cumulative Interest Spreads (in %)
DEU	68.9	0	0
FRA	80.7	1.6	2.0
ITA	117.5	8.0	6.3
ESP	56.7	16.2	5.0
NLD	61.7	6.2	1.8
BEL	54.0	7.8	3.3
FIN	45.8	3.1	2.3
AUT	70.6	5.6	3.1
PRT	87.9	12.1	8.8
IRL	80.1	14.1	10.5
GRC	134.9	21.1	19.1

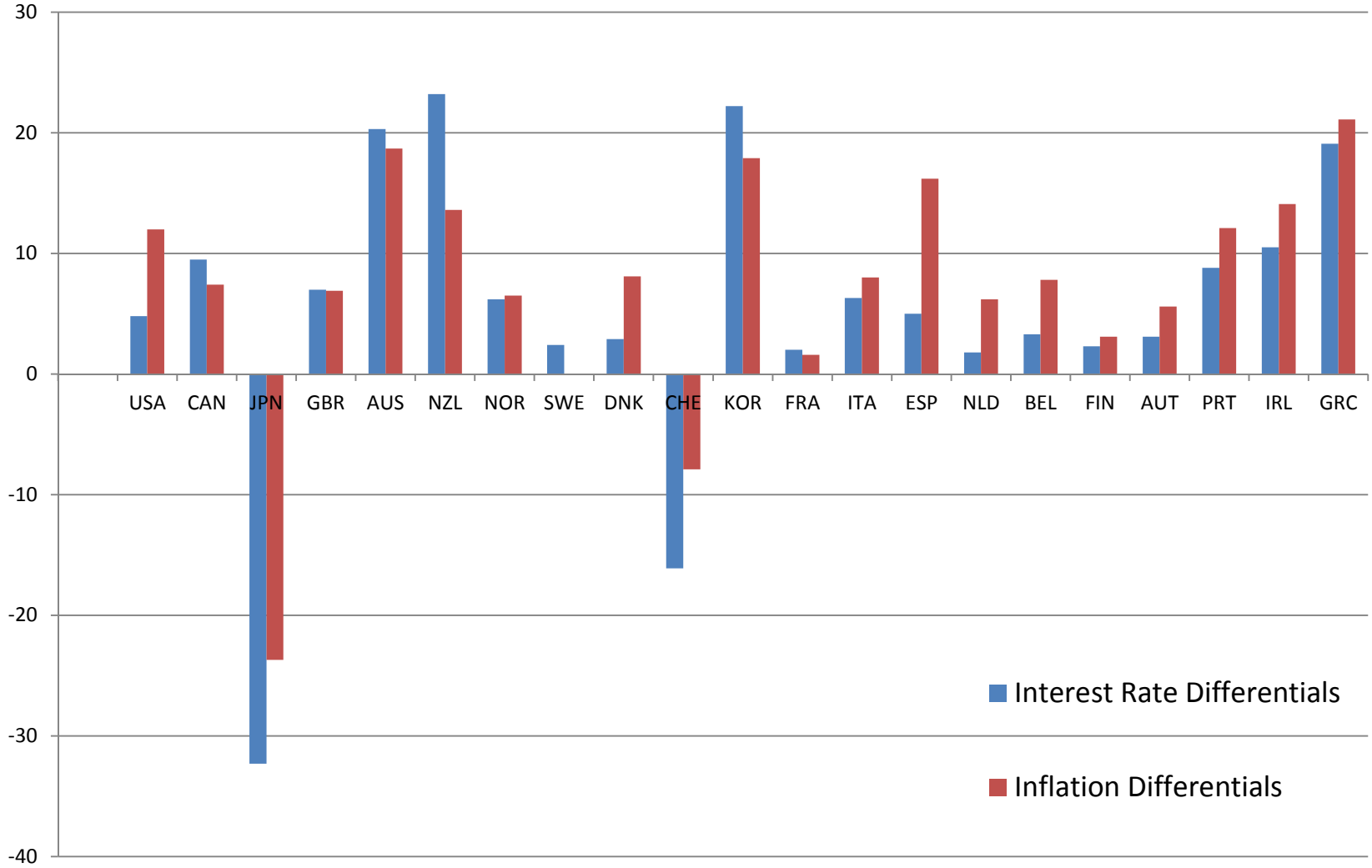
Debt to GDP Ratios, Cumulative Inflations and Interest Rate Spreads for Selected Non Euro Economies (1999q1-2011q2, Relative to Germany)

Countries	Debt/GDP in % (2009Q1-2010Q4)	Cumulative Inflation Differential (in %)	Cumulative Interest Spreads (in %)
USA	89.8	12.0	4.8
CAN	83.6	7.4	9.5
JPN	218.2	-23.7	-32.3
GBR	71.9	6.9	7.0
AUS	18.7	18.7	20.3
NZL	29.0	13.6	23.2
NOR	55.4	6.5	6.2
SWE	41.2	-0.03	2.4
DNK	42.7	8.1	2.9
CHE	54.7	-7.9	-16.1
KOR	33.6	17.9	22.2

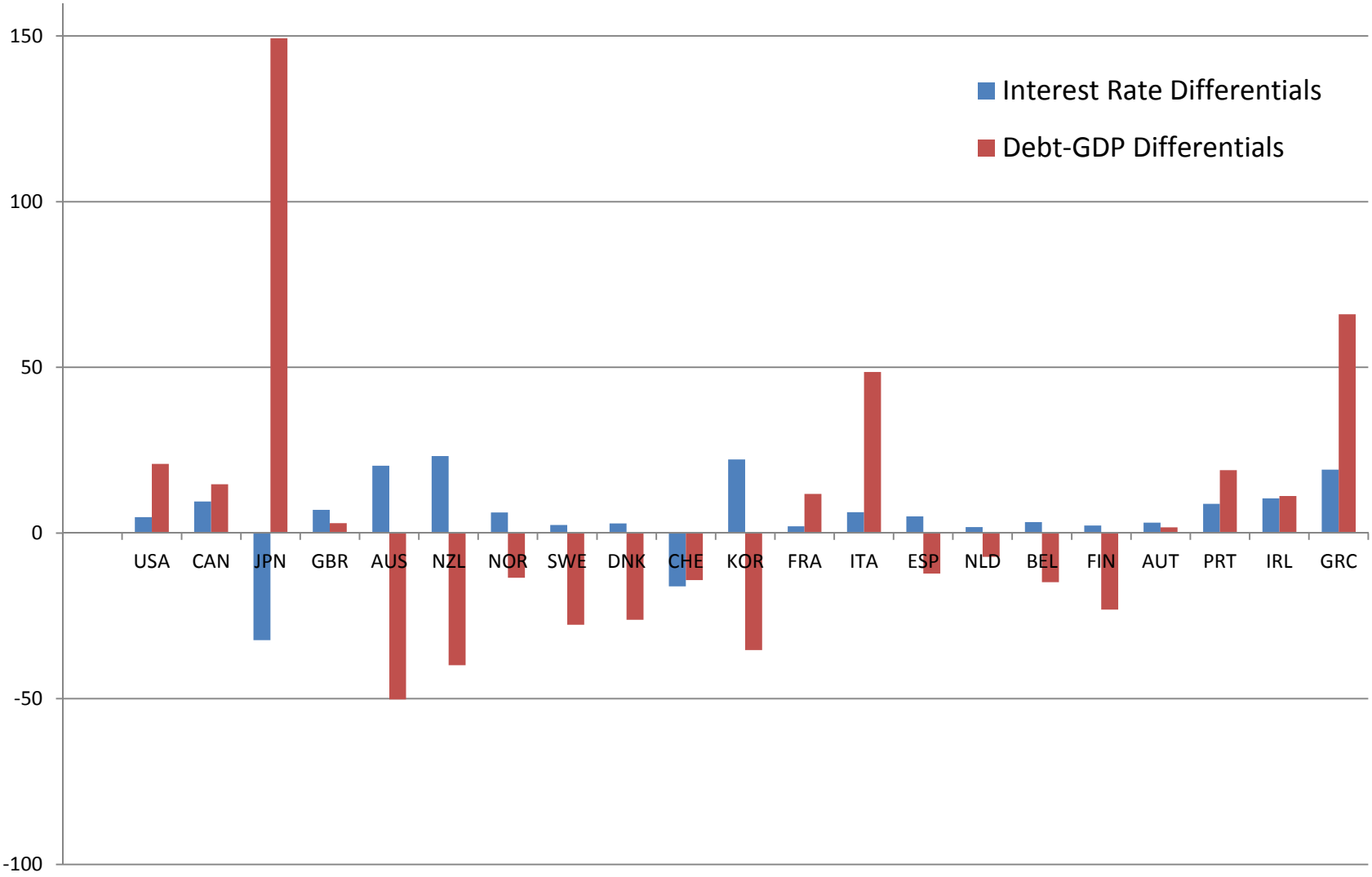
Evidence on Debt, Inflation and Term Spreads

- There are no obvious patterns between debt-to-GDP ratios and the interest rate spreads, with Japan providing the most striking example of a perverse relationship. Empirical evidence provided in the literature are mixed, and variable.
- In contrast, the fit between cumulative inflation and interest differentials seems quite striking. The simple correlation coefficient between the two variables for the 21 euro and non-euro economies is 0.93. The relationship is almost one to one.
- Some of the outliers could be due to special factors (such as US and Switzerland), or are suggestive of future long term interest rises such as Spain, Belgium and Netherlands.

Cumulative Interest Rate Differentials and Cumulative Inflation Differentials



Cumulative Interest Rate and Debt to GDP Differentials



Regression of Cumulative Spreads (SP) on Cumulative Inflation Differentials (INF), and Debt/GDP Ratio

Dependent variable is SP

21 observations used for estimation from 1 to 21

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-3.1991	1.2804	-2.4986[.022]
INF	1.1559	0.10550	10.9567[.000]

****

R-Squared .86336 R-Bar-Squared .85617

****

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.085028	2.7029	.031458[.975]
INF	1.0746	.11900	9.0298[.000]
DEBT/GDP	-.036847	.026878	-1.3709[.187]

****

R-Squared .87628 R-Bar-Squared .86253

****

Inflation, competitiveness and financial distortions

- In most of the analysis, inflation differentials are presented as a competitiveness issue. On top of this – the argument goes – comes the financial crisis, linked to excessive borrowing, and then the fiscal crisis, with deterioration in government budget that result from the drop in output growth during the global recession.
- The point we are making here is that these three perspectives (divergences in competitiveness, financial distortions leading to excessive borrowing, and fiscal crisis) are all different aspects of the same economic imbalances.
- Most importantly, the building up of all three types of imbalances are eventually captured by inflation differentials.
- Inflation diverged especially in countries with housing market bubbles, excessive borrowing by the private or the public sector.

Inflation, competitiveness and financial distortions

- High inflation is due to excessive demand. According to conventional wisdom, lacking policy instruments to stabilize domestic inflation, an increase in domestic relative prices is what is eventually needed to stabilize domestic demand.
- Unfortunately, lacking financial instruments to insure risk of downturn, rising prices magnifies the cost of adjustment and the required correction.
- At the time of the European monetary system, inflation differentials resulted in interest differentials driven by devaluation risk.
- With the euro, the same is true for country-specific risk premia.

Adjustment in the EMS era

- Before the euro, adjustment took the form of a combination of domestic policy reforms to correct the existing imbalances, and a realignment of the exchange rate, correcting relative prices. Adjustment was achieved with different degrees of coordination among member states.
- Most importantly, adjustments took time. After the crisis of 1992-93, markets kept charging vastly different interests on government bonds, despite the very high degree of exchange rate flexibility allowed in the system. It took many years before interest convergence started to materialize in full.

Reform of the Euro Bond Market

- To prevent euro from breaking up, the imbalances that have led to the divergence of inflation across some European economies must be addressed.
- A number of proposals have been made, such as the creation of the euro bond advanced by the European Commission, and the German demands for a kind of fiscal federalism.
- Here we propose an alternative scheme that aims at neutralizing market failures at times of financial crises, with minimal moral hazard implications.
- We propose using cumulative inflation differentials to set an upper bound to long term interest rates for all euro member economies.

Differential Capped Long Rates

- By linking the long-run rates to inflation differentials, member countries have the incentive to take necessary policy actions to reduce their inflation and avoid high costs of debt financing, including fiscal restraints and other related tax and benefit reforms.
- The idea is to create an internal market in euro bonds to be operated by a European Debt Management Agency (EDMA), where the Agency acts as the lender of last resort for long term bonds at agreed capped rates, indexed to the rate of inflation.
- More specifically, EDMA offers to purchase sovereign debts at the capped rates. One would expect that the capped rates in most cases will be above the prevailing market rates.

Issues of Implementation

- We believe interest rate caps must be set in the first instance to prevent the current crisis from deepening.
- With this in mind we propose that the caps are set in line with current market spreads, or some average of the spreads over the past few weeks,
- This would be far superior to leaving the determination of interest rate spreads totally to the vagaries of market forces.

Summary and Conclusions

- It is well known that goods and long term bond markets are slow to adjust, which can obscure important structural imbalances in currency unions.
- But in the long run, market equilibrium implies an important equality between cumulated differential inflation and long term interest rates.
- We propose to exploit this long run regularity to create a market of last resort in long term government bonds in euro area.
- Clearly, other policies that address the root causes of the imbalances, such as fiscal misalignments, market and institutional rigidities, are also needed to ensure euro's durability and usefulness.

Data Sources

- **Consumer Price Index:** IFS data – concept: Consumer Prices, All Items, Quarterly, 2000=100 (seasonally adjusted using X-12 quarterly seasonal adjustment method in Eviews – additive).

- **Debt/GDP, in %**: IFS World Economic Outlook data – concept: General Government Gross Debt, % of GDP, Annual.

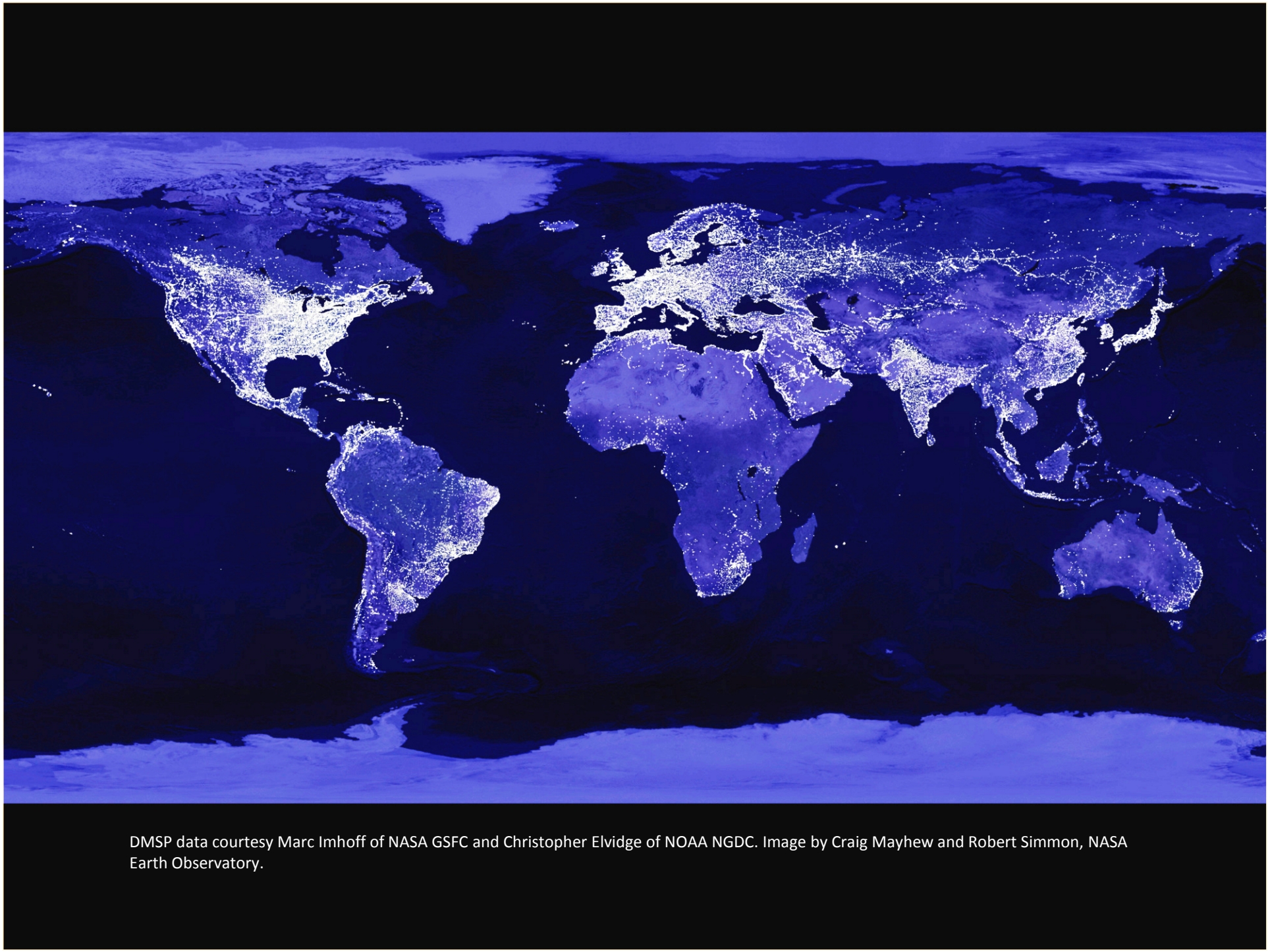
- **Long Term Interest Rates**: IFS data – concept: Interest Rates, Government Securities, Government Bonds.

Predictions

	2011	2012		
	Q4	Q1	Q2	Q3
GDP	0.2	0.5	0.7	0.7
Inflation	4.7	3.3	3.1	2.8
Unemployment	8.4	8.5	8.6	8.7
Interest Rates	0.5	0.5	0.5	0.5
French Bond Yield High:	3.25			

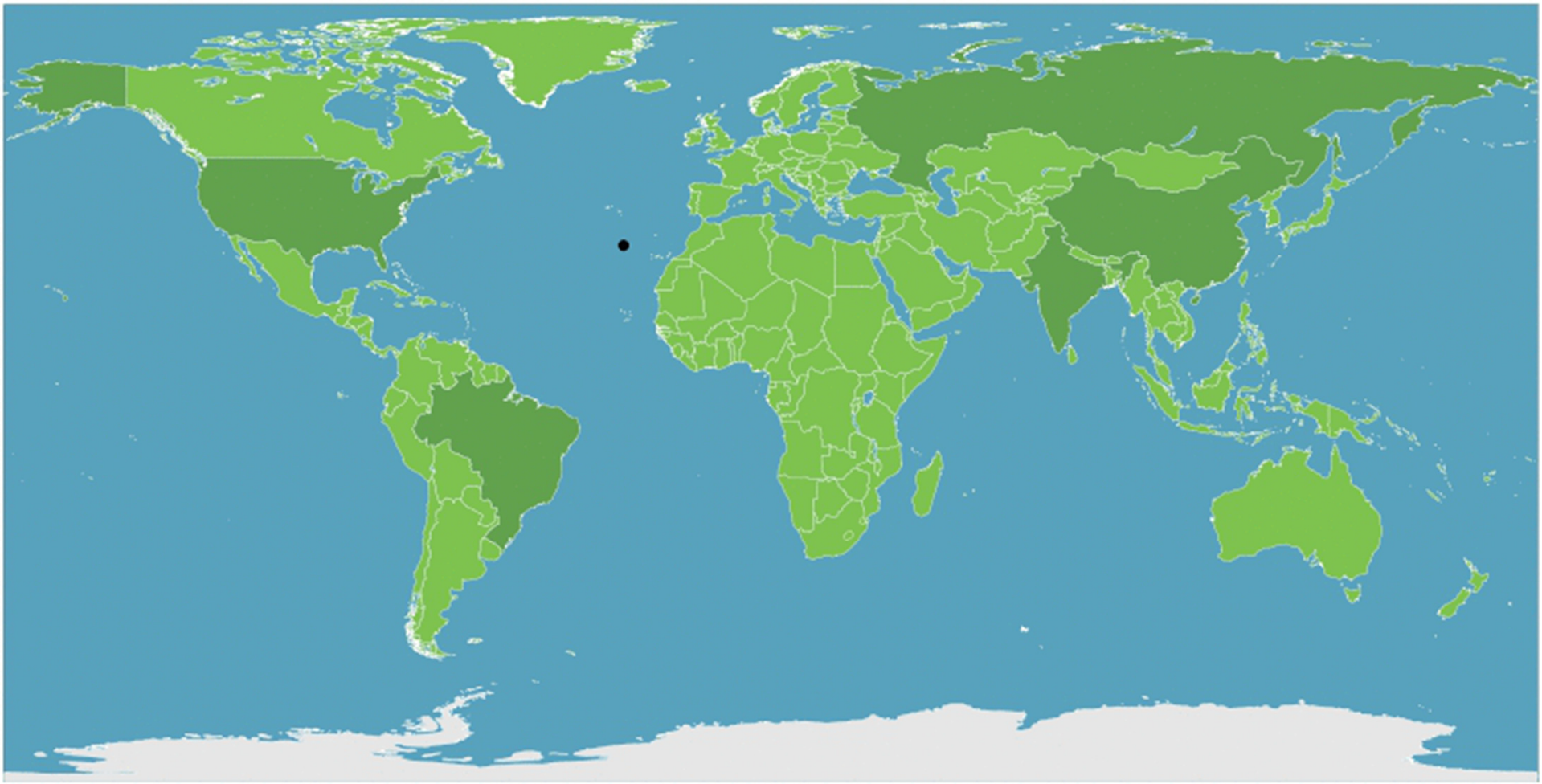
The UK and the Global Economy 2012

By
Danny Quah
Economics Department LSE
06 December 2011
Economic Research Council
Royal Institution



DMSP data courtesy Marc Imhoff of NASA GSFC and Christopher Elvidge of NOAA NGDC. Image by Craig Mayhew and Robert Simmon, NASA Earth Observatory.

The global economy's centre of gravity, 1980 – 2049



Source: Danny Quah (2011)

From

(via Barry Ritholtz)

to late 2011…

THE TIMES
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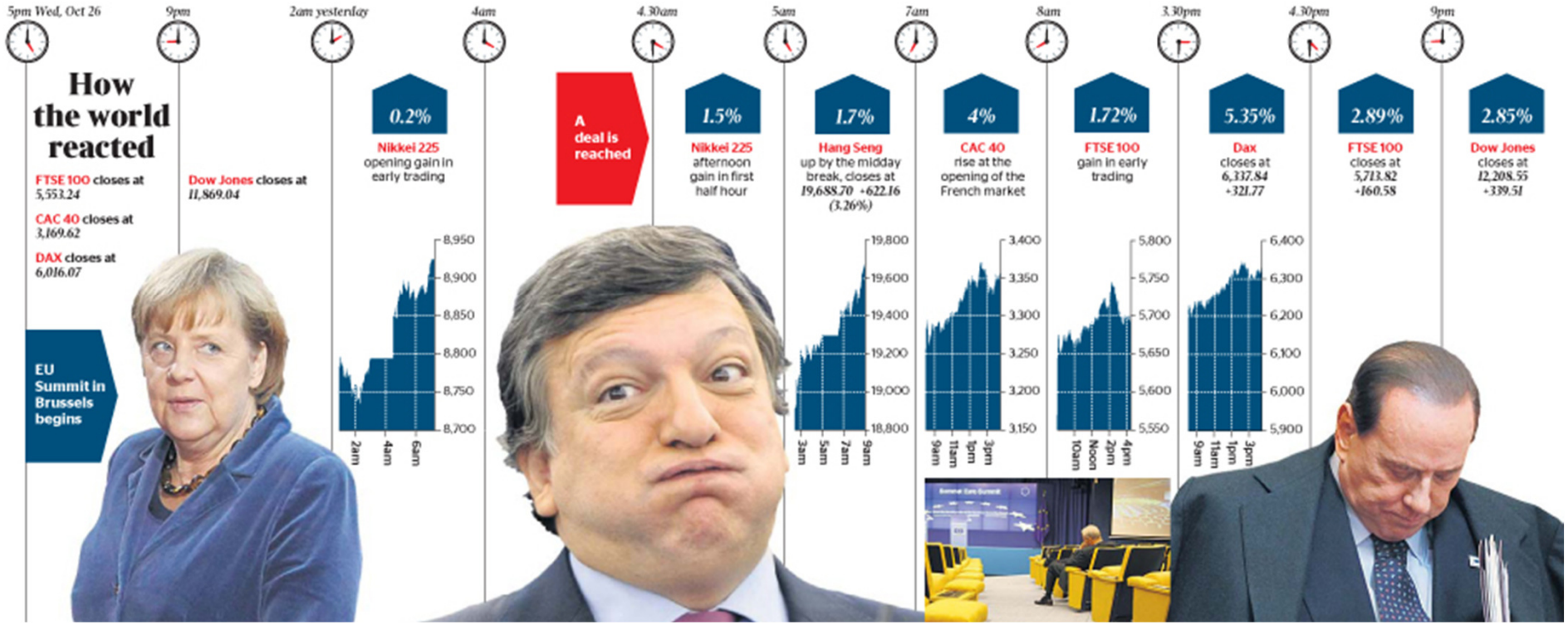
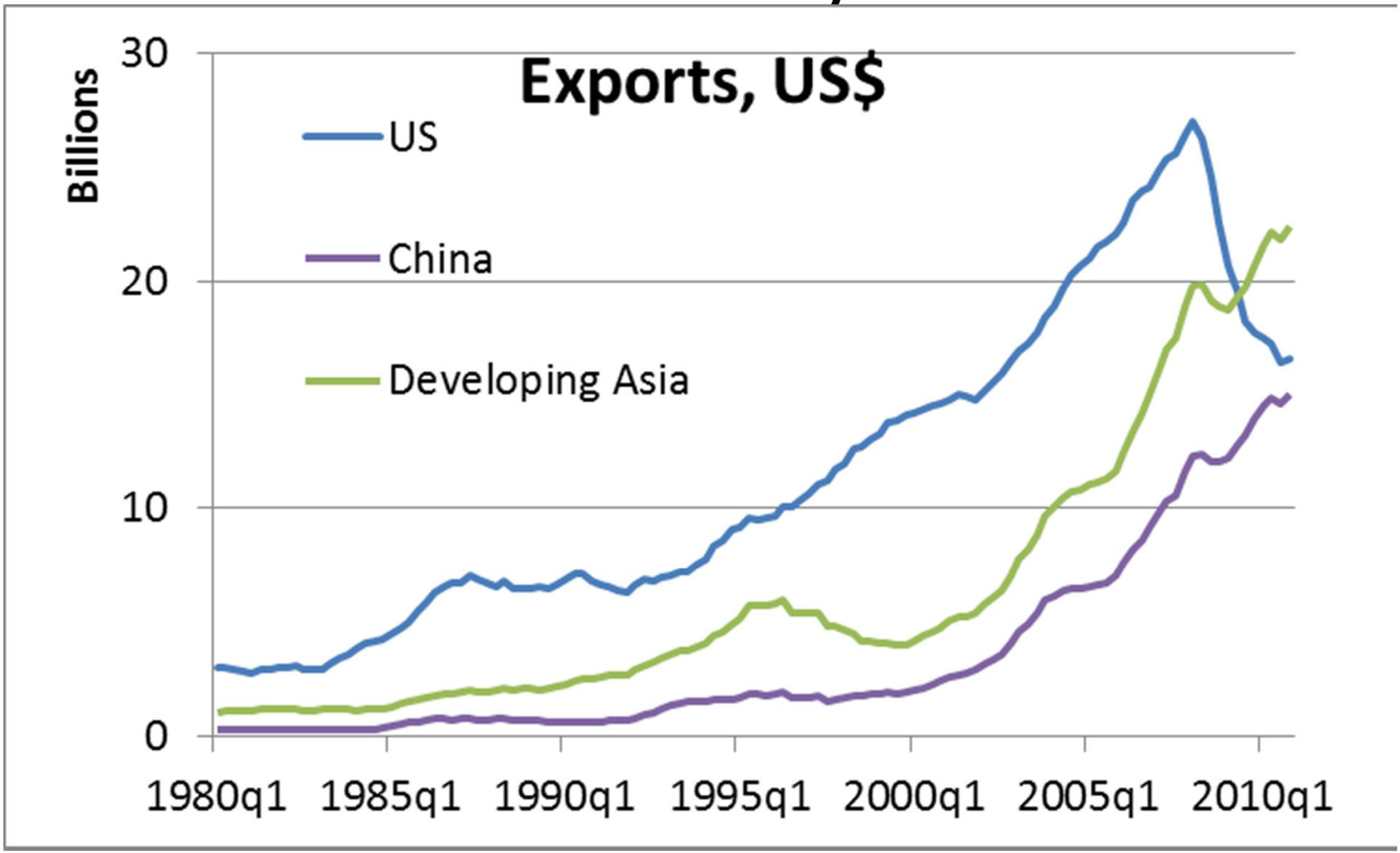
News | Opinion | Business | Money | Sport | Life | Arts | Puzzles | Papers | Friday, October 28 | London | Max 15C

Sarkozy and Europe turn East for help

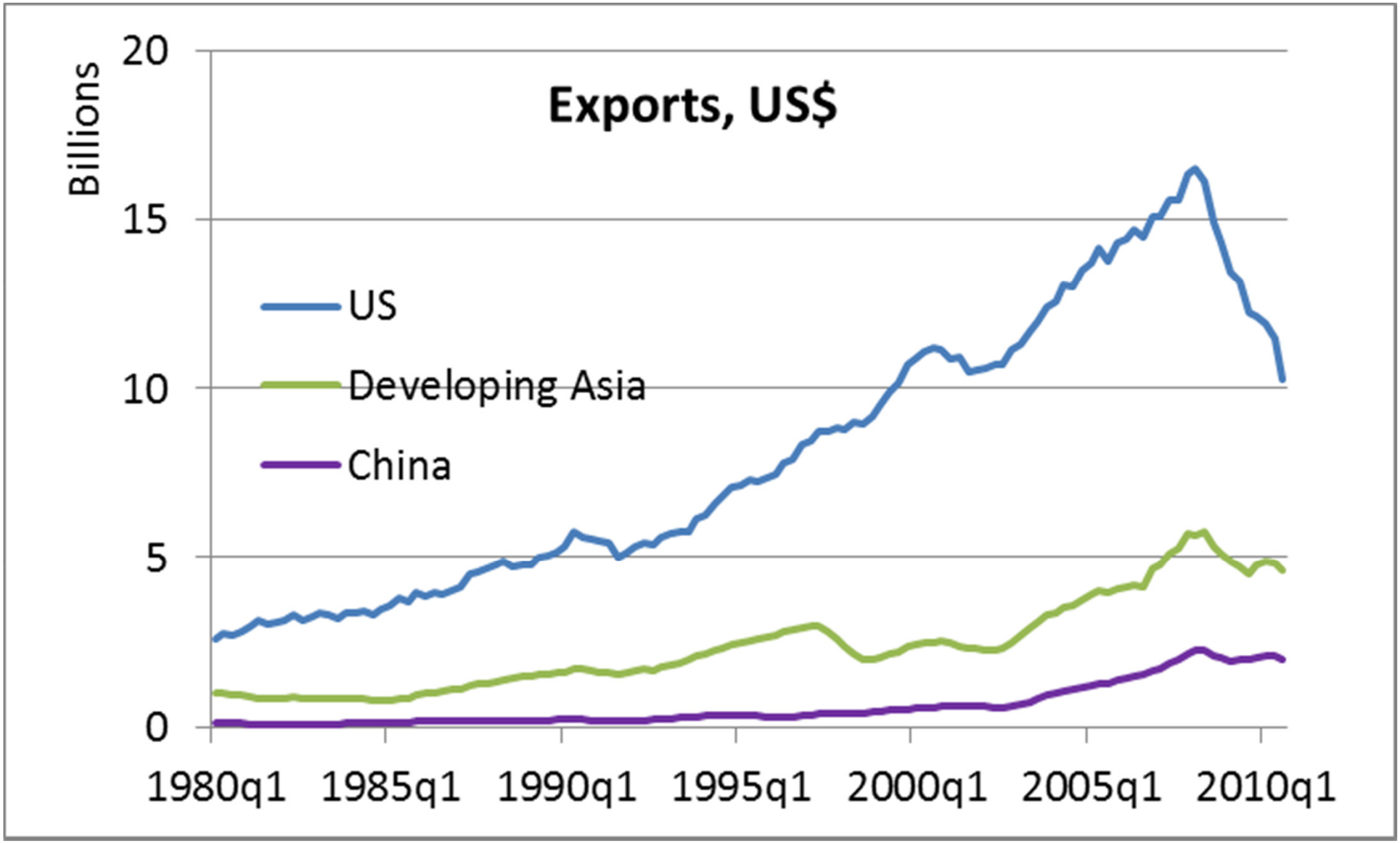
Article | Image | Graphic: how the world reacted



Germany


Exports, US$
Billions
30
20
10
0
US
China
Developing Asia
1980q1
1985q1
1990q1
1995q1
2000q1
2005q1
2010q1

UK


Billions
20
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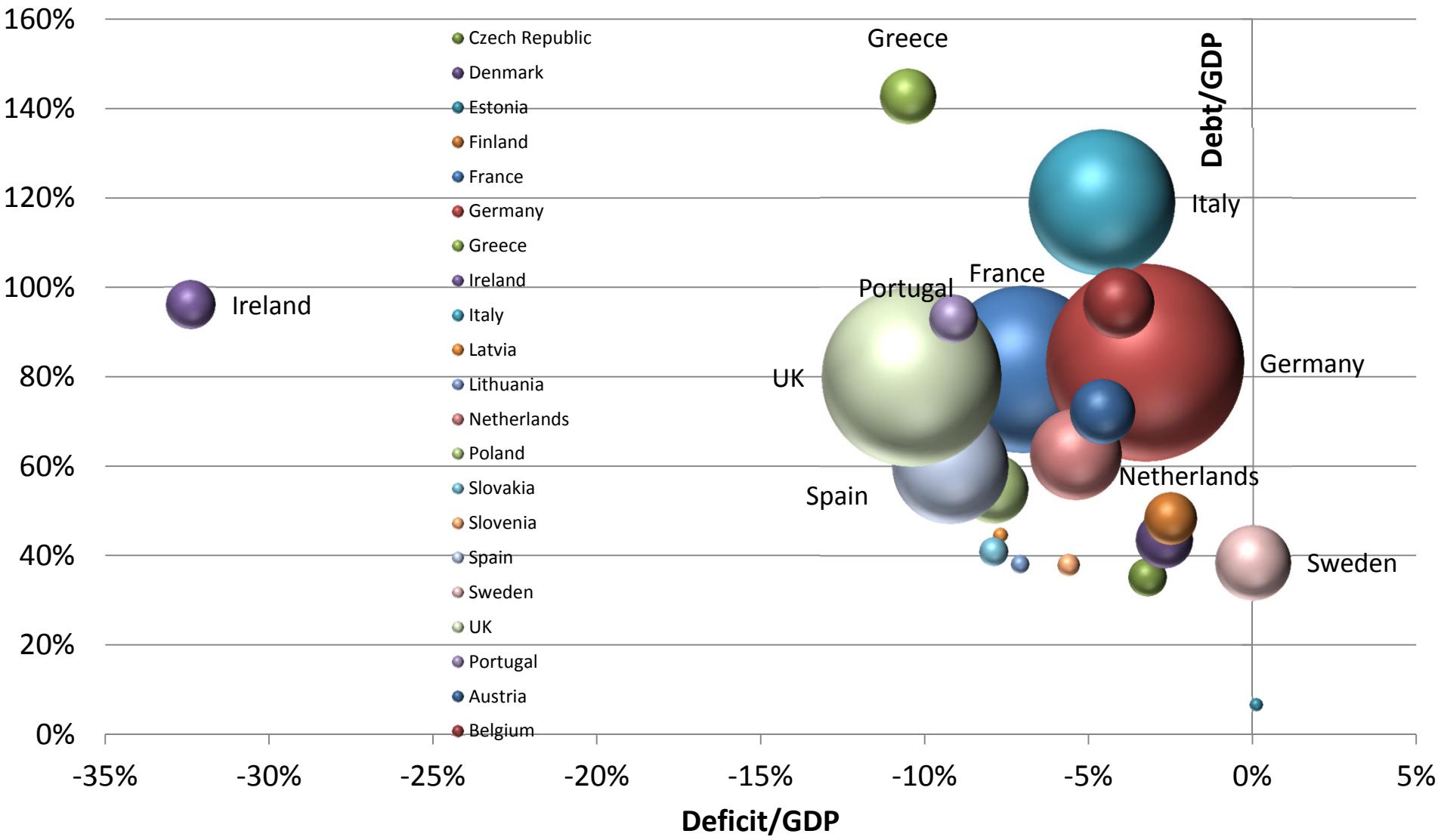
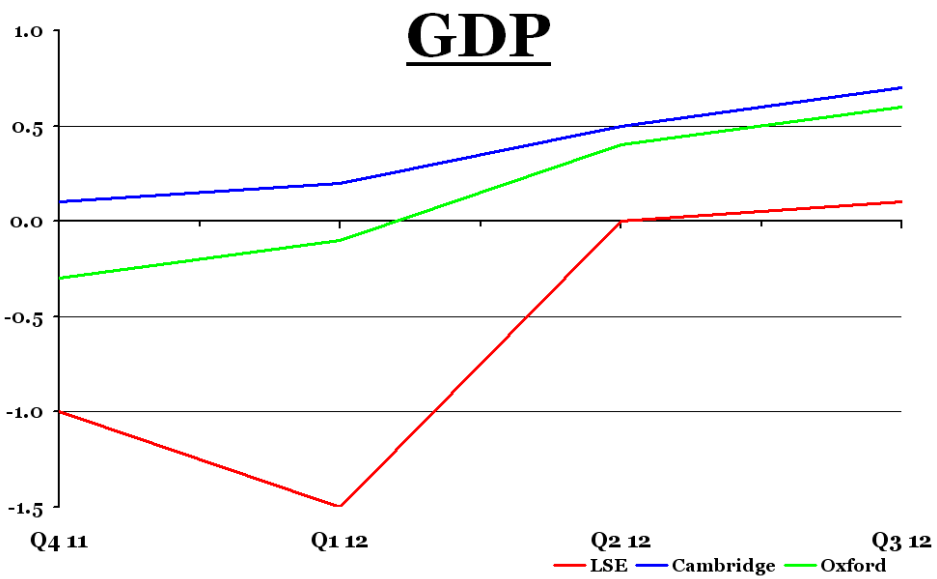
Exports, US$
US
Developing Asia
China
1980q1
1985q1
1990q1
1995q1
2000q1
2005q1
2010q1

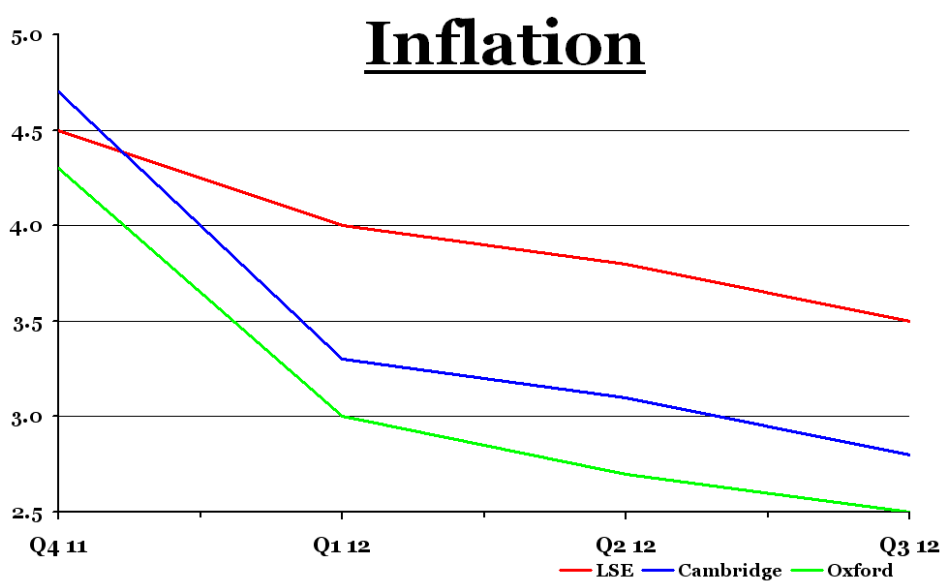
2010 EU Debts and Deficits

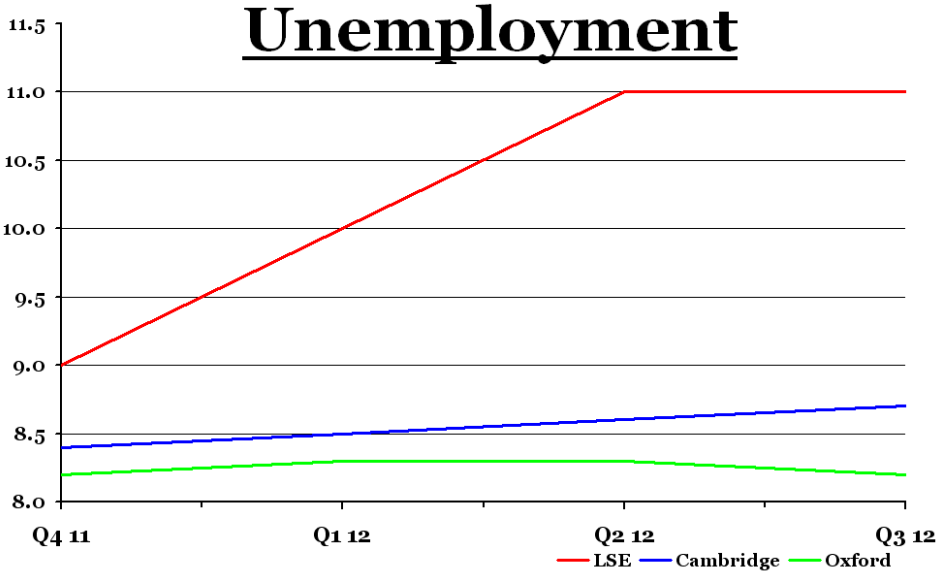


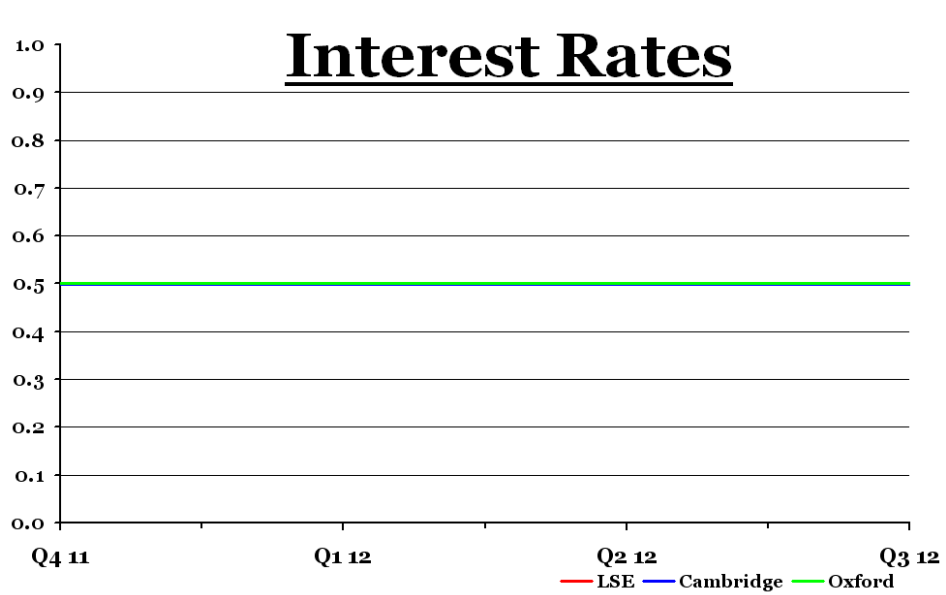
Predictions

	2011	2012		
	Q4	Q1	Q2	Q3
GDP	-1	-1.5	0	0.1
Inflation	4.5	4	3.8	3.5
Unemployment	9	10	11	11
Interest Rates	0.5	0.5	0.5	0.5
French Bond Yield High:	5			









French Bond Yields:

LSE: 5 **Cambridge: 3.25** **Oxford: 2.9**