Financial Market Views Macro-Top Down: The Euro and the Dollar

Mar 17, 2010

Tom Glaessner, Citigroup:

Prepared for the Dallas Fed Conference: The Euro and the Dollar in the Crisis and Beyond

My thanks to Jim Bai and Kerry –Ann Edwards

A Perfect Storm at Outset of 2010?

Technical and Fundamental Drivers and Macro Themes

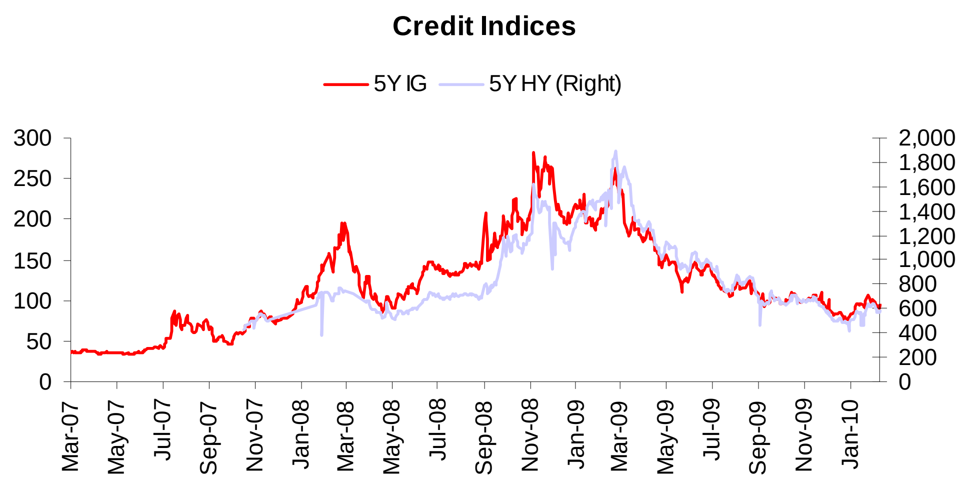
- An Eclectic Approach—Technical and Fundamental Drivers of the Dollar and the Euro
  - Technical and Positioning Drivers
  - Fundamental Drivers of Structural Trends in the Dollar and the Euro
    - US and European growth sustainability and medium term fiscal exit.
    - Debt and Sovereign Credit concerns in Europe and US.
    - Exit of US and ECB monetary policy.
    - China Exit, FX policy, and Imbalances.
    - Overall policy uncertainty and threats of market interventions in currency and credit markets and the Dollar and Euro

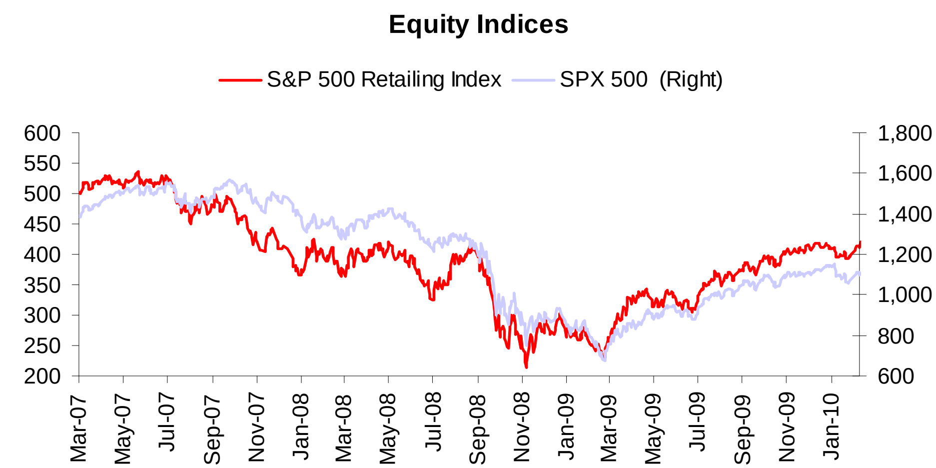
Technical and Positioning Drivers for the Dollar and Euro

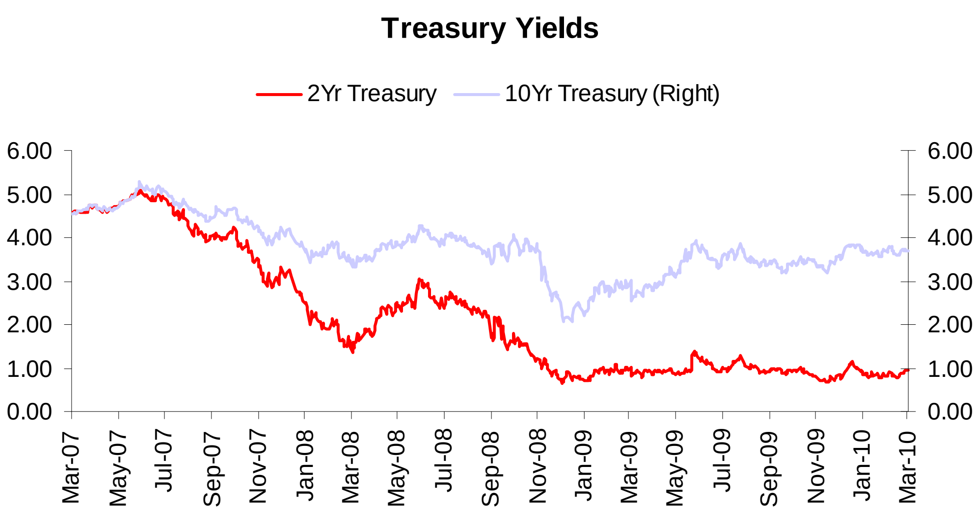
Technical and Positioning Drivers

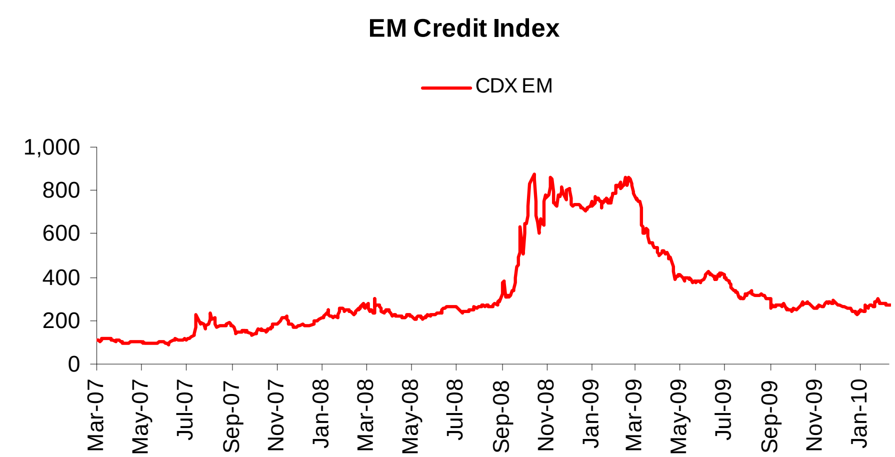
- Short Term Technical and Positioning Drivers
  - Euro skew not as extreme toward depreciation as it has been in the past this year
  - Technical charts and sentiment suggest Euro appreciation and not depreciation
  - Flows overall not that positive for Euro but not wholly negative
    - Central Bank and SWF flows starting to favor Euro again after a drought at start of year
    - Institutional client flow of real money—no evidence of capitulation in sale of euro-denominated portfolio despite recent moves
    - HFs very negative on Euro a trade de jour as proxy for credit pressures in Europe
    - Net Corporate flows will work against Euro as companies missed the opportunities to hedge and many will look to hedge as shorts covered by others keeping pressure on Euro
  - Markets trading more off relative interest rate differentials and differentiation of credit as well as away from interventions due to policy shifts (capital controls and fx intervention)
    - Favors the EM currencies in Asia and Latin America versus G-2 or G3
    - Favors commodities
    - There are limits to these trends—and they are not unrelated to global liquidity

Latest Credit, Rates, and Equity Indices—early months correction small





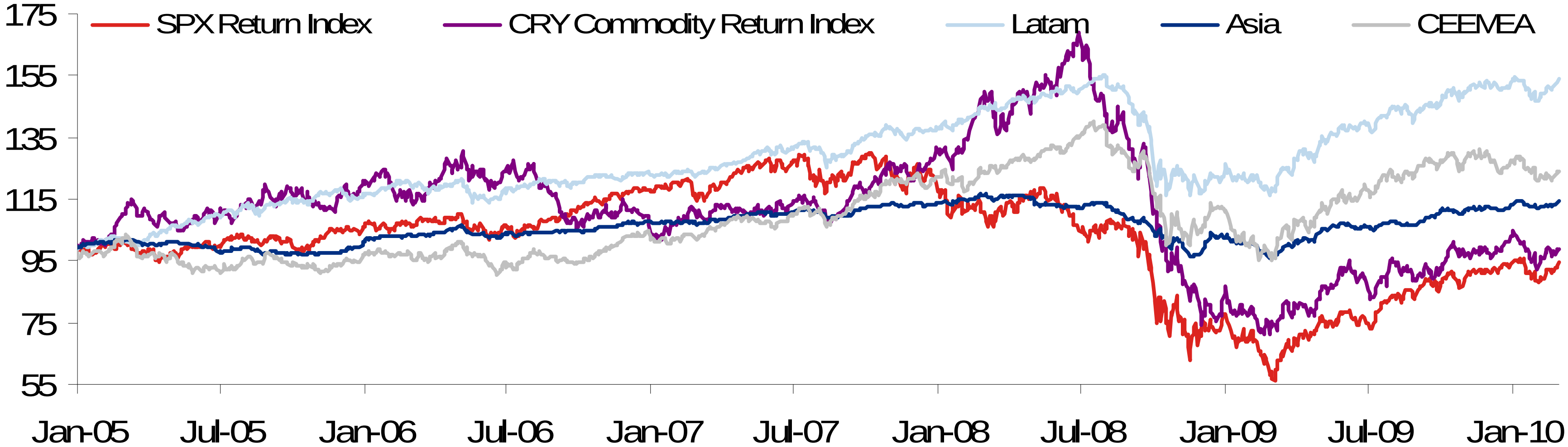




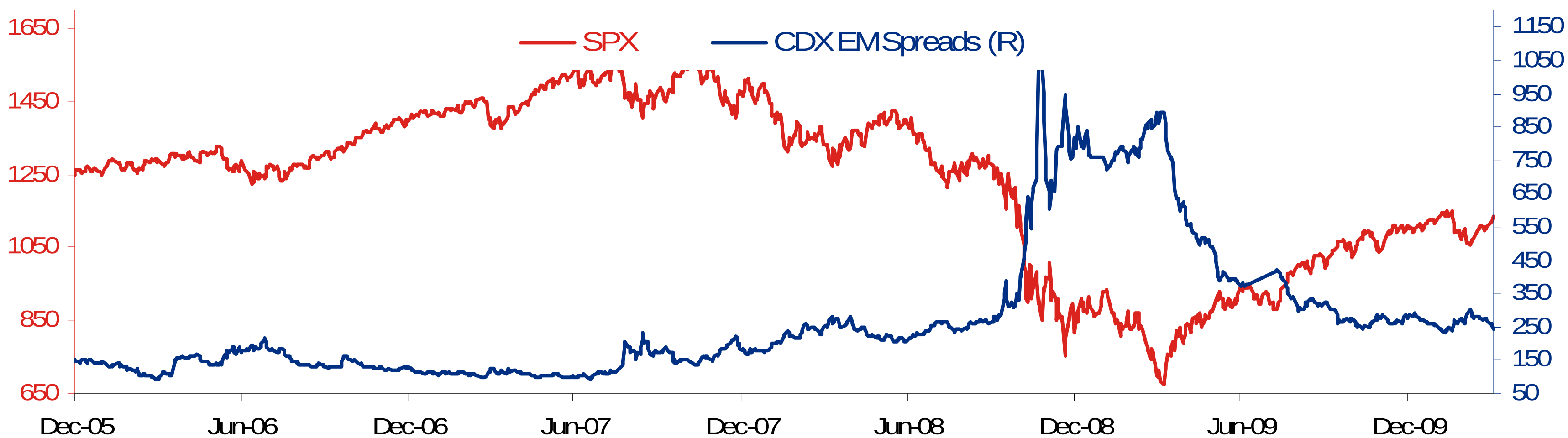
Source: Citi, Bloomberg

EM FX (esp LTAM) remains correlated with S&P and Credit never De-Coupled.

S&P 500 return index and CRY commodity return index vs. Latam, Asia, and CEEMEA FX indices (all 2005 = 100)



S&P 500 index vs. on-the-run CDX EM index (right axis, in bps)

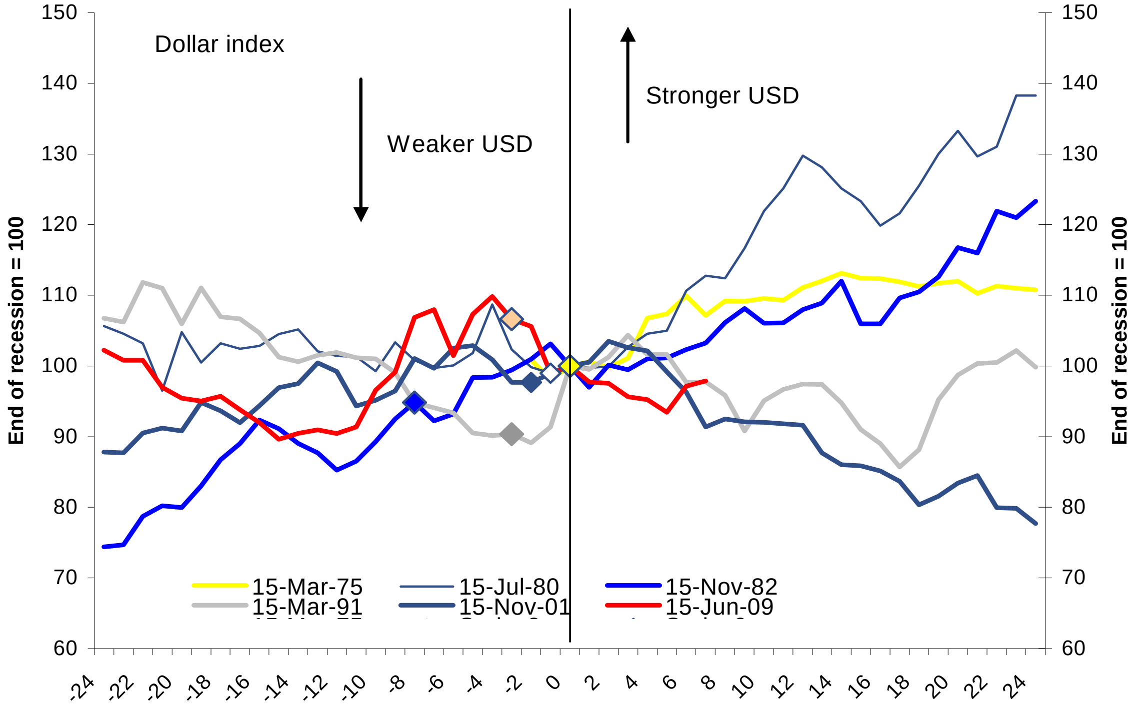


Sources: Bloomberg, Citi.

EUR and SPX Correlation Coming Off 2009 Levels

Sources: Palantir, Bloomberg, Citi.

Dollar Index (DXY) Around US Recoveries



- History: There is really no clear relationship between the USD and US economic cycles. In past cycles, the DXY has depreciated more often than appreciated during recessions but the average is an appreciation of about 10%
- In recoveries, the USD rises in three cycles, and is lower to unchanged in two. The average first year appreciation is 7-8%
- Current: The DXY is slightly lower post the end of the recession. We think this continues longer term but the real lesson here is the lack of help that the economic cycle gives us in trading USD

	DXY Level					% Change			
NBER Recession End	Recession end (A)	3m after (B)	6m after (C)	12m after (D)	24m after (E)	(A) to (B)	(A) to (C)	(A) to (D)	(A) to (E)
Mar-75	94.82	95.86	104.24	105.34	105.03	1.10	9.93	11.09	10.77
Jul-80	86.08	88.38	95.24	111.72	119.05	2.67	10.64	29.79	38.30
Nov-82	121.00	120.35	123.79	130.64	149.21	-0.54	2.31	7.97	23.31
Mar-91	92.01	96.03	89.90	89.65	91.87	4.37	-2.29	-2.56	-0.15
Nov-01	116.13	119.16	111.81	106.38	90.23	2.61	-3.72	-8.40	-22.30
Jun-09	80.13	76.65	77.86			-4.34	-2.84		
					Average*	2.04	3.37	7.58	9.99

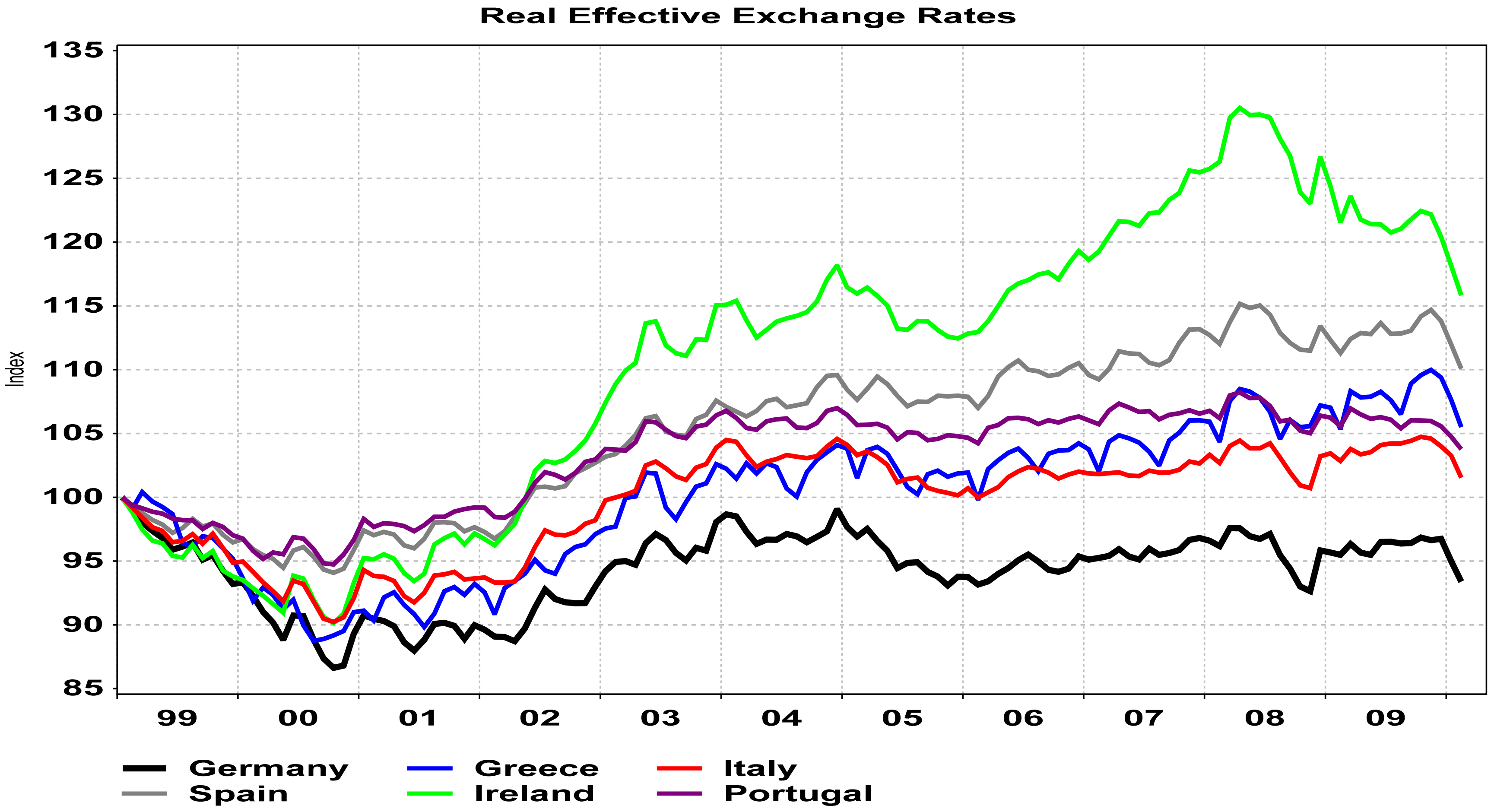
* Excludes latest cycle

Calculations are based on the Citi assumption that the most recent NBER-defined recession lasts from Dec '07 to Jun '09
Sources: NBER, Bloomberg and Citi

Euro competitiveness slowly coming into line as real exchange rate has been overvalued from European perspective

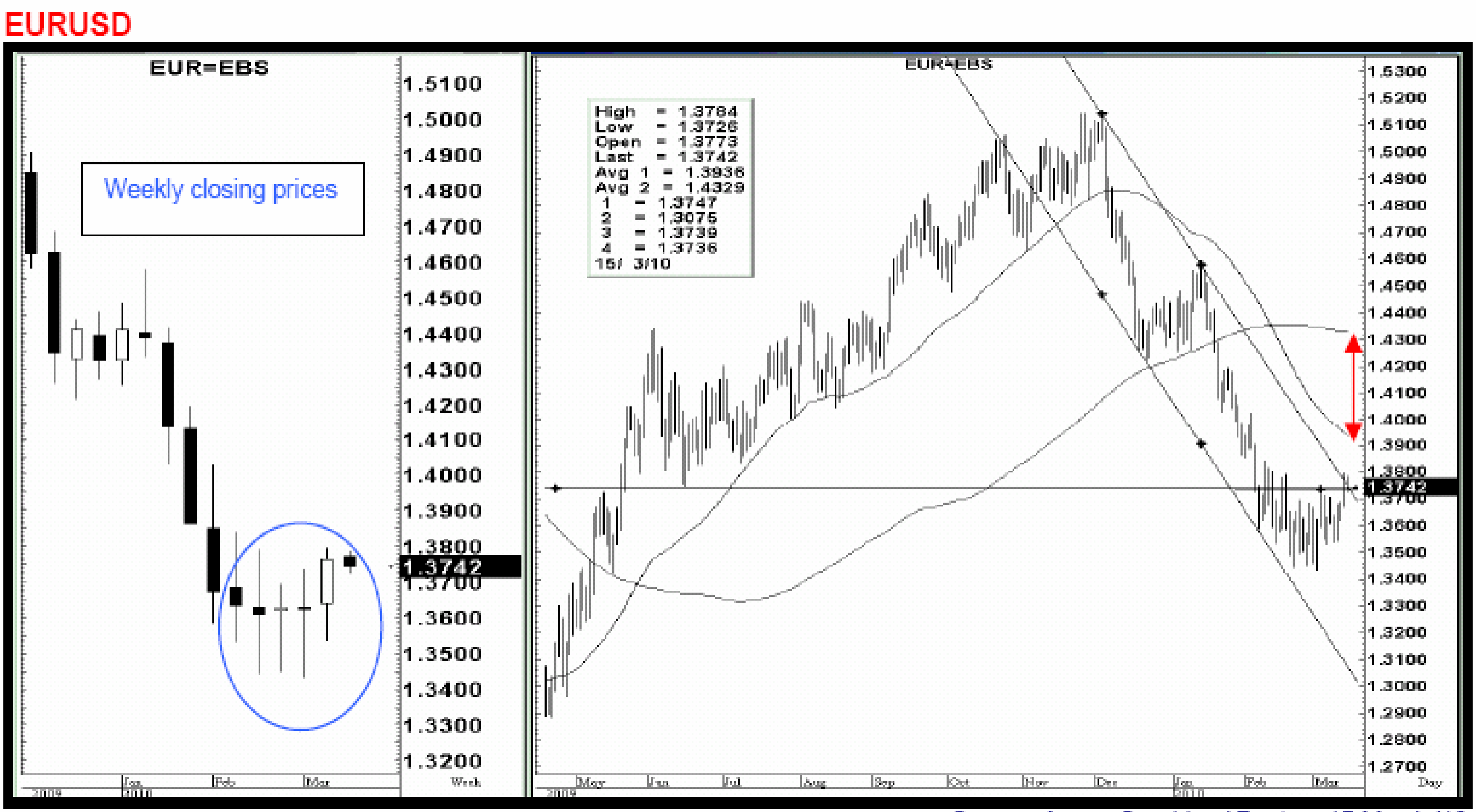
Sources: Bloomberg, Citi.

Given the real appreciation of the currencies of these countries adjustment in a Monetary Union with the Euro will clearly not be an easy task



Source: Reuters EcoWin

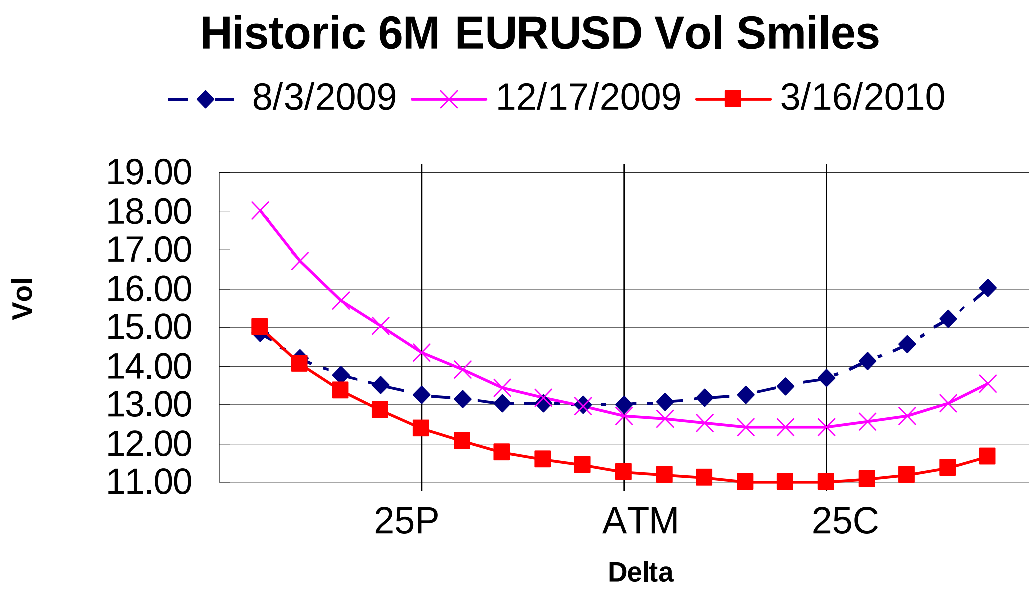
Pure Technical Charts Suggest we are already breaching a key Resistance level at 1.3742 . Levels could appreciate to levels in the 1.40 to 1.43 level

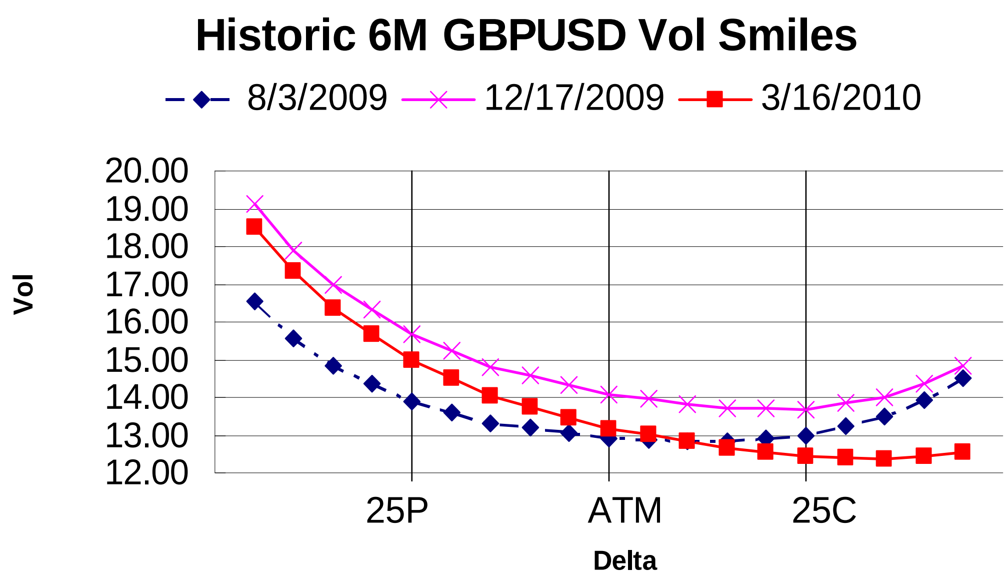


Source: Aspen Graphics / Reuters 15 March '10

Source:Citi

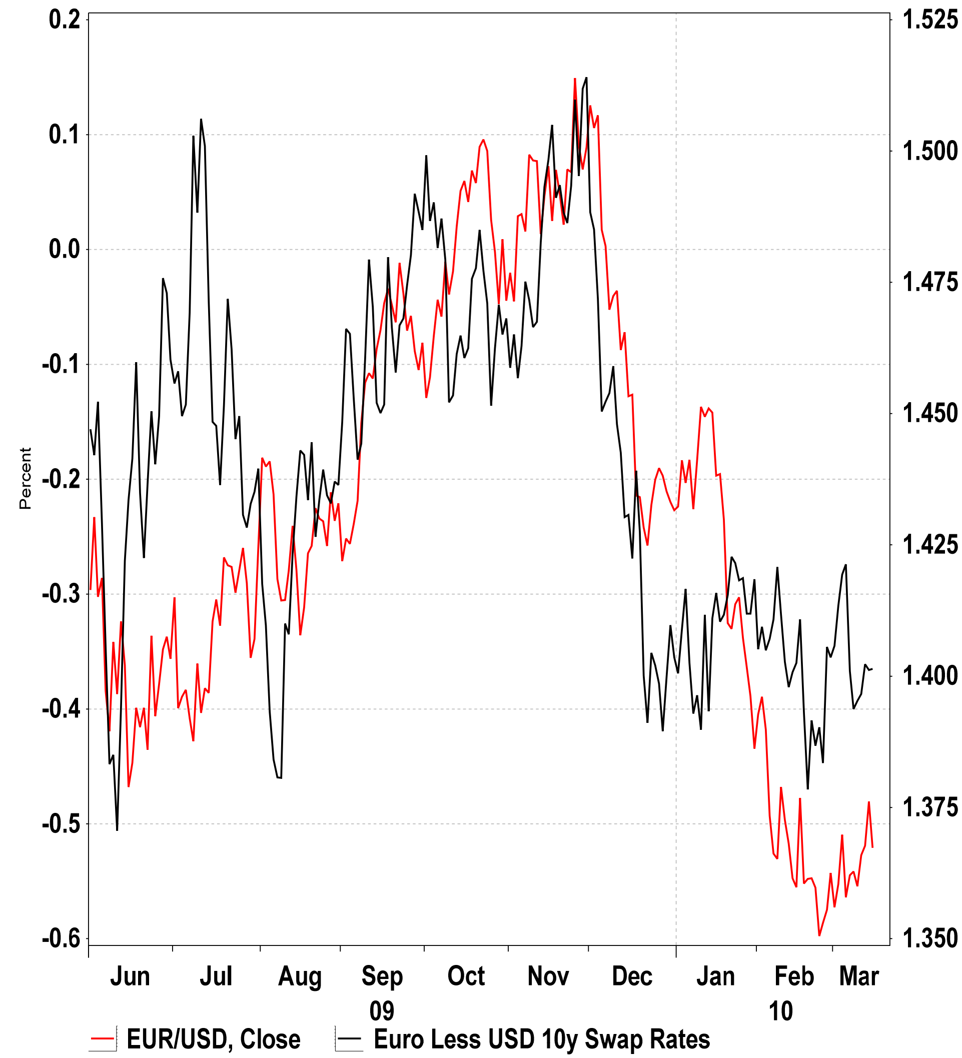
Currency Protection Well Bid, Still at Extremes for GBP but Euro volatility smile less skewed than at peak





Sources: Bloomberg, Citi.

Will Rate Differentials Matter Again?

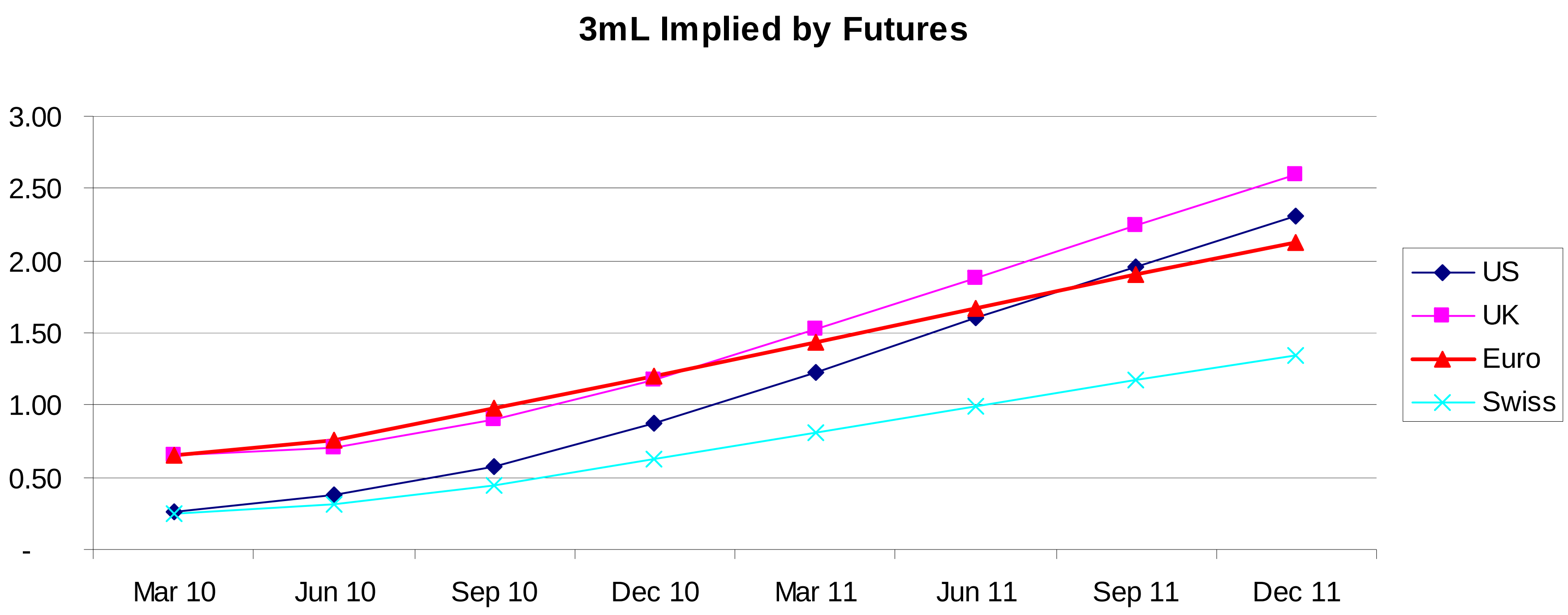


Source: Reuters EcoWin

US Pricing Most Hikes by end of 2011, Least Swiss

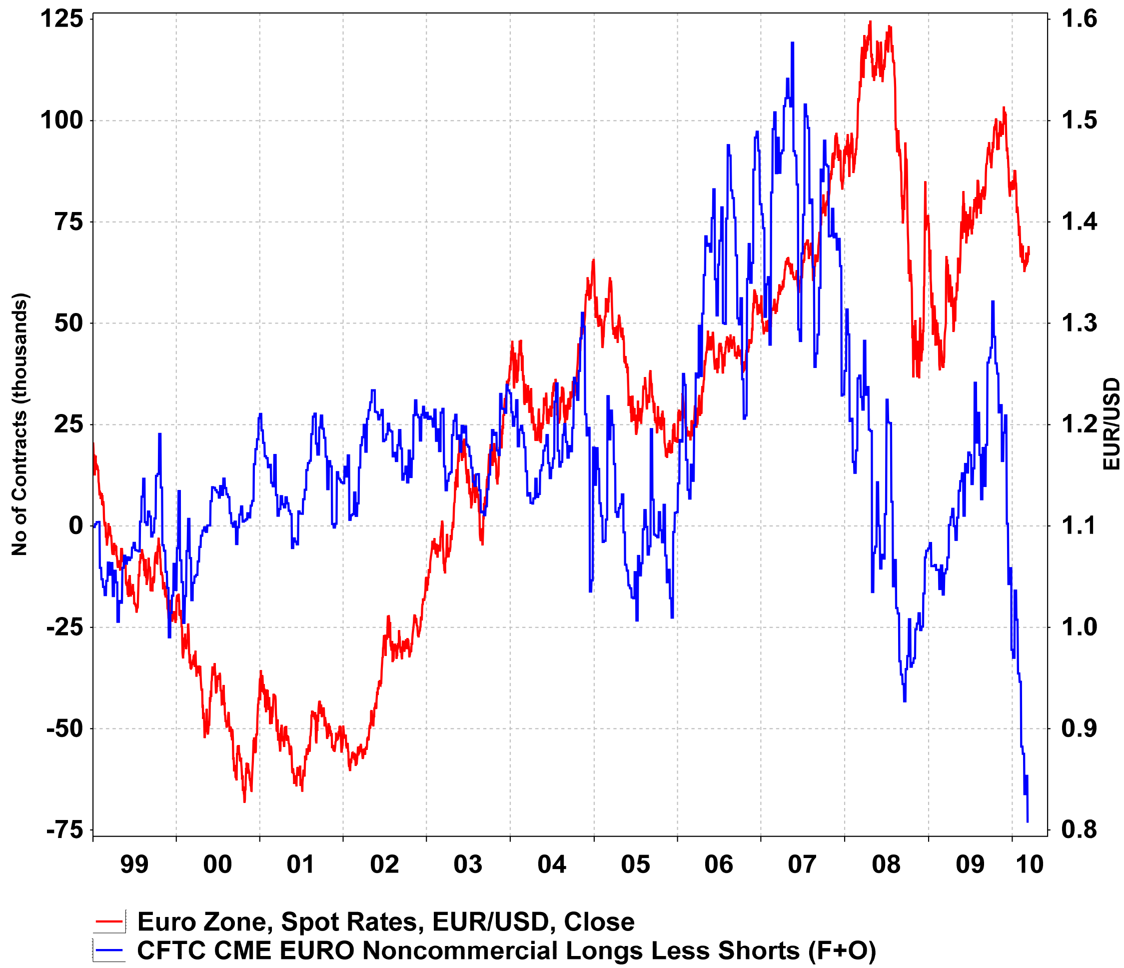
- Roughly what is priced into Libor Futures by 2011, %

US	UK	Euro	Swiss
2.05	1.94	1.47	1.09



Sources: Bloomberg, Citi.

Euro Shorts Largest Since EMU Began in 1999



Source: Reuters EcoWin

Corporate Flows and Implications for Trends in the Euro

- In US general feeling is that US corporates have missed this move lower in the EUR and are probably underhedged for 2010/2011 right now.
- We have some orders to sell EUR at 1.3600, expect to see more between there and 1.4000 if we move back up.
- Continental European corporate clients are opportunistic buyers of Euros vs USD at levels below 1.36 through a combination of options and forward cover.
- The majority has little incentive to stand in the way of further USD appreciation as it makes their exports more valuable at a time of fragile sales and still low - albeit not as low as a year ago - forecasting ability.
- Some USD sales are China related as this region becomes an ever bigger one of activity, especially for automotive and chemicals.
- Eurozone fiscal worries are seen with a mix of concern about the repercucssions on domestic banks and potential consequences on lending standards in the future and a mood of 'didn't we know it all along'.
- Little concern about export markets in smaller countries fading but Spain and Italy are a different matter.

Corporate Flows and Trends in GBP

- Re EUR/GBP, most corporates live on borrowed time / existing hedges. Not a great deal of activity despite volatility in recent months.
- In the UK we have seen a lot of interest from UK exporters (the few left....) to take advantage of the GBPUSD below 1.55.
- Most the USD buyers are sitting on their hands hoping for a move up, which is looking more and more unlikely.
- We do see some of the more sophisticated sellers of GBPUSD still actively selling even at these levels, clearly indicating that they think this is going even lower.
- Not seen to much action in EURGBP since most of our sellers have gladly been selling over 0.90 for quite a while.

Sources: Citi.

Institutional Real Money and CB/SWF Investor Flows

- We have not seen real money actually sell Euro or in any capitulate
- We had seen many Central Banks stop their reserve diversification into the Euro for a few weeks at the outset of this year but this is now resuming again
- Special concern of many Asian CBs and SWFs:
  - US monetary policy exit and a back up in US rates
  - US fiscal policy sustainability
  - Many are looking at changing their benchmarks to include broader currency mandates in light of narrowing of credit risk differentials across EM and developed economies
- Mandates for investment in emerging markets remain very strong and are growing rapidly
- Many investors like EM baskets versus G-3 or G-4 baskets
- Interest in pure commodities remains very strong given the degree of intervention in markets (capital controls, fx intervention, and increasingly worries as well about trade restrictions)

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US and European Growth Sustainability and Fiscal Exit

World 2010 Growth Outlook from our Economists

	GDP Growth			CPI Inflation			Current Balance (% of GDP)			Fiscal Balance (% of GDP)		
	2009F	2010F	2011F	2009F	2010F	2011F	2009F	2010F	2011F	2009F	2010F	2011F
Global	**-2.0**	**3.5**	**3.3**	**1.4**	**2.8**	**2.8**	**0.3**	**0.2**	**0.1**	**-6.9**	**-6.7**	**-5.5**
Based on PPP weights	*-1.3*	*4.1*	*3.9*	*2.1*	*3.5*	*3.6*	*0.7*	*0.5*	*0.3*	*-6.4*	*-6.0*	*-5.0*
Industrial Countries	**-3.3**	**2.2**	**2.1**	**0.1**	**1.6**	**1.4**	**-0.8**	**-0.6**	**-0.5**	**-8.0**	**-8.0**	**-6.7**
United States	-2.4	3.2	2.8	-0.3	2.2	1.4	-3.0	-3.5	-4.0	-10.0	-10.0	-8.0
Japan	-5.0	2.1	1.7	-1.3	-0.8	-0.1	2.8	3.4	3.5	-10.9	-8.5	-10.6
Euro Area	-3.9	1.1	1.3	0.3	1.4	1.6	-0.3	0.4	0.6	-6.3	-6.7	-4.9
Canada	-2.5	3.0	3.3	0.3	1.6	2.2	-2.5	-0.7	-0.3	-3.6	-2.8	-1.6
Australia	1.1	3.3	3.4	1.8	2.3	2.7	-4.2	-5.2	-5.1	-2.3	-4.7	-3.6
New Zealand	-1.5	2.5	3.4	2.1	2.4	2.3	-2.4	-6.3	-7.0	-2.2	-4.4	-5.1
Germany	-4.9	1.6	1.6	0.3	1.2	1.7	5.0	5.8	5.8	-3.2	-5.0	-4.5
France	-2.2	1.7	1.5	0.1	1.3	1.5	-2.0	-1.3	-0.4	-7.8	-7.8	-6.5
Italy	-4.8	0.9	0.8	0.8	1.6	1.6	-3.2	-2.4	-1.4	-5.3	-5.3	-5.5
Spain	-3.6	-0.4	0.3	-0.3	1.3	1.0	-5.8	-4.5	-6.6	-11.4	-10.4	-9.5
Greece	-2.0	-1.3	0.2	1.2	2.9	2.0	-11.2	-8.6	-6.9	-12.8	-9.1	-8.8
Netherlands	-4.0	1.3	1.4	1.2	1.0	1.2	5.6	5.9	6.9	-4.0	-5.9	-4.5
Denmark	-5.0	1.3	1.8	1.3	1.7	1.8	2.2	2.2	2.5	-2.2	-4.6	-3.8
Norway	-1.5	2.6	2.9	2.2	2.0	2.1	14.6	15.5	17.0	7.6	8.7	9.0
Sweden	-4.2	2.6	2.4	-0.3	1.2	2.3	7.1	7.4	8.3	-1.7	-2.0	-1.9
Switzerland	-1.4	1.8	2.0	-0.5	1.0	1.0	8.4	10.6	11.8	0.4	1.1	0.6
United Kingdom	-4.9	1.7	2.3	2.2	3.9	3.0	-1.3	-1.0	0.6	-11.8	-11.1	-7.9
Emerging Markets	**1.0**	**6.3**	**6.0**	**4.5**	**5.6**	**5.9**	**2.6**	**2.1**	**1.5**	**-4.2**	**-3.6**	**-2.9**
China	8.7	9.8	9.0	-0.7	3.7	4.6	5.8	5.4	4.7	-2.2	-2.2	-2.0
Hong Kong	-2.7	4.0	5.0	0.5	1.8	2.0	9.8	9.0	10.0	0.5	-0.5	0.0
India*	7.2	8.4	8.6	3.6	7.5	5.0	-1.5	0.2	0.3	-9.7	-8.5	-8.1
Korea	0.2	4.7	5.0	2.8	3.2	3.1	5.2	1.3	0.9	-2.4	-1.9	-0.1
Singapore	-2.0	6.5	5.2	0.2	1.9	2.0	19.1	15.0	14.8	-2.6	-1.8	2.0
Czech Republic	-4.2	1.4	2.2	1.0	1.9	2.2	-0.8	0.7	0.9	-6.9	-5.8	-5.2
Poland	1.7	2.9	3.6	3.8	2.0	2.4	-1.7	-2.7	-4.1	-6.6	-6.8	-4.6
Romania	-7.2	1.3	2.7	5.6	4.9	3.5	-4.2	-5.5	-6.5	-7.5	-6.0	-5.0
Russia	-7.9	6.2	4.0	11.6	6.7	8.2	3.8	3.9	2.8	-6.5	-4.1	-3.9
Turkey	-5.6	5.4	5.4	6.3	8.6	6.6	-2.2	-4.4	-5.4	-5.5	-5.0	-4.2
Nigeria	6.6	6.5	6.4	12.4	8.8	10.2	6.2	11.7	9.6	-5.6	-3.7	-2.4
South Africa	-1.8	2.5	3.2	7.2	5.8	6.1	-4.3	-5.2	-5.9	-7.8	-6.5	-5.6
Argentina	-3.3	3.1	2.5	14.7	20.3	25.6	3.7	4.0	3.2	-2.4	-1.7	-1.0
Brazil	-0.3	5.9	4.0	4.9	4.7	4.3	-1.5	-2.3	-2.9	-3.0	-2.0	-2.3
Mexico	-6.7	4.0	4.0	5.3	5.0	3.7	-0.5	-0.9	-2.0	-2.3	-2.5	-2.1
Venezuela	-3.3	-1.7	0.5	28.6	31.4	34.1	-0.4	6.3	5.4	-5.8	-3.5	-1.0

Note: *For India, inflation measure is the wholesale price index on fiscal year basis. Source: Citi Investment Research and Analysis

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Citi Investment Research and Analysis.

US 2010 Growth Outlook from our Economists

					2009	2010				2011	
		2009E	2010F	2011F	4QE	1QF	2QF	3QF	4QF	1QF	2QF
GDP	SAAR				5.9%	3.5%	2.0%	3.1%	3.2%	2.1%	2.6%
	YoY	-2.4%	3.2%	2.8%	0.1	2.7	3.4	3.6	2.9	2.6	2.7
Consumption	SAAR				2.0	2.7	2.1	2.7	2.5	1.3	1.9
	YoY	-0.6	2.2	2.2	1.1	1.6	2.4	2.4	2.5	2.1	2.1
Business Investment	SAAR				3.5	3.0	2.6	6.1	7.9	5.6	6.3
	YoY	-17.9	1.7	6.5	-14.5	-2.4	0.7	3.8	4.9	5.5	6.5
Housing Investment	SAAR				5.1	1.7	10.8	22.2	20.0	9.4	8.8
	YoY	-20.4	7.8	12.5	-12.3	-0.6	8.9	9.7	13.4	15.5	14.9
Government	SAAR				-1.3	2.8	2.0	-0.7	0.3	0.2	0.2
	YoY	1.8	1.5	0.2	1.3	2.7	1.5	0.7	1.1	0.4	0.0
Exports	SAAR				22.5	8.6	4.8	6.1	6.5	6.5	7.1
	YoY	-9.6	10.1	6.7	-0.8	10.7	13.2	10.3	6.5	6.0	6.5
Imports	SAAR				15.4	8.9	5.0	5.0	6.0	4.2	4.2
	YoY	-13.9	8.4	4.9	-6.6	6.8	12.5	8.5	6.2	5.0	4.8
CPI	YoY	-0.3	2.2	1.4	1.5	2.6	2.5	2.0	1.6	1.4	1.3
Core CPI	YoY	1.7	1.3	1.3	1.7	1.5	1.3	1.3	1.2	1.3	1.3
Unemployment Rate	%	9.3	9.6	9.4	10.0	9.7	9.7	9.6	9.4	9.4	9.4
Gov't Balance (Fiscal Year)	% of GDP	-10.0	-10.0	-8.0							
Assumed WTI Spot Price	US$	62.2	83.8	87.1	76.1	75.2	74.4	76.3	77.5	78.8	79.7
Current Account	US$bn	-426	-523	-607	-462	-484	-513	-533	-562	-578	-596
	% of GDP	-3.0	-3.5	-4.0	-3.2	-3.3	-3.5	-3.6	-3.7	-3.8	-3.9
S&P 500 Profits (US$ Per Share)	YoY	1.3	22.2	9.2	212.1	44.6	17.9	16.5	15.0	8.9	10.8

Notes: F Citi forecast. E Citi estimate. YoY Year-to-year percent change. SAAR Seasonally adjusted annual rate

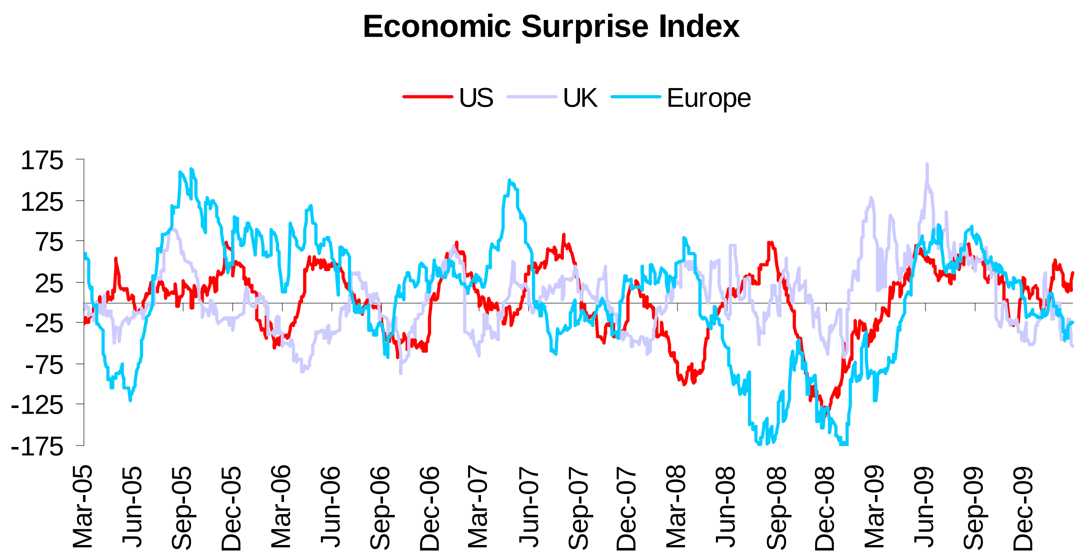
Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Citi Investment Research and Analysis.

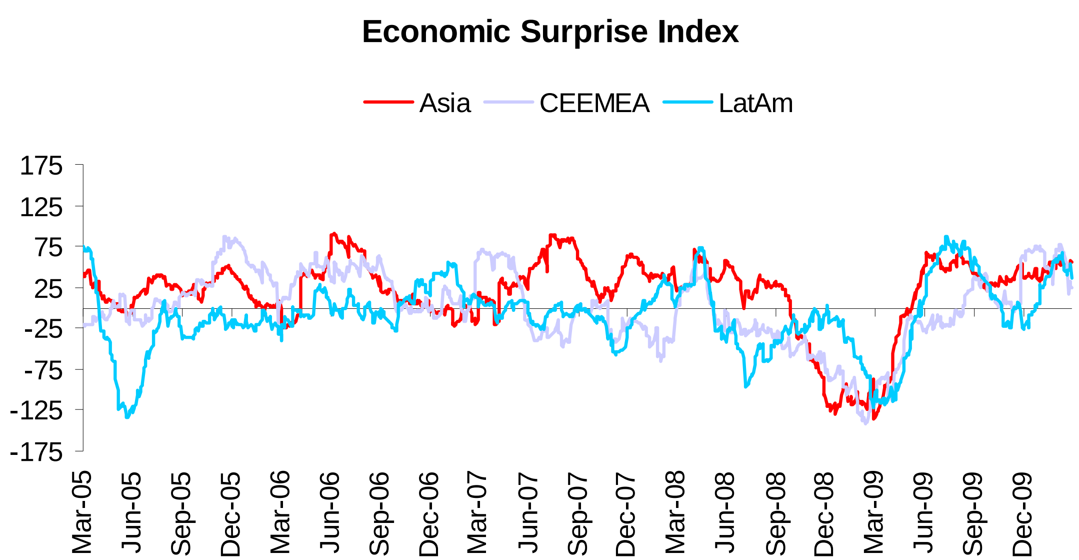
European 2010 Growth Outlook from our Economists

					2009	2010				2011	
		2009	2010F	2011F	4QF	1QF	2QF	3QF	4QF	1QF	2QF
Real GDP	YoY	-3.9%	1.1%	1.3%	-2.1%	0.6%	1.2%	1.2%	1.4%	1.4%	1.2%
	SAAR				0.4	1.0	1.8	1.6	1.3	0.7	1.2
Final Domestic Demand	YoY	-2.5	0.1	1.4	-1.8	-0.7	-0.2	0.3	1.0	1.3	1.3
Private Consumption	YoY	-0.9	0.1	1.2	-0.6	-0.3	-0.2	0.2	0.6	1.0	1.1
Government Consumption	YoY	2.3	1.4	0.7	1.9	1.6	1.4	1.2	1.4	1.1	0.8
Fixed Investment	YoY	-10.9	-1.2	2.6	-8.9	-4.2	-1.7	-0.5	1.9	2.6	2.4
— Business Equipment	YoY	-15.5	0.5	2.4	-12.4	-2.7	0.5	1.1	3.1	2.5	2.3
— Construction	YoY	-6.3	-3.9	0.5	-5.2	-5.9	-4.5	-3.4	-1.6	0.4	0.1
Stocks (Contrib. to Y/Y GDP Growth)		-0.5	0.6	0.0	-0.4	0.5	1.1	0.7	0.3	0.1	0.0
Exports	YoY	-13.5	5.2	4.8	-6.0	3.9	6.9	4.9	5.1	4.9	4.5
Imports	YoY	-11.2	4.9	5.3	-6.1	2.4	7.0	5.1	5.2	5.4	5.2
CPI	YoY	0.3	1.4	1.6	0.4	1.0	1.4	1.6	1.6	1.6	1.7
Core CPI	YoY	1.4	0.9	1.1	1.1	0.8	0.9	1.0	0.9	1.0	1.1
CPI Ex Energy and Food	YoY	1.3	0.9	1.2	1.0	0.7	1.0	1.0	1.0	1.1	1.3
Unemployment Rate	YoY	9.4	10.6	10.4	10.0	10.4	10.6	10.7	10.7	10.6	10.4
Current Account Balance	EUR bn	-28.8	38.0	52.1							
	% of GDP	-0.3	0.4	0.6							
General Government Balance	EUR bn	-560.3	-610.1	-457.2							
	% of GDP	-6.3	-6.7	-4.9							
General Government Debt	EUR bn	7041.2	7656.3	8108.5							
Public Debt	% of GDP	79.4	84.5	86.8							
Gross Operating Surplus	YoY	-9.0	5.0	5.5							

Source: Citi Investment Research and Analysis.

Economic Surprise Indices In US + EM Positive vs Negative in UK and EU

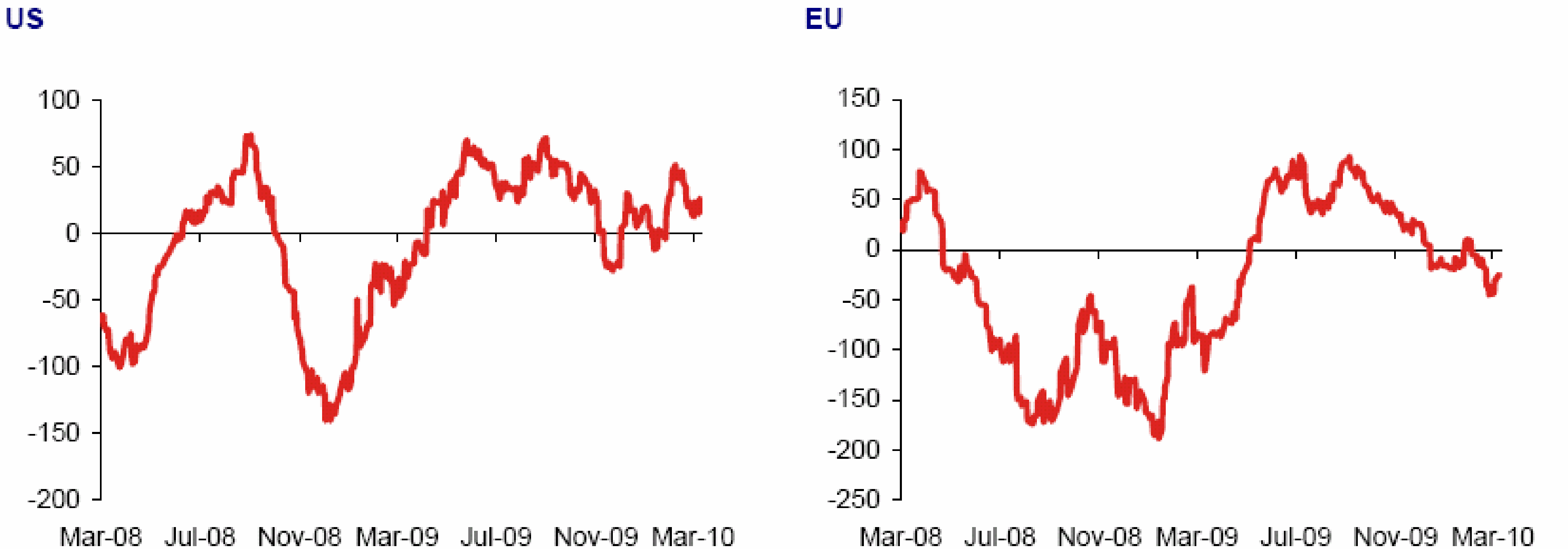




Sources: Bloomberg, Citi.

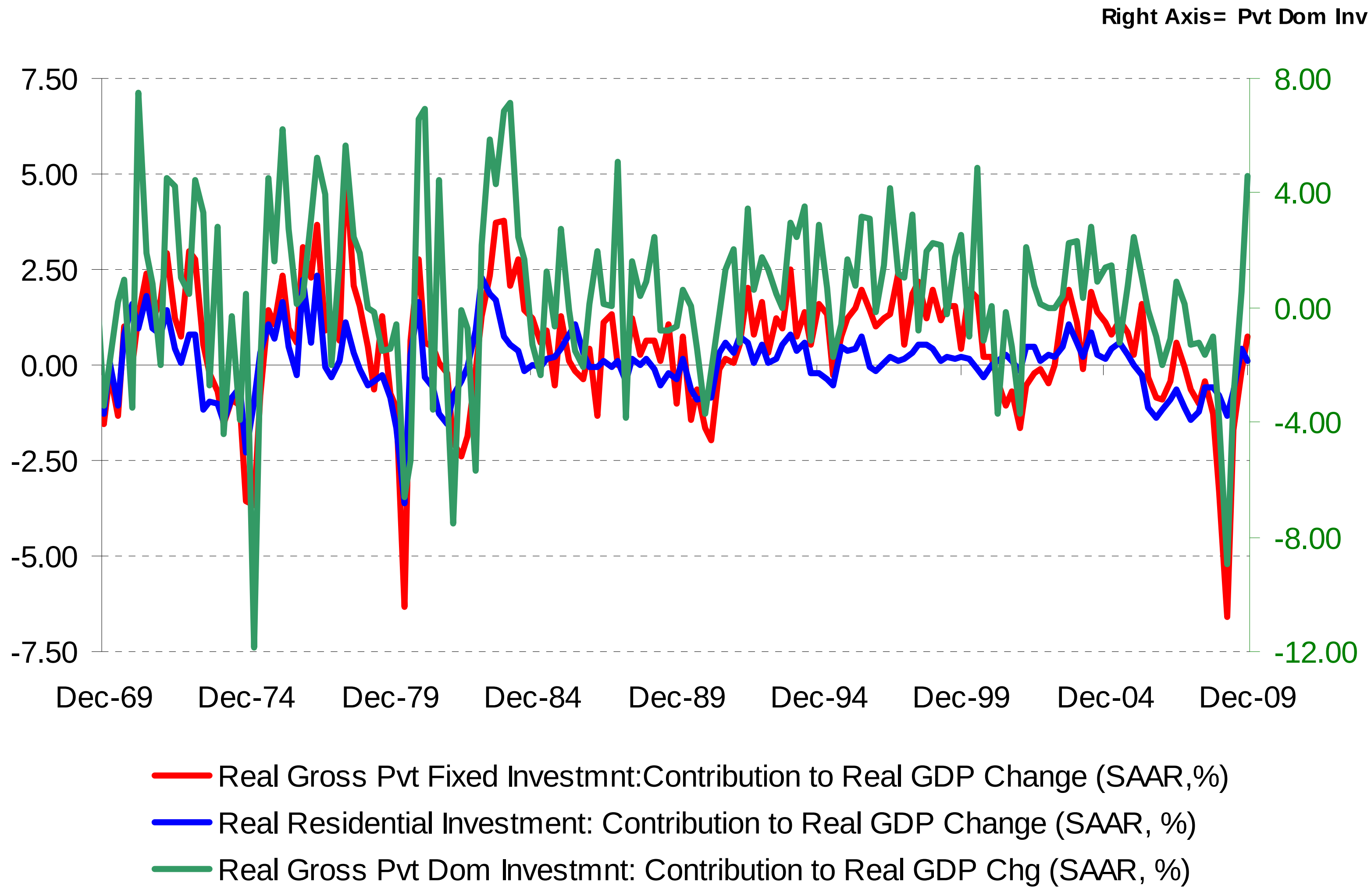
A further breakdown of economic surprise indexes

Economic Surprise Indices



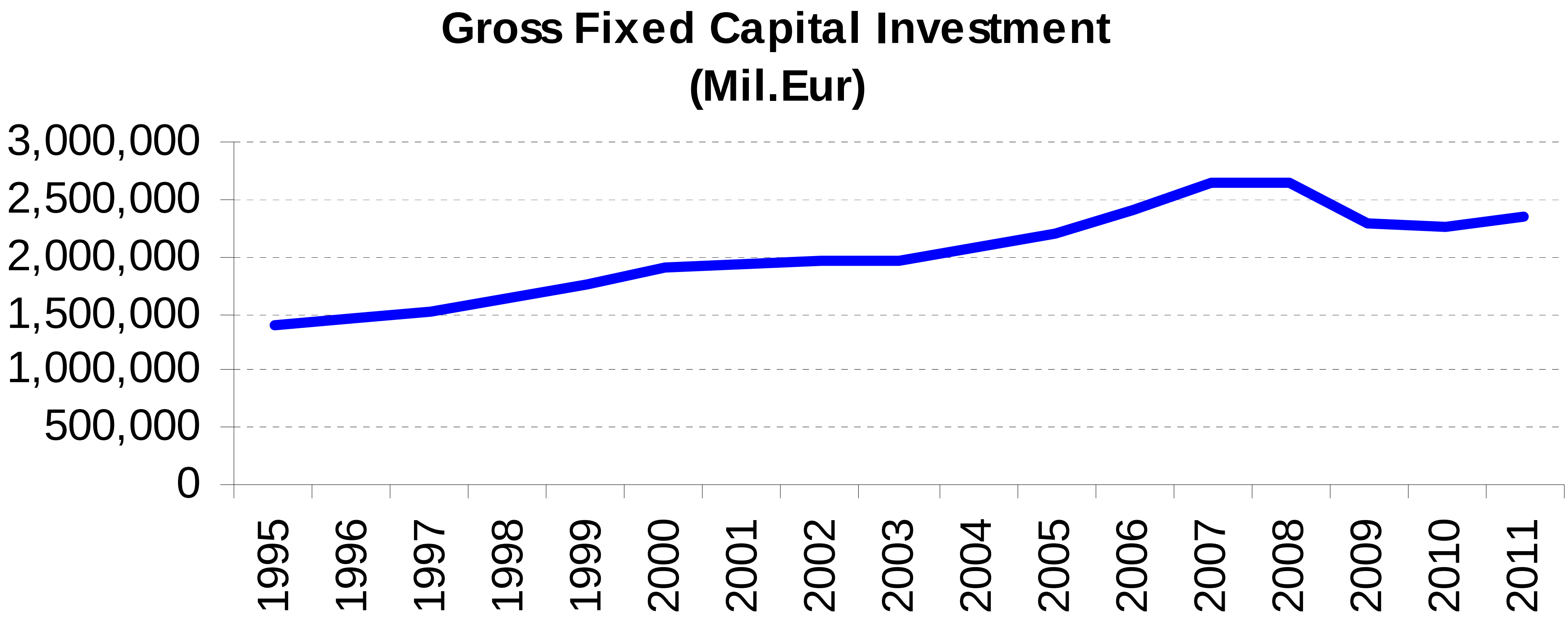
Sources: Bloomberg, Citi.

Bounce Back in Private Fixed Investment Approaching Norms but Government Investment Unprecedented



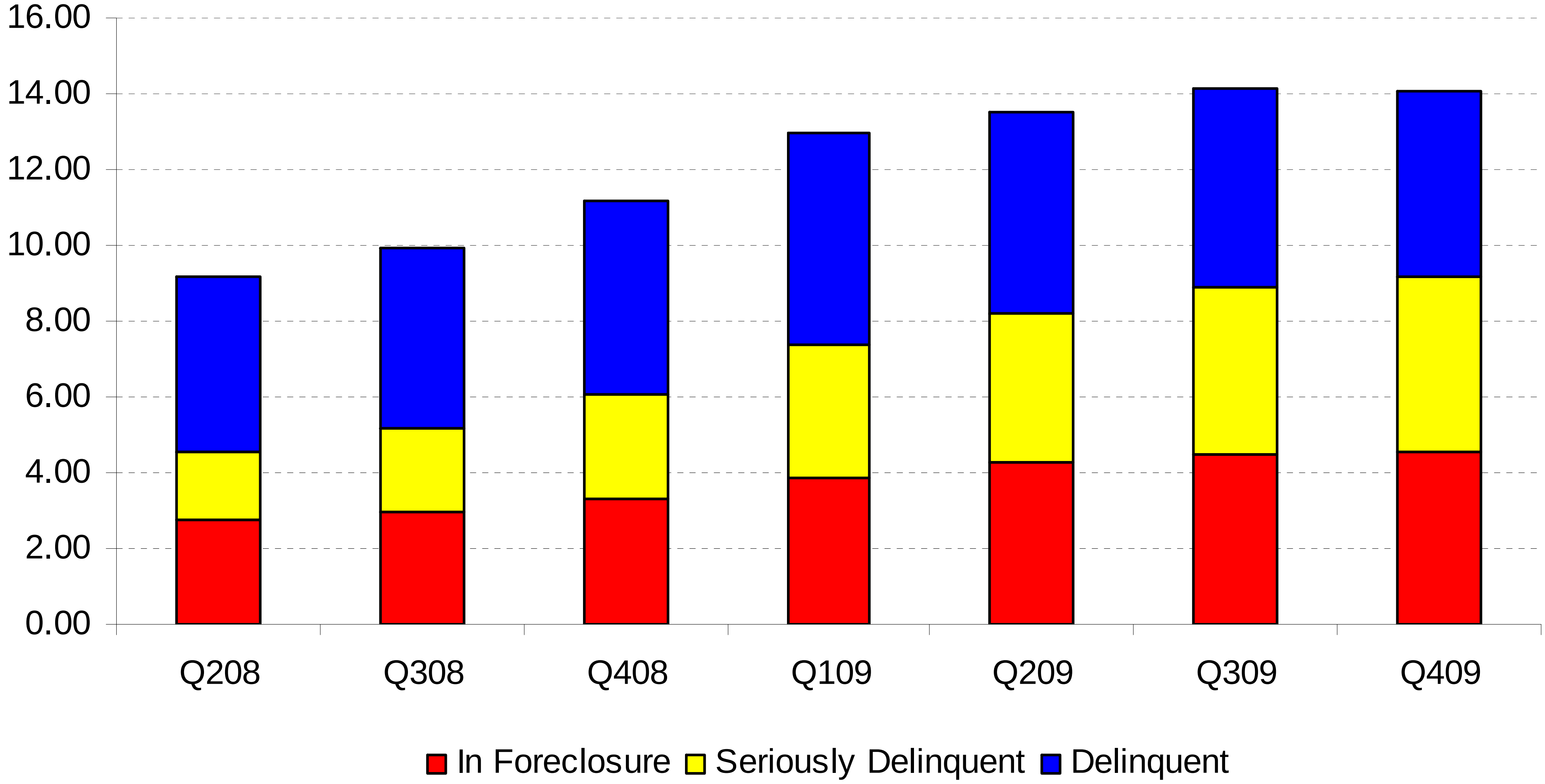
Source: Bureau of Economic Analysis/Haver Analytics

Euro Area Fixed Investment Approaching Norms



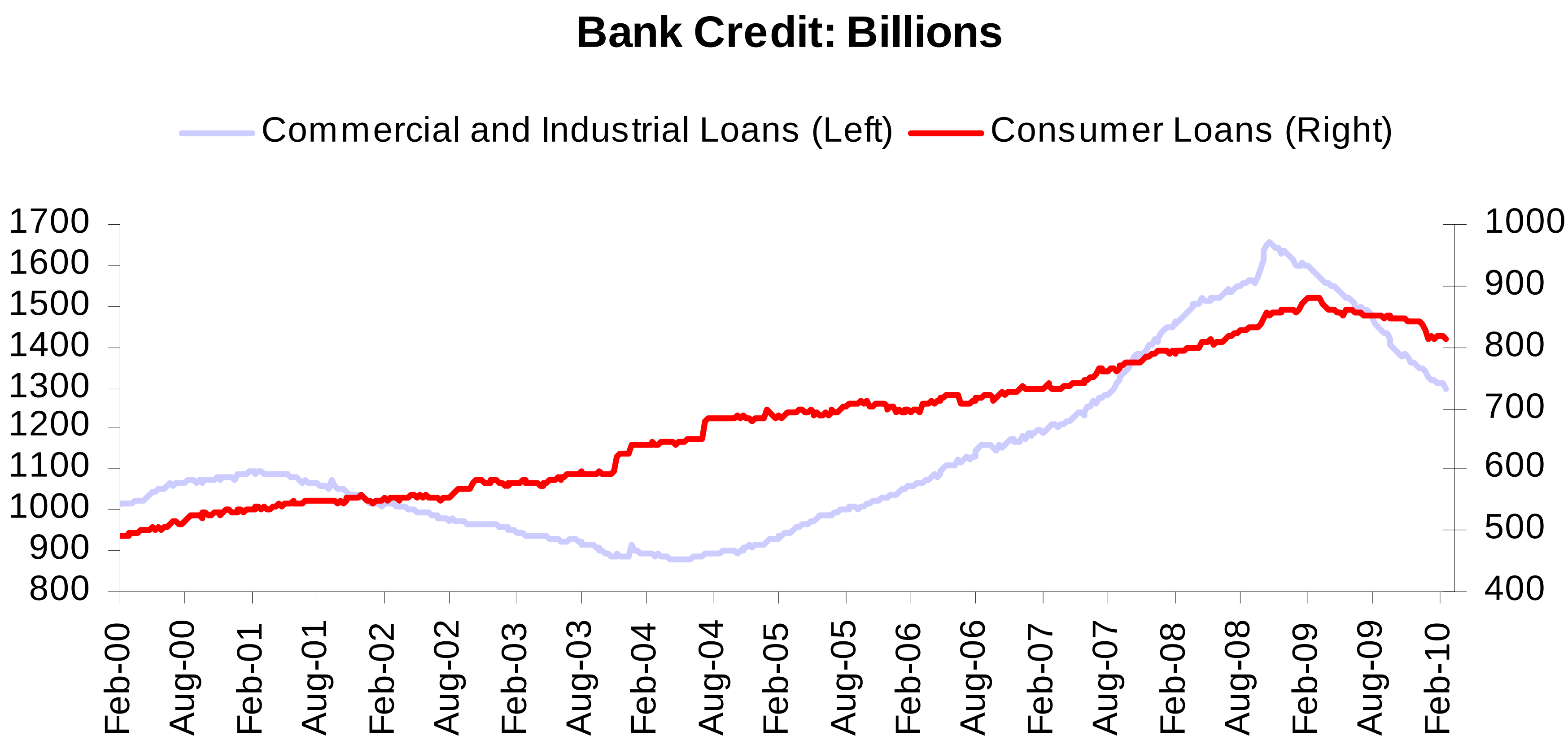
Source: EuroStats/Haver Analytics

Could Deterioration in Housing be Damping—but is this a Fiscal Illusion



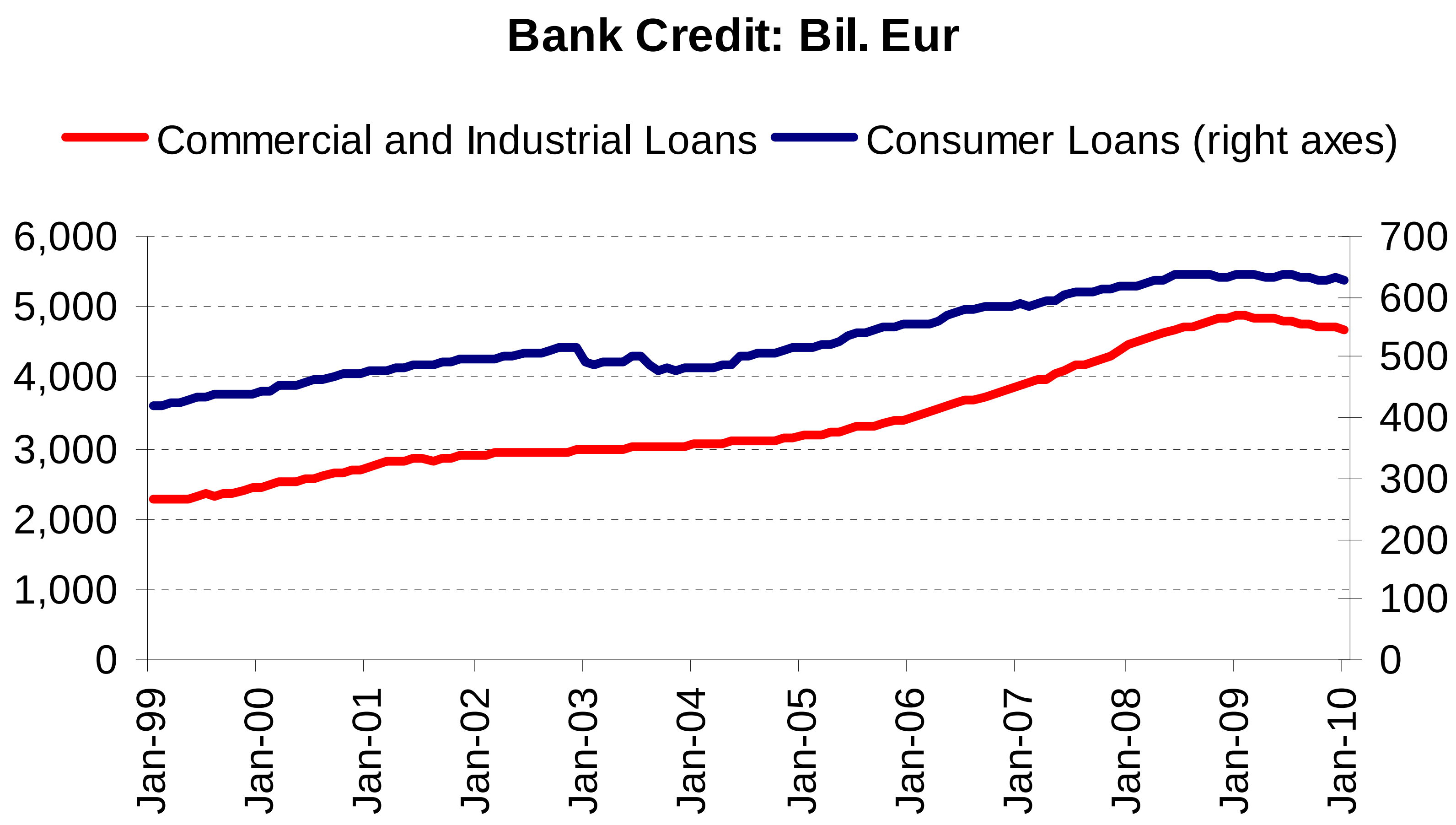
Source: Mortgage Bankers Associaton

Bank Loans (especially commercial and industrial loans) Falling



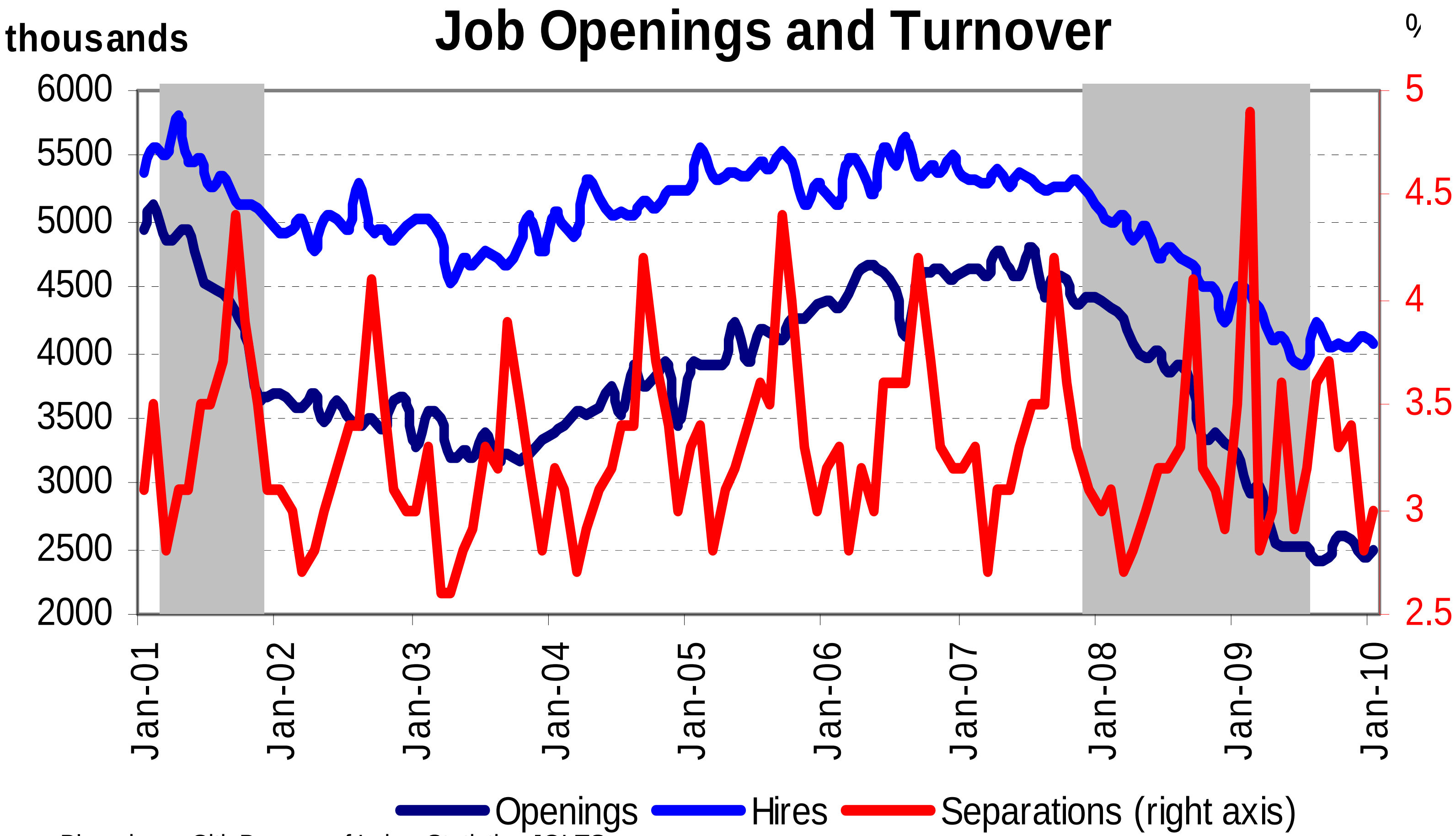
Source: Federal Reserve, Citi

Euro Area Bank Loans Flat



Source: ECB, Citi

The road back to employment may not be very fast

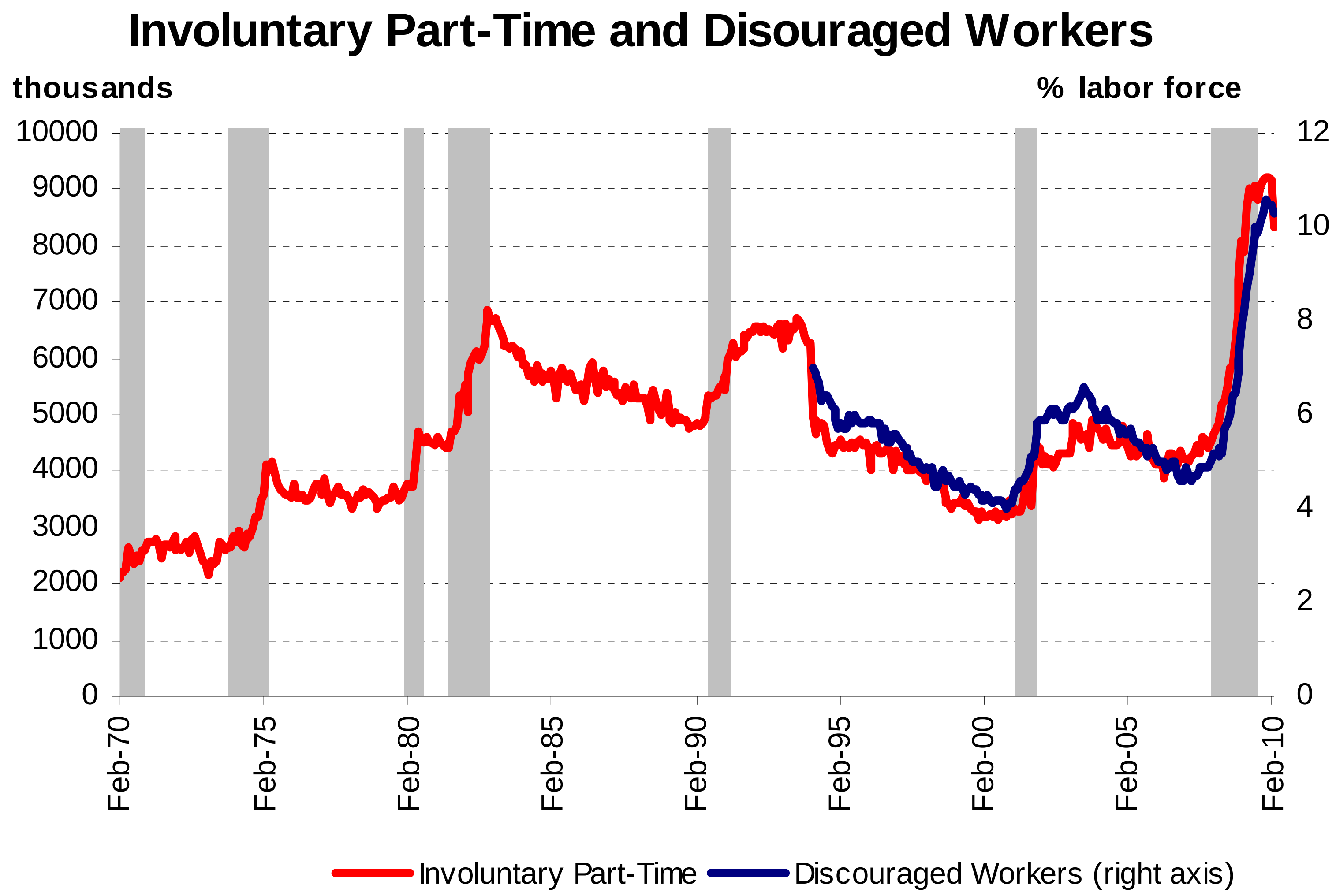


Source: Bloomberg, Citi, Bureau of Labor Statistics JOLTS

- Hires and openings are flat--but future direction unclear as demand not returning that fast and corporations facing an uncertain environment

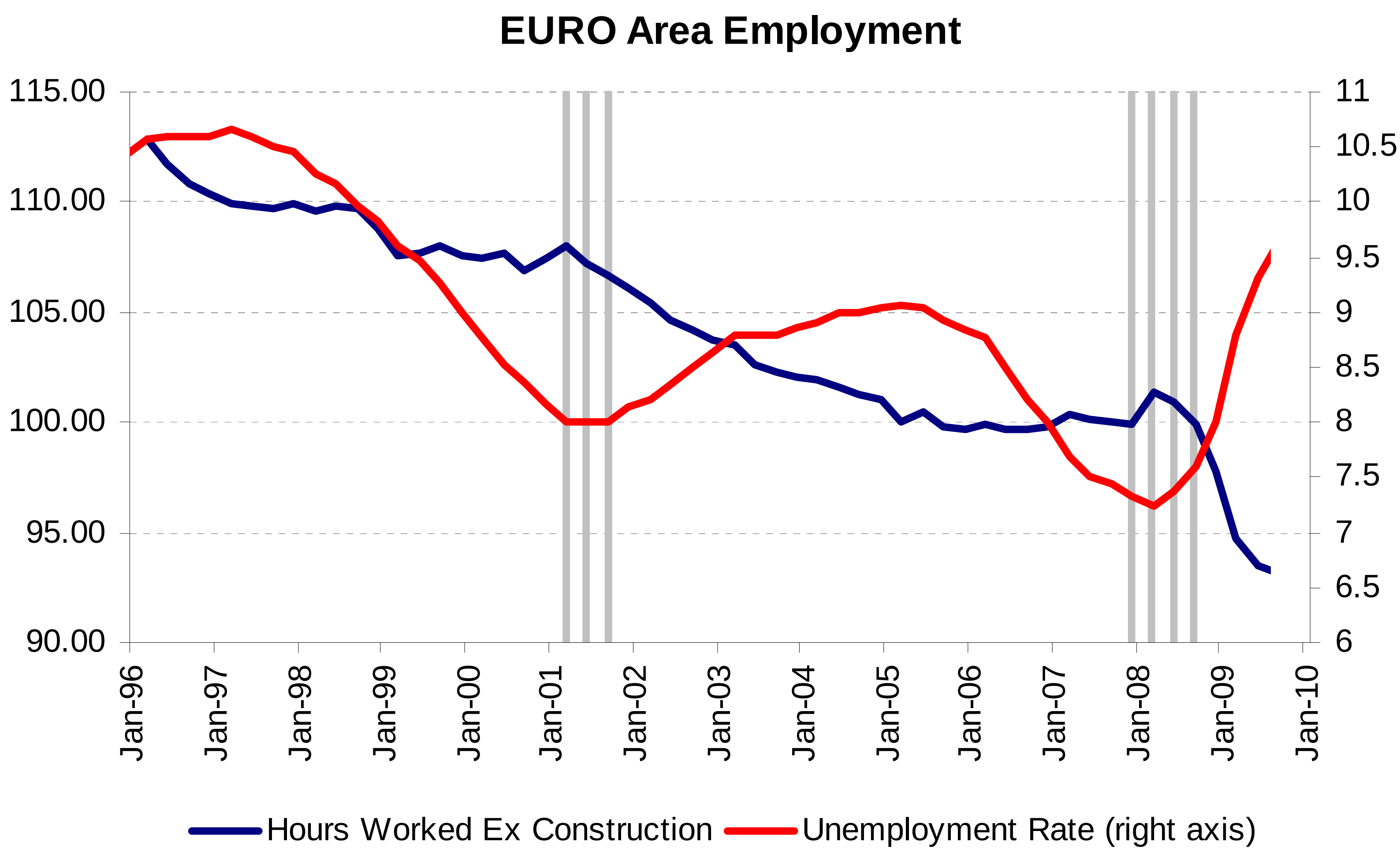
- Separations saw a slight up tick highlights a serious problem for the 15 million unemployed people in the US and in the speed of “re-employment”

Total of Unemployed and Discouraged Workers now number 17 million and labor force participation dropping—where will structural unemployment be?



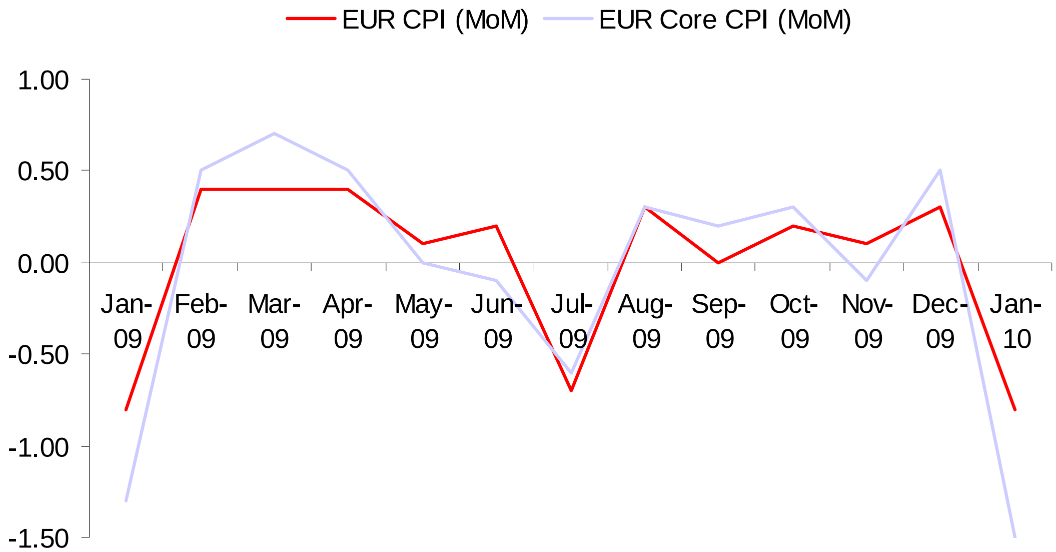
Source: Federal Reserve, Citi

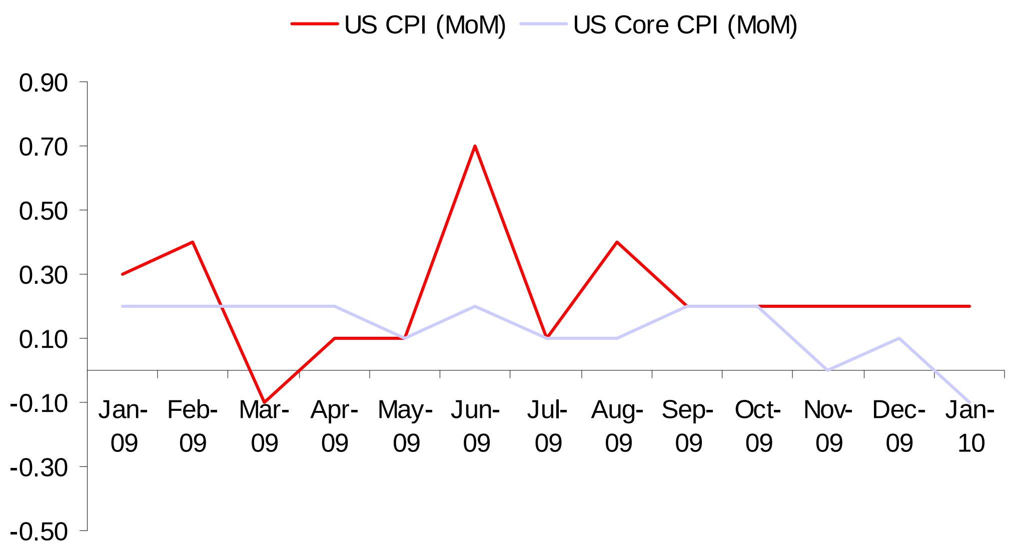
Euro area employment outlook bleak- no break in unemployment rate in the horizon



Source: Federal Reserve, Citi

CPI for US and EUR—Cores Weaker in Euroland



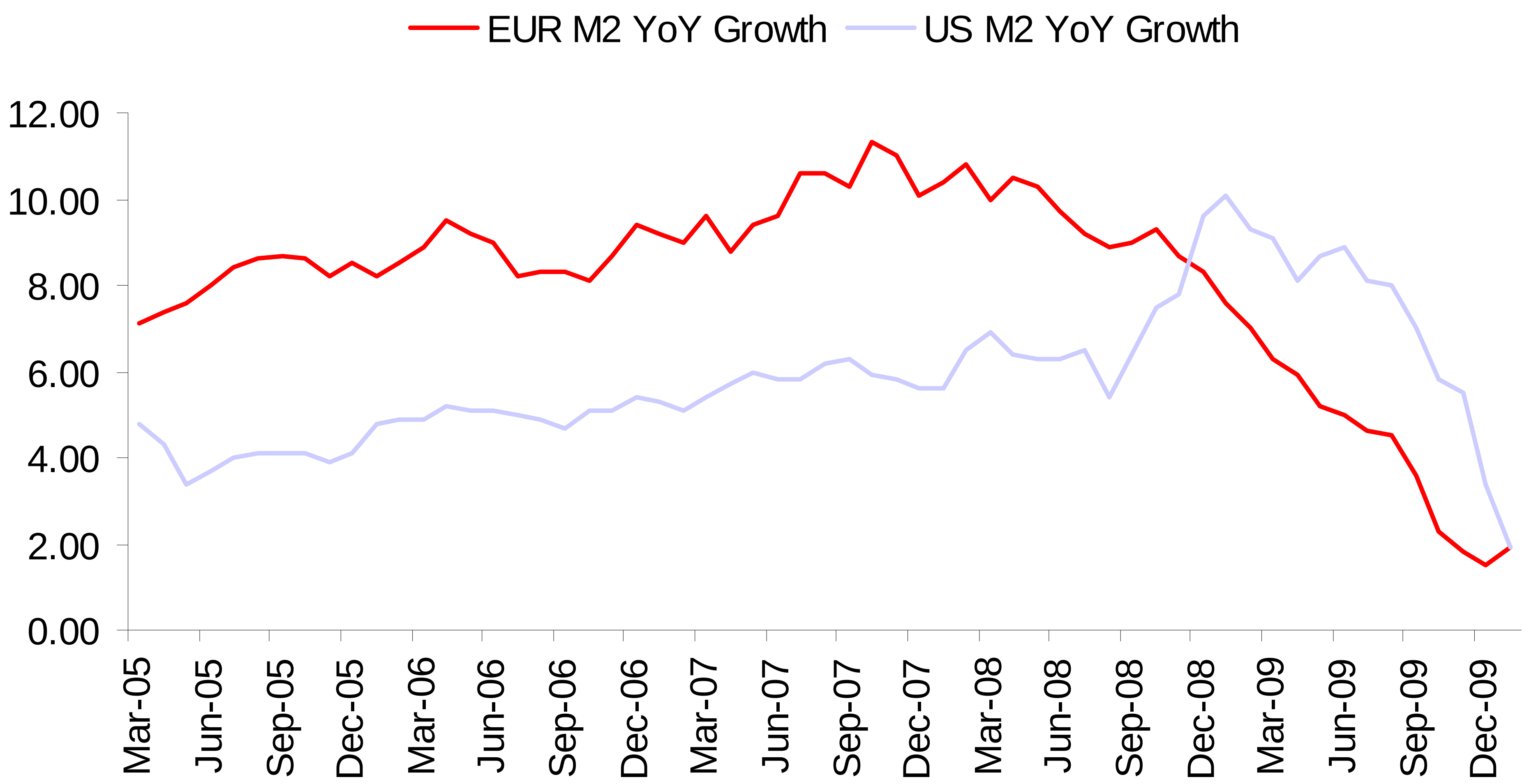


Sources: Bloomberg, Citi.

- Euro-Zone Core CPI Negative in Last 6 Mo’s, <1% in the Last 12 Mo’s

- US Core CPI Positive 0.5 in Last 6 Mo’s, 1.5% in last 12 Mo’s

European & US M2 YoY Growth



Sources: Bloomberg, Citi.

Fiscal sustainability requires US growth of about 4% and tough policies in the next 5 years and SACRIFICE

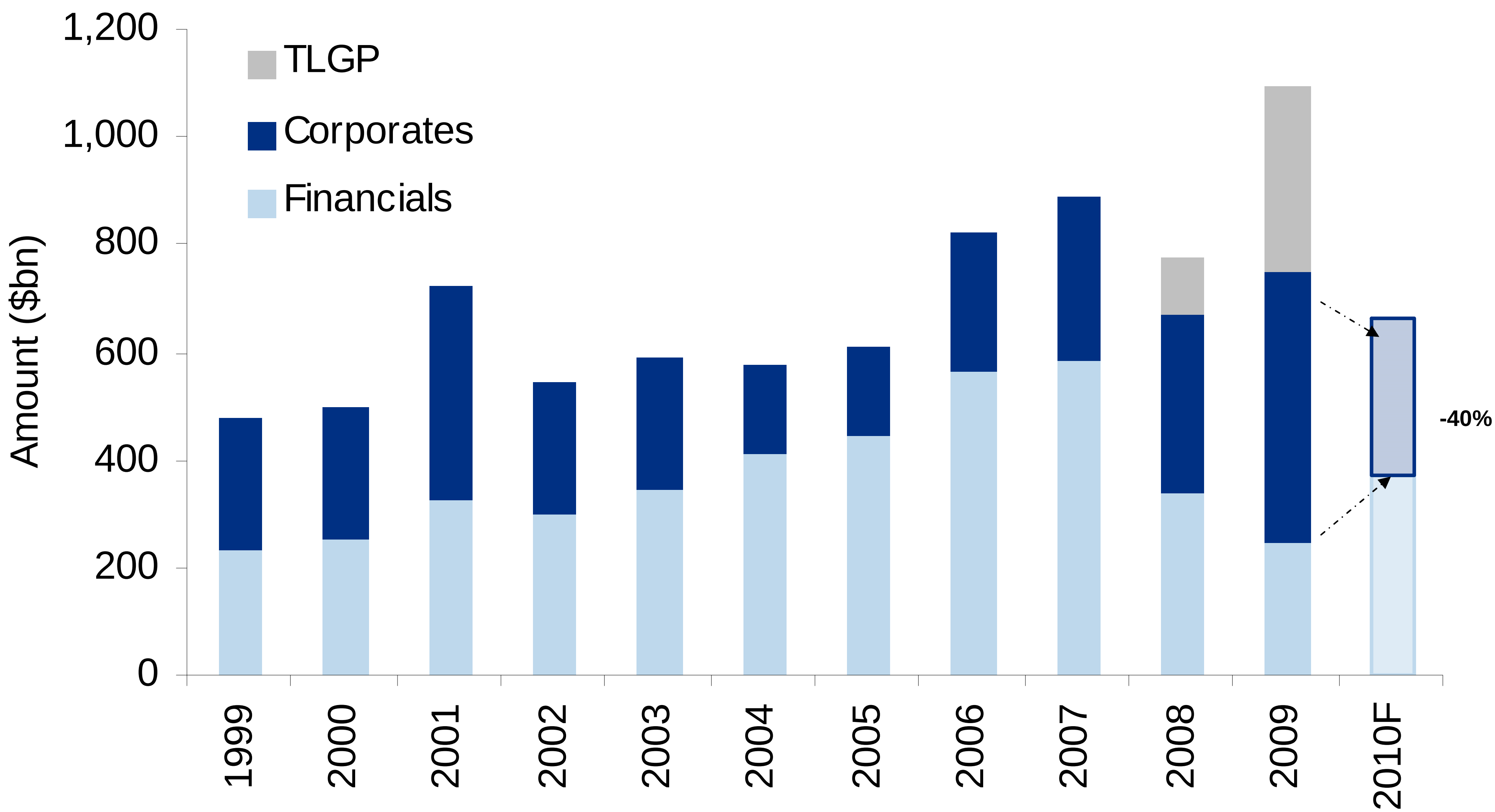
(Billions of Dollars)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CBO Baseline Budget Deficit	-1414	-1349	-980	-650	-539	-475	-480	-521	-525	-542	-649	-687
Extending 2001 and 2003 Tax cuts		-3	-115	-216	-243	-257	-269	-277	-285	-293	-302	311
Less Expire Tax Cuts for Households >250K			15	27	31	34	37	40	43	47	50	54
Extend Other Tax Cuts*		-45	-145	-202	-204	-204	-200	-199	-198	-201	-205	-211
Cancel Medicare Physician Fee Cuts		-8	-14	-18	-25	-31	-38	-46	-51	-55	-60	
AMT indexed for inflation		-7	-69	-31	-35	-39	-44	-50	-58	-66	-77	-88
Reduce Troops-Iraq and Afghanistan-30K by 2013		-4	2	32	68	92	105	114	118	121	124	126
Reduce Troops-Iraq and Afghanistan-30K by 2015		-8	-20	-21	3	36	65	85	95	100	103	106
Debt Service			-4	-14	-34	-58	-79	-104	-128	-155	-184	-215
Adjusted Deficit	-1414	-1424	-1330	-1093	-978	-902	-903	-958	-989	-1044	-1200	-604
GDP	14236	14464	14724	15298	16048	16738	17240	17688	18113	18493	18919	19335
Adjustments Deficit as a Percentage of GDP	-9.9%	-9.8%	-9.0%	-7.1%	-6.1%	-5.4%	-5.2%	-5.4%	-5.5%	-5.6%	-6.3%	-3.1%
CBO's Deficit as a Percentage of GDP	-9.9%	-9.3%	-6.7%	-4.2%	-3.4%	-2.8%	-2.8%	-2.9%	-2.9%	-2.9%	-3.4%	-3.6%

*Making Works Pay, American Opportunity, Unemplotyment Benefits Exclusion

Source: CBO Budget and Economic Outlook for FY 2010-2020, FY 2011 Budget of the US Government, Center on Budget and Policy Priorities

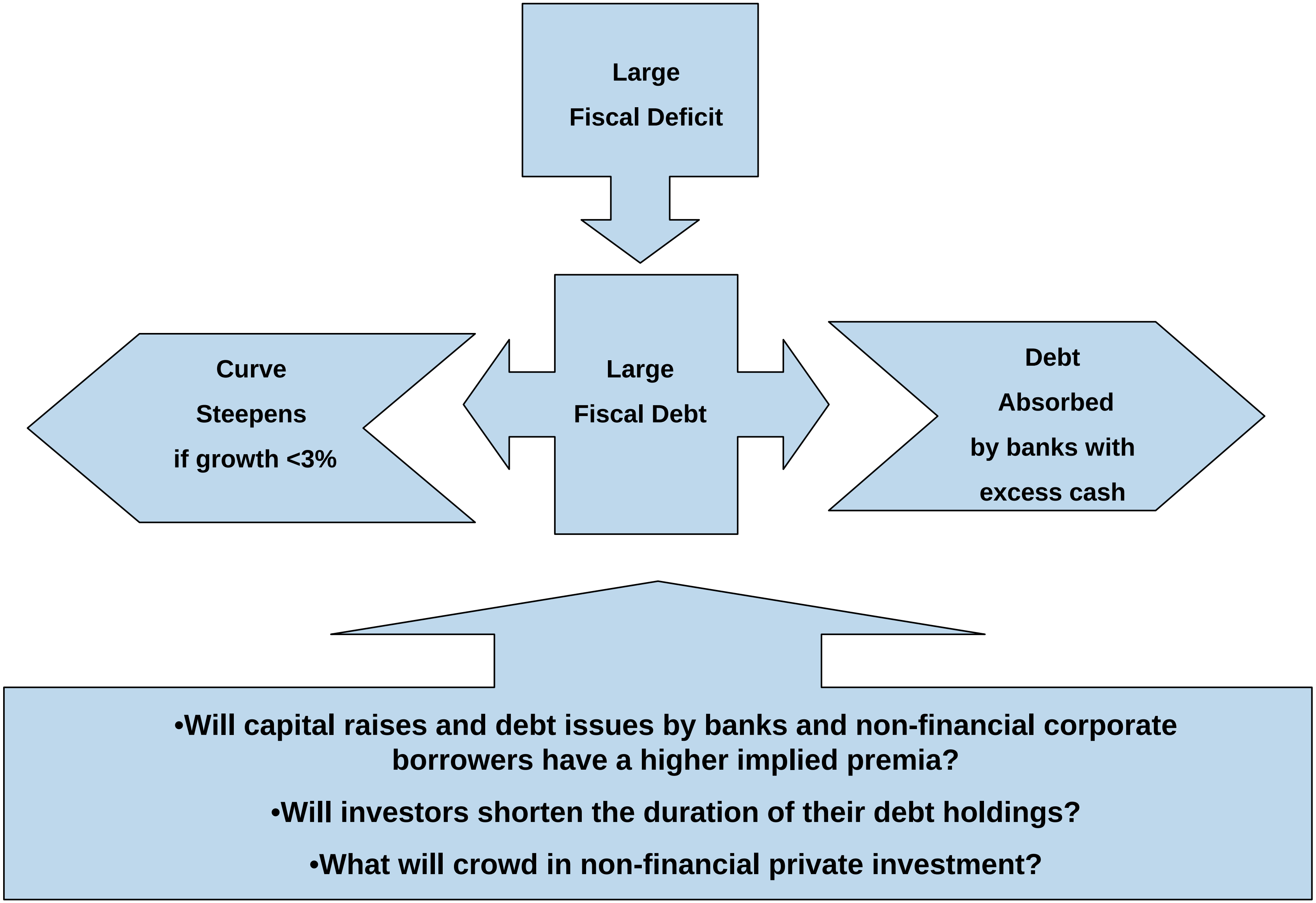
- In light of current proposed legislation in the Presidents budget one sees $1.4 trn in deficits in 2009 and 2010, with over $ 1 trillion in 2011-12 with ~900bn after 2011
- The projections above require US economic growth on the order of 4 percent to get a snap back in the fiscal deficit and this will require crowding in private investment and “real” increases in employment
- Banks at moment will be increasingly happy to hold shorter term government debt given a steep yield curve between fed funds and 2 and 5 year rates of about 100 and over 200 bps respectively.
- Cash positions of many forms of investors very large—so near term pressure on long end even if supply is large not clear.

Corporate Issuance is expected to decline by 40% in 2010 but corporate cash positions strong



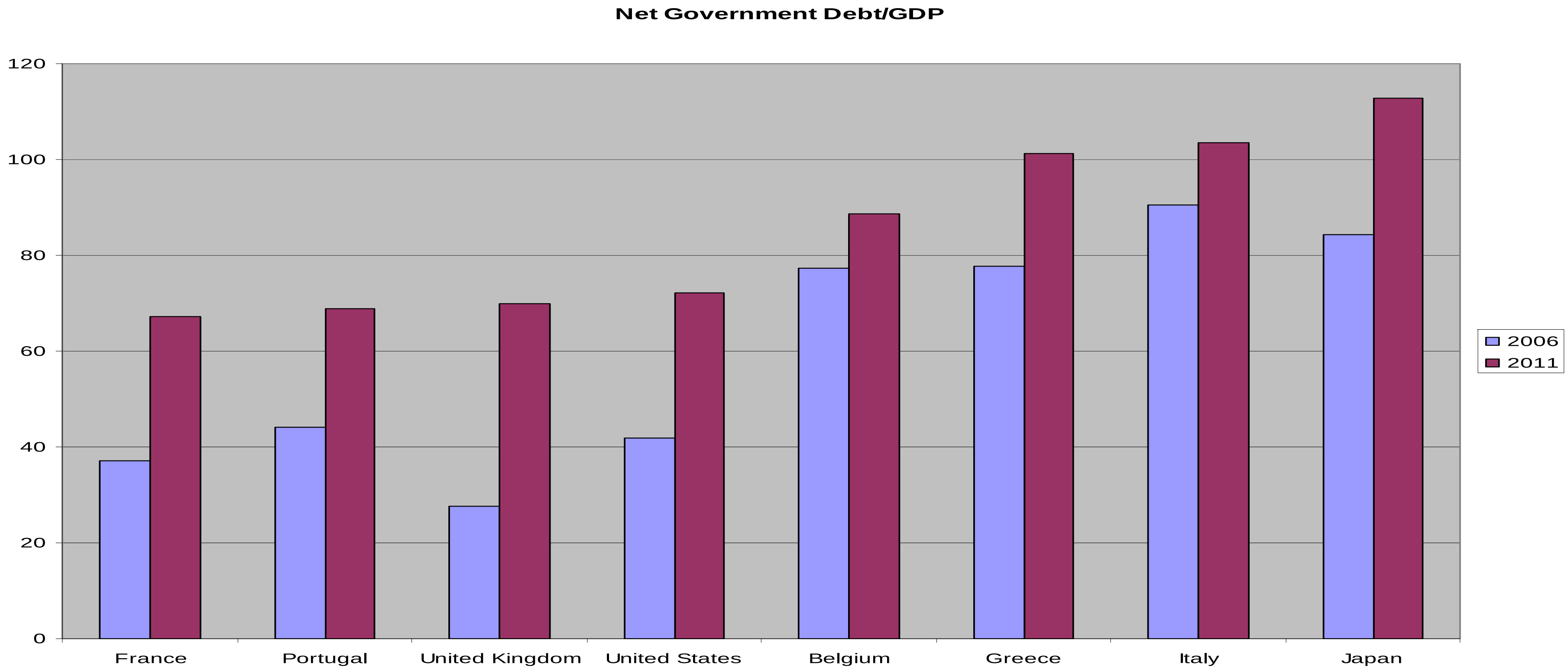
Source: Citi Investment Research

Fiscal Budget and Government Debt and Future Growth



Euro-Zone and US Debt and Credit Concerns

A Shadow over sustained growth—rising government debt and the PIGs...

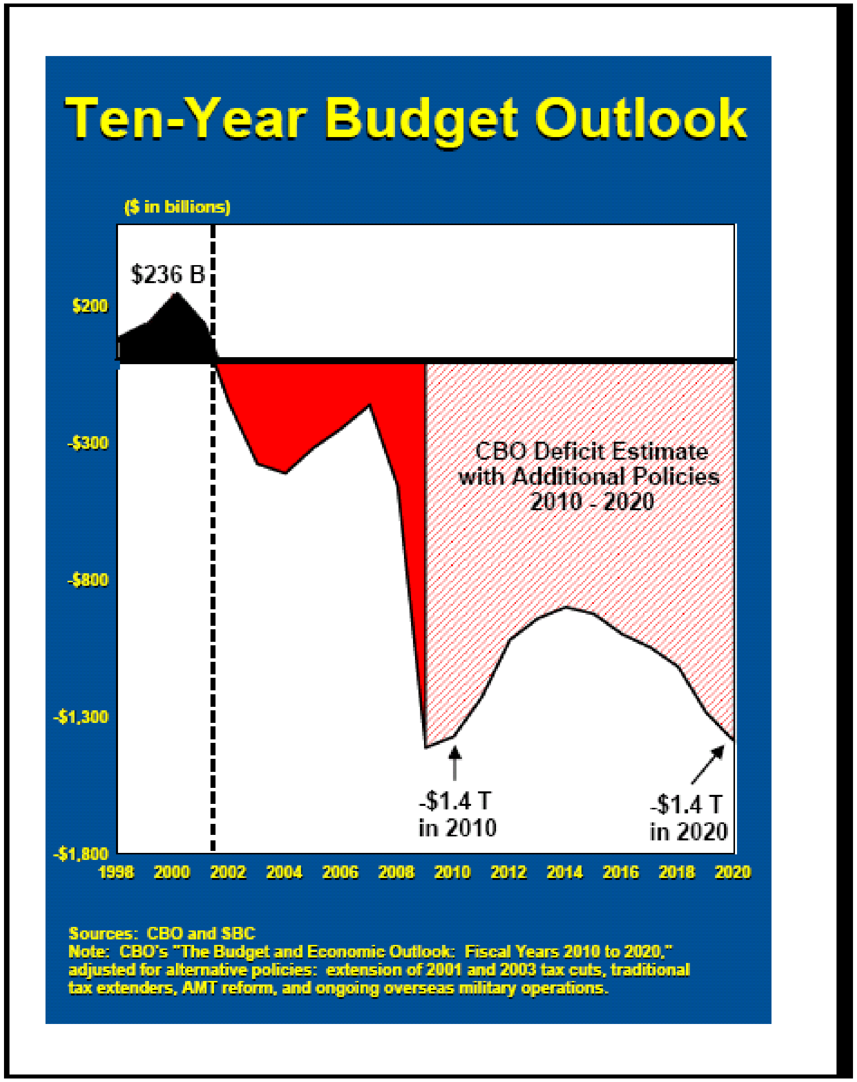


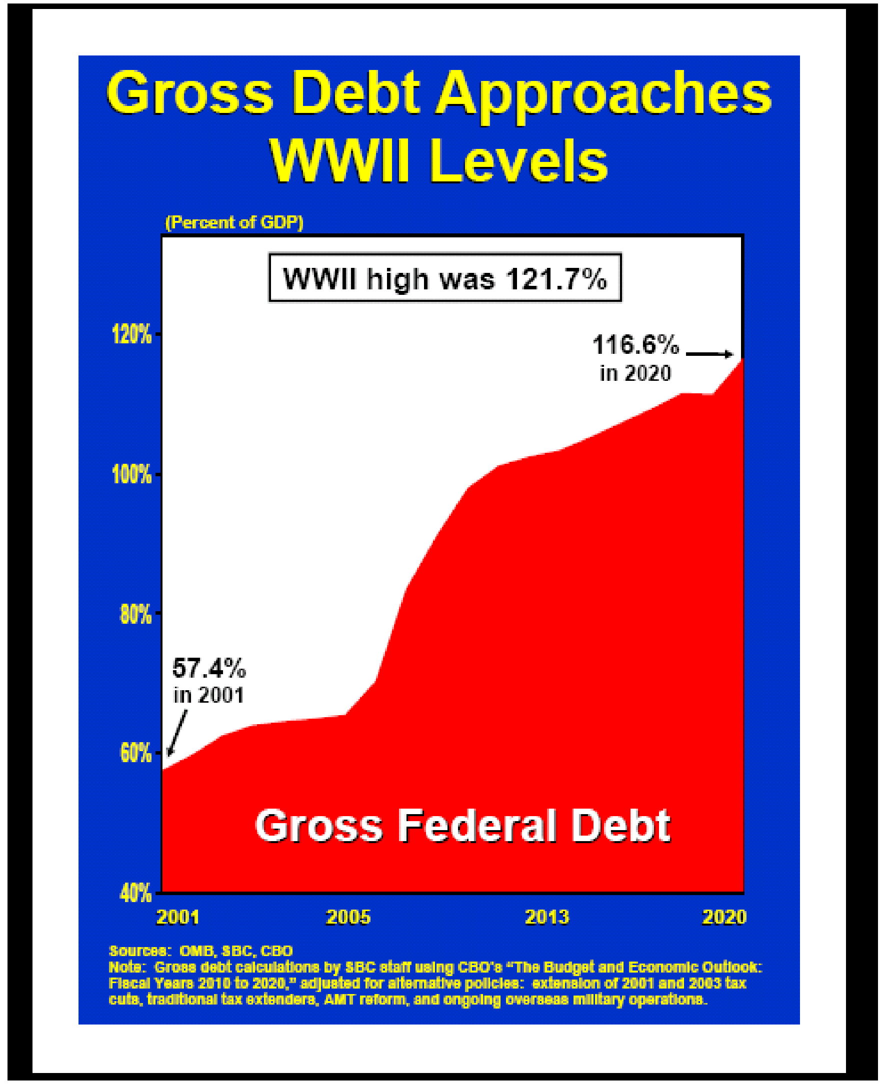
Sources: Bloomberg, Citi.

•The Maastricht Treaty sets a limit of 60%
•A ratio of 100% is a clear danger zone

Even fiscally conservative countries have reached the lower level and are headed toward the second level of risk

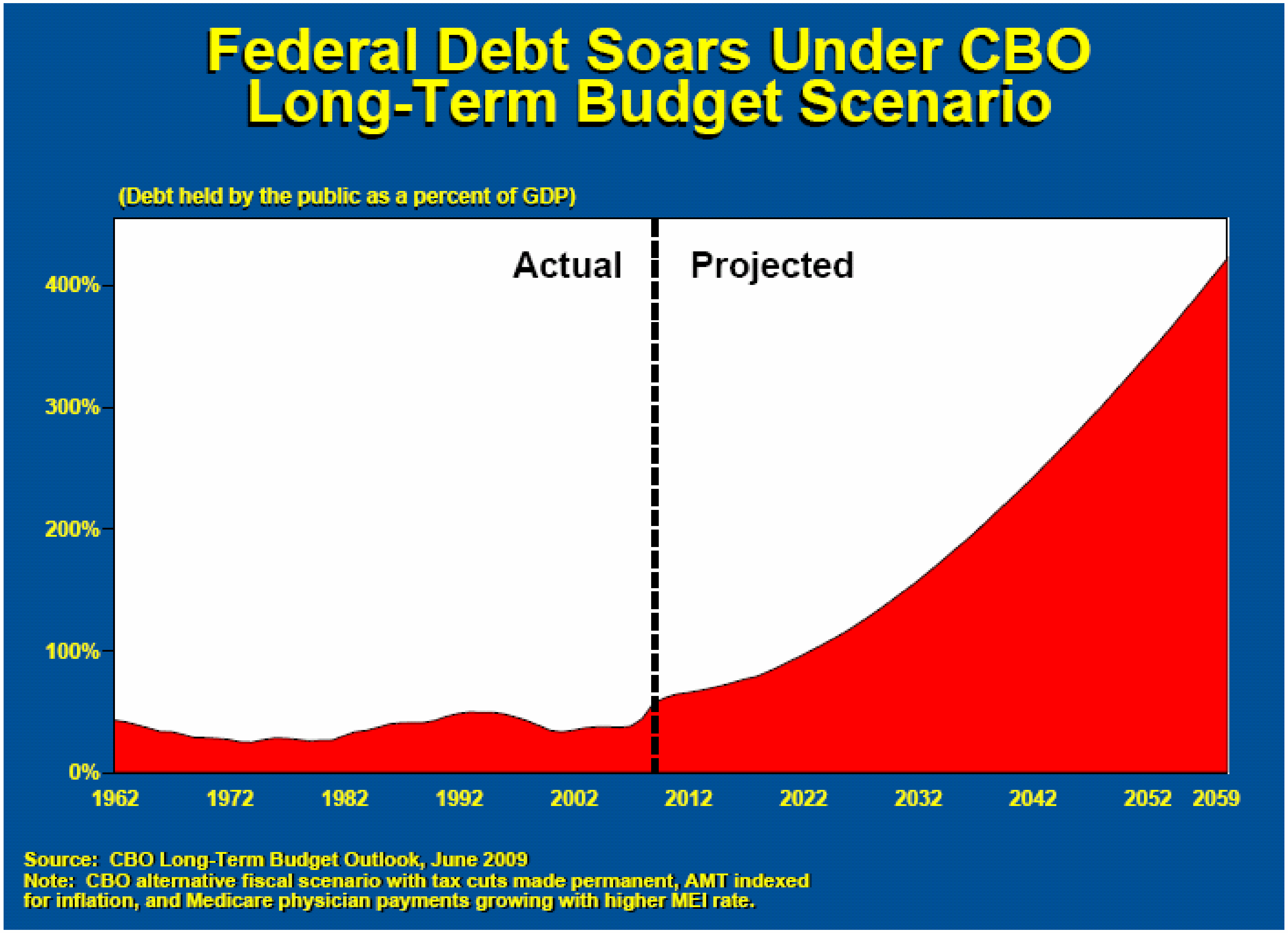
Concerns about US debt and the reserve currency status of the dollar can be overstated but adjustment is needed





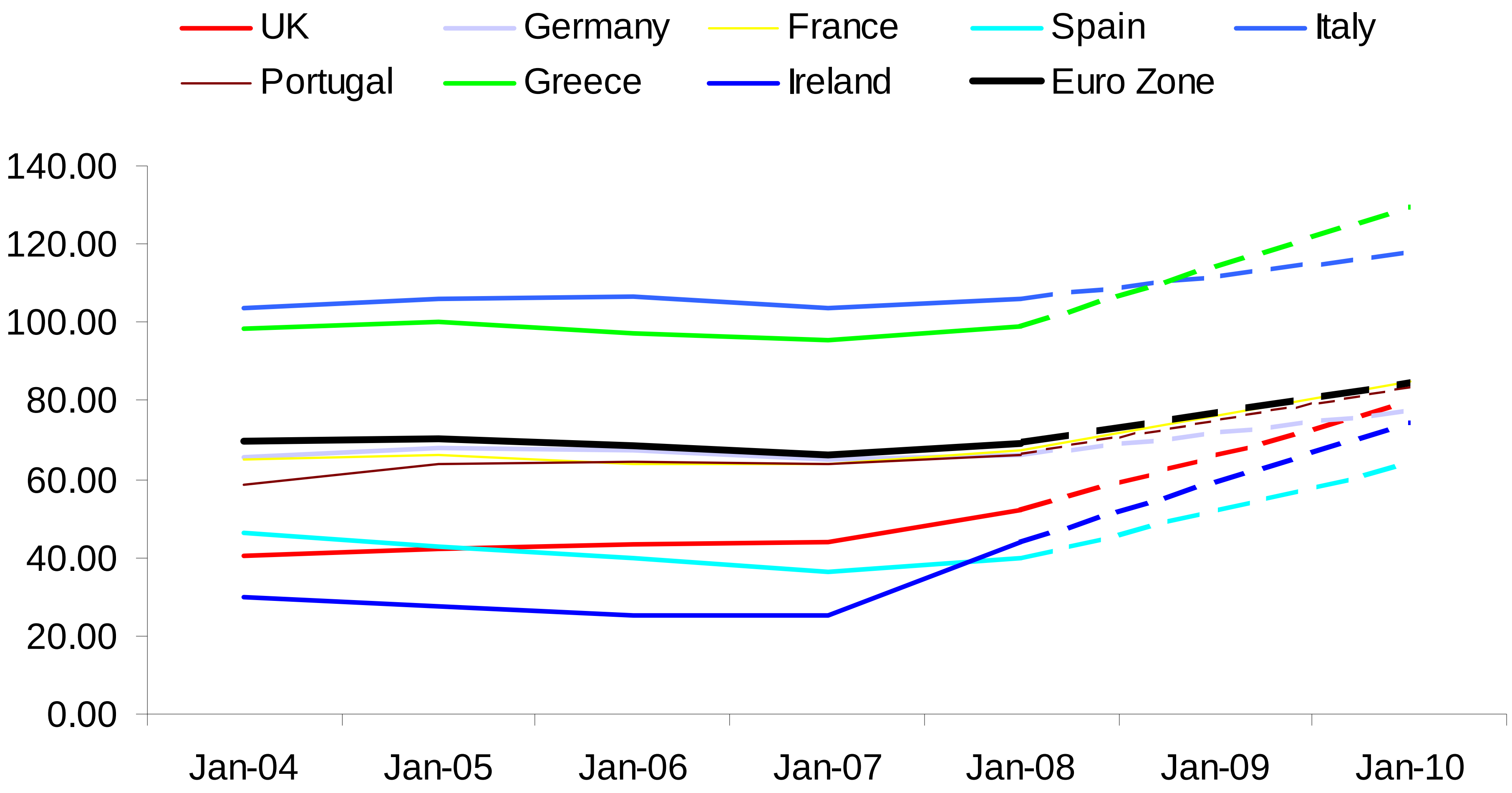
Source: CBO Outlook 2009

Under a do nothing scenario Federal Debt can become explosive



Source: CBO Outlook 2009

Historical and Projected (dotted) Debt as % of GDP



Sources: Bloomberg, Citi.

Credit Concerns in European Periphery Countries

Public Debt Service Burdens in Euro-zone Periphery Countries Nontrivial

Current financial situation in Euro-zone Periphery

	Spain	Italy	Greece	Portugal	Ireland
Current account deficit (2009) *(avg. of 4 quarters through 09:Q3)*	-6.1	-3.5	-11.9	-10.1	-3.0
Budget deficit (2009) *(% of GDP)*	-11.4	-5.4	-12.7	-9.3	-11.6
Public debt (2009) *(% of GDP)*	55.2	113.9	113.4	76.6	64.5
Public debt service in 2010* *(% of GDP)*	4.7	14.1	11.6	2.5	6.2

* Includes long-term debt redemptions and interest payments

Source: National Treasury Offices, Eurostat, GS calculations

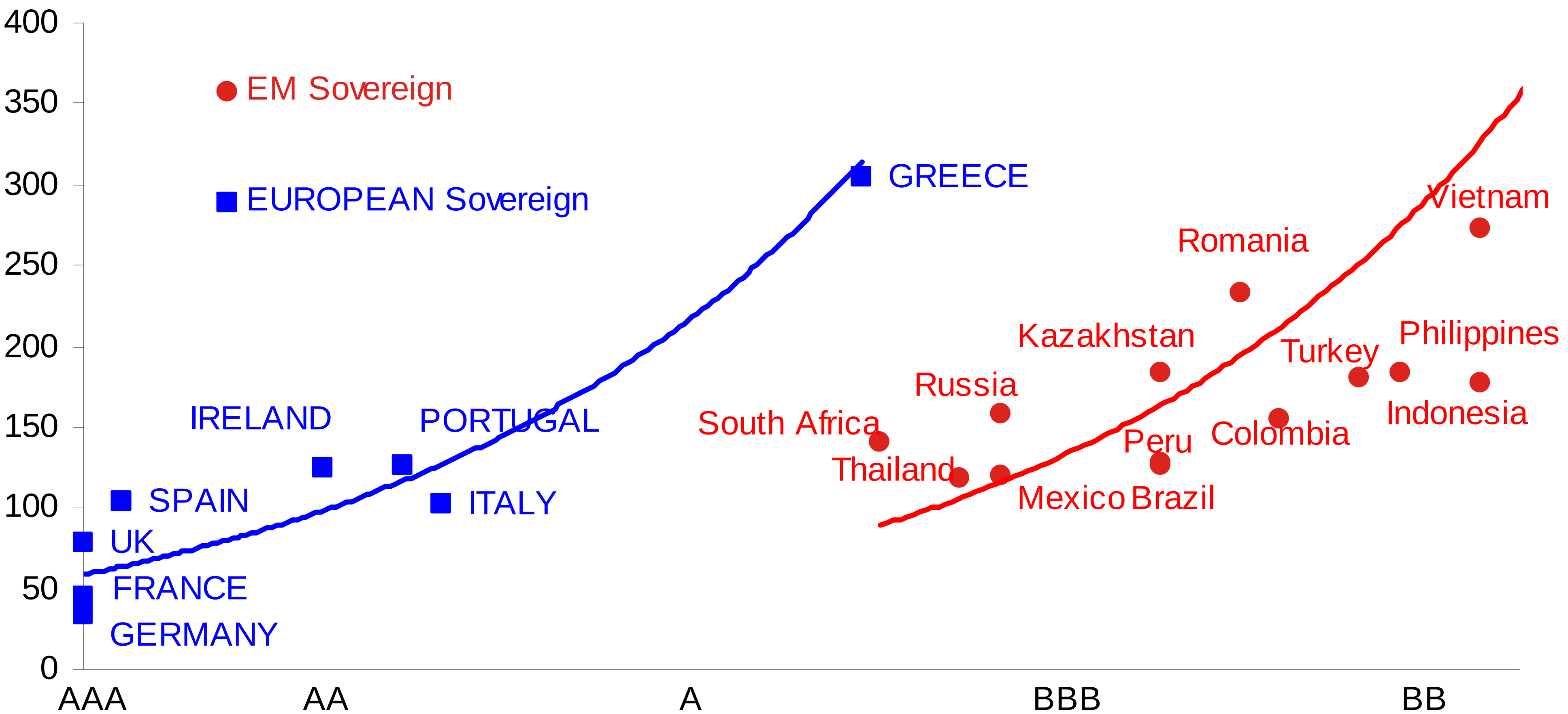
Currently, Sovereign CDS most Correlated to Current Account and Debt as % of GDP

		2010 Forecasts (as % of GDP)				
	Sovereign CDS	Debt	Current Account	Fiscal Deficit	Reserves	Historical Time in Default %*
Greece	293	129.5	-8.6	-9.1	0.02	50.6
Spain	94	63.7	-4.5	-10.4	0.89	23.7
Italy	92	117.6	-2.4	-5.3	1.67	3.4
United Kingdom	68	79.6	-1.0	-11.1	1.71	0
France	36	84.9	-1.3	-7.8	0.96	0
Germany	26	77.3	5.8	-5.0	1.17	13.0

*Share of years in default/reschedualing since independence or 1800; source: This Time its Different, table 6.6; Reinhart & Rogoff

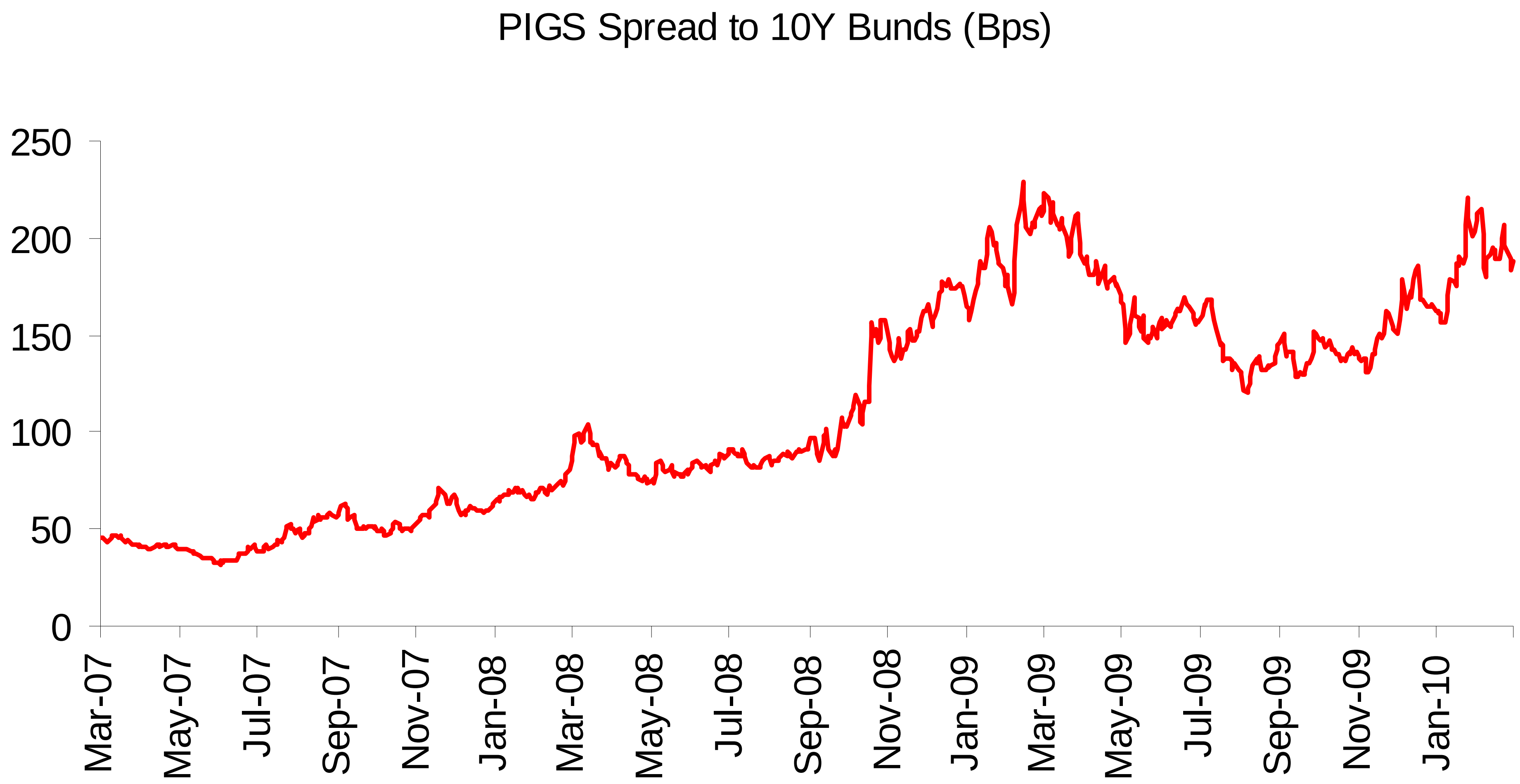
Sources: Bloomberg, Citi.

European Sovereign Spreads As Wide as Good Credit EM Spreads



Sources: Bloomberg, Citi.

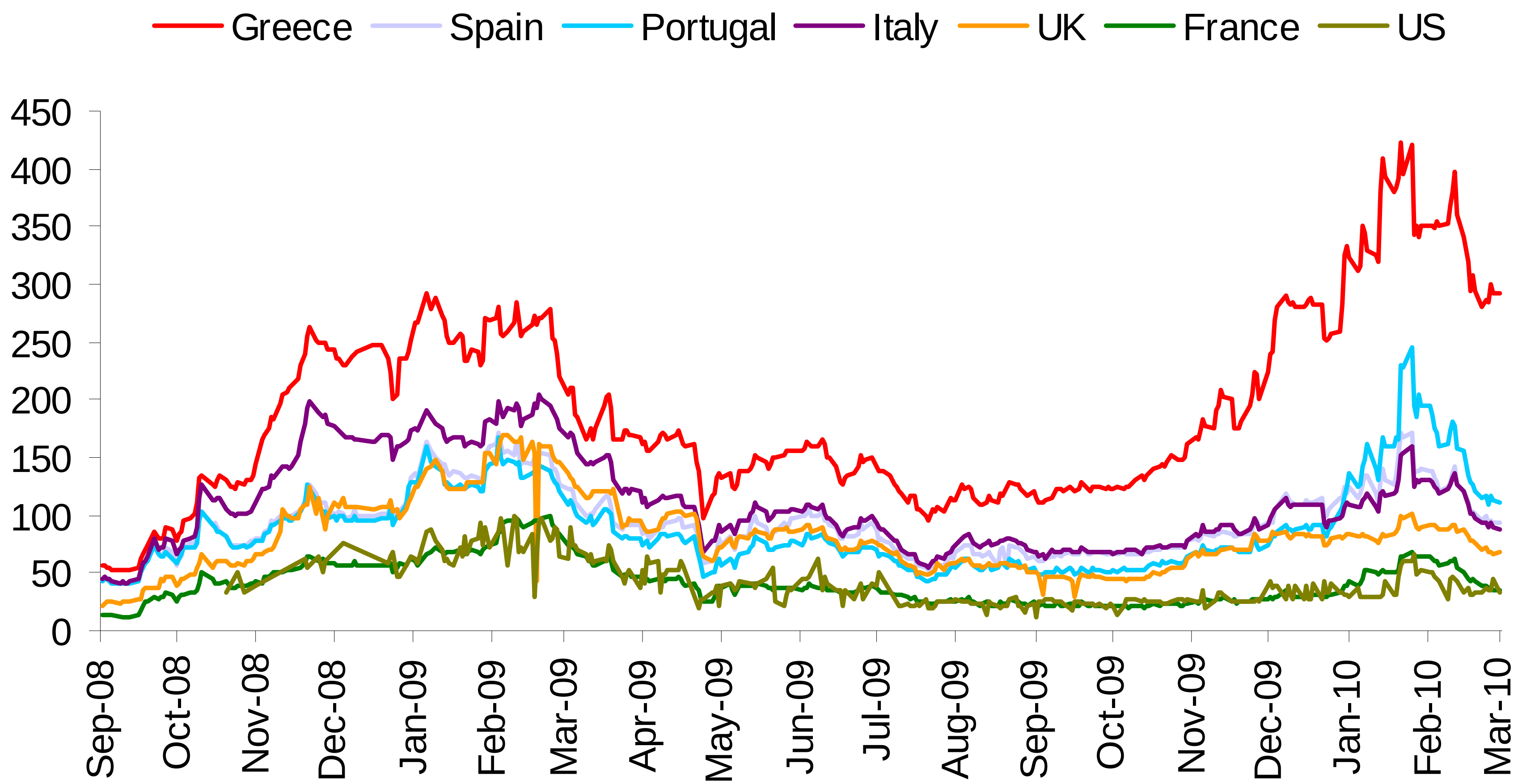
10Y PIGS- Bund Spread Coming Off Recent Highs—New Debt Issue 300bps above swaps



Sources: Bloomberg, Citi.

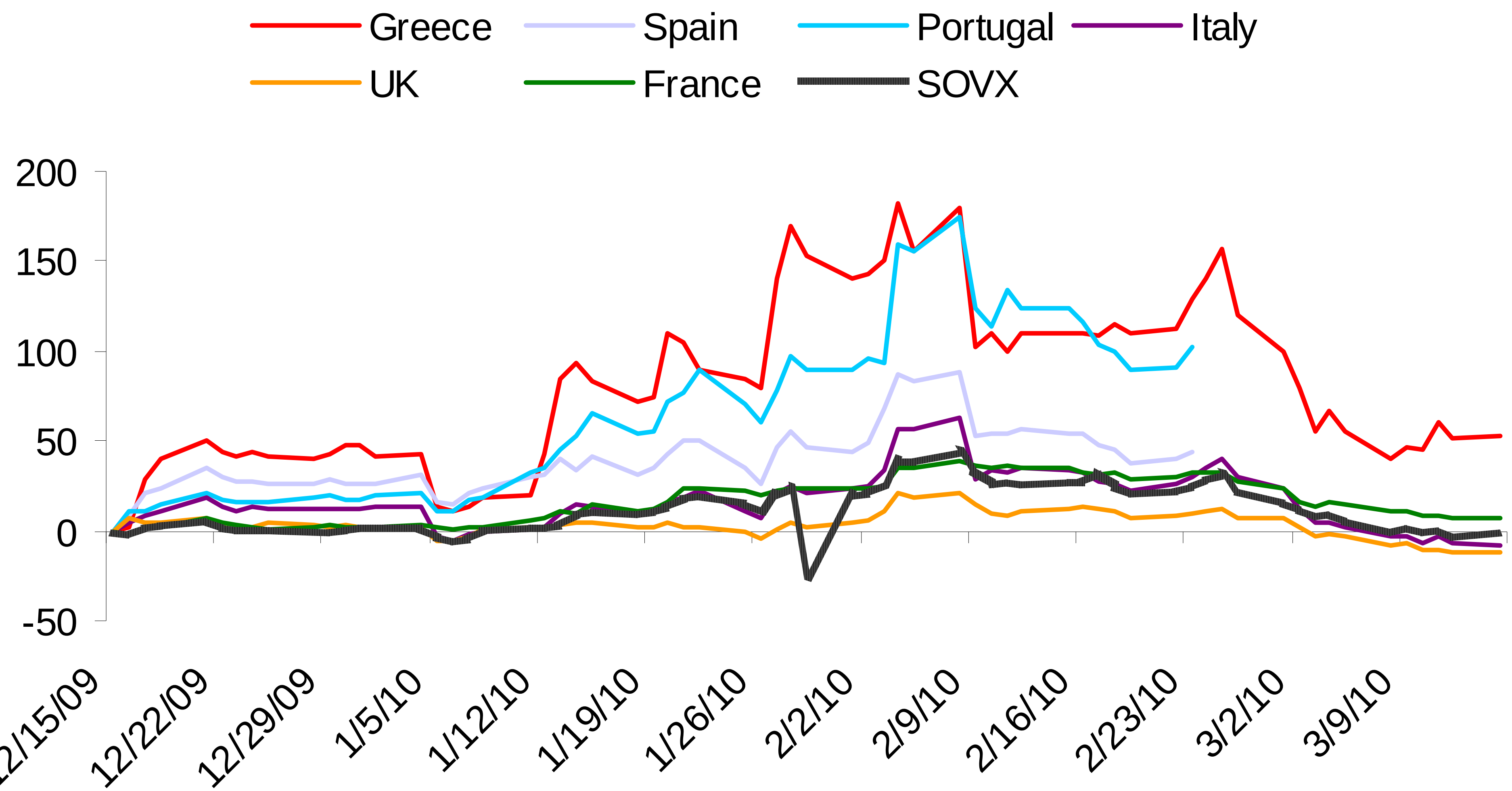
PIGS in Europe—Sovereign Risk Elevated, but Waning

- Greece 5Y CDS down to the 300bp mark, bringing with it tighter sovereign spreads across the region
- Below we see spread vs. some western European country CDS spreads



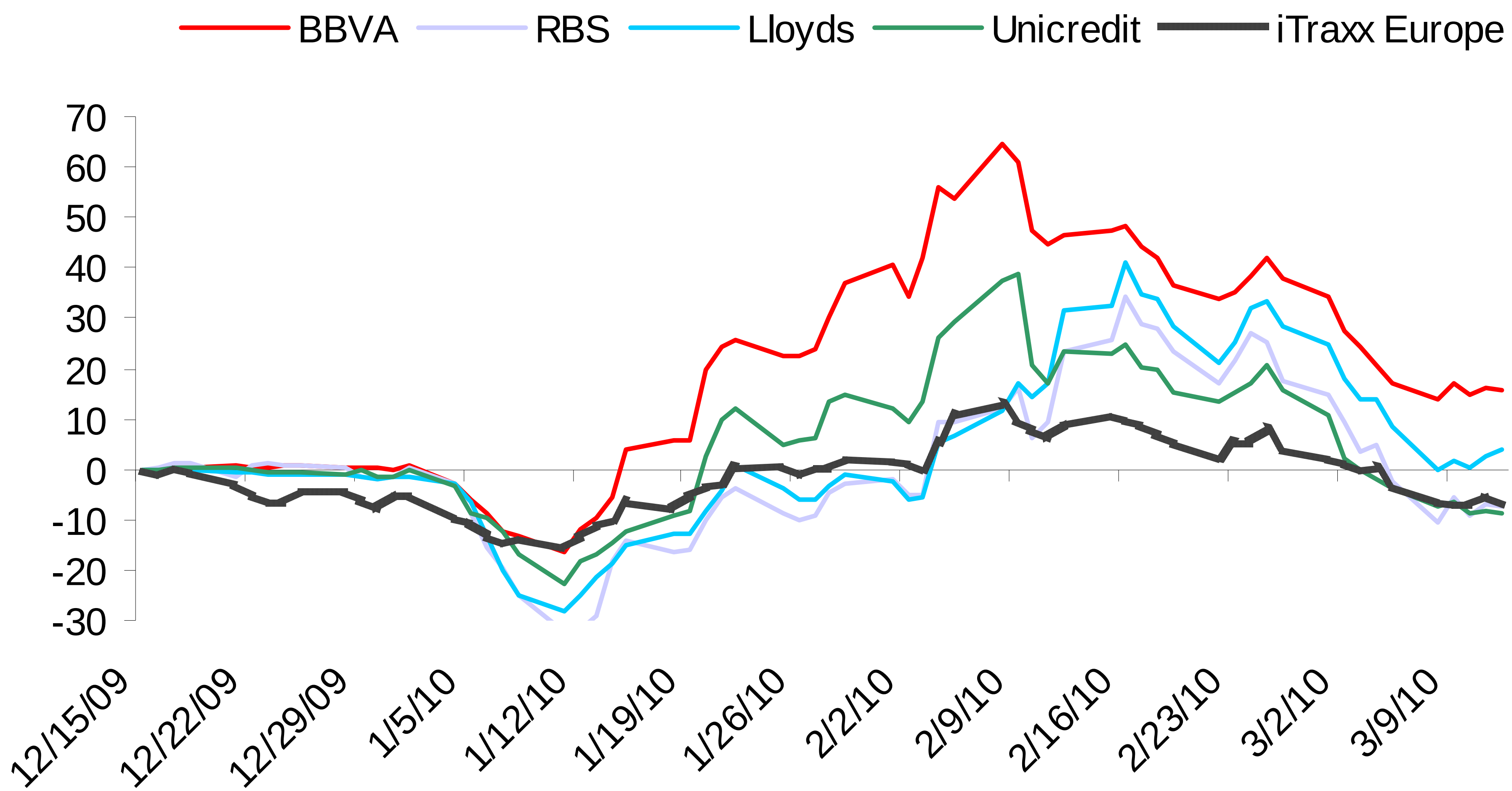
Sources: Bloomberg, Citi.

Change in 5Y CDS for European Sovereigns for Last 3 Months



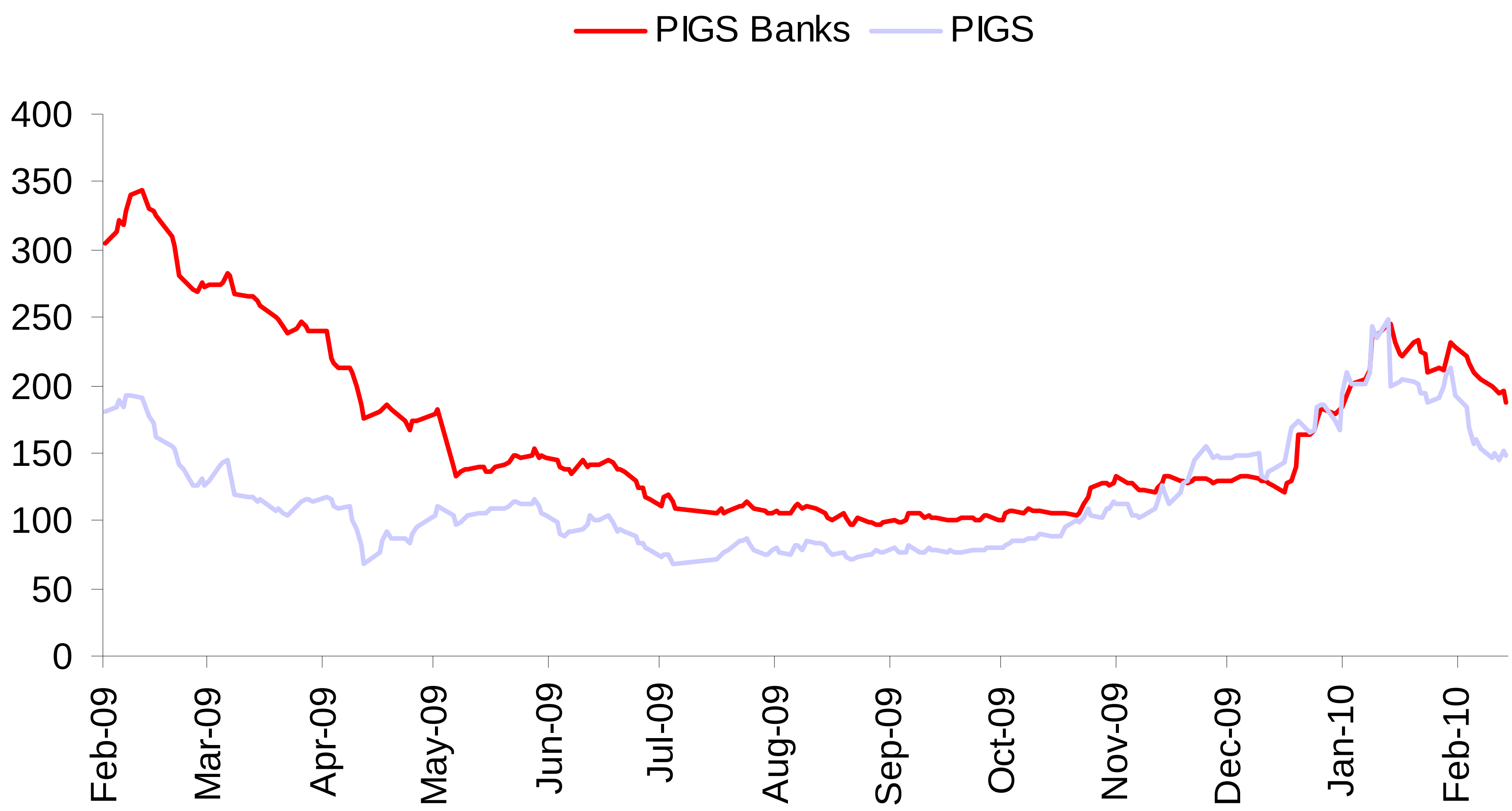
Sources: Bloomberg, Citi.

Change in 5Y CDS for European Banks for Last 3 Months



Sources: Bloomberg, Citi.

5Y Sovereign CDS for the PIGS have Come Back Below PIGS Banks



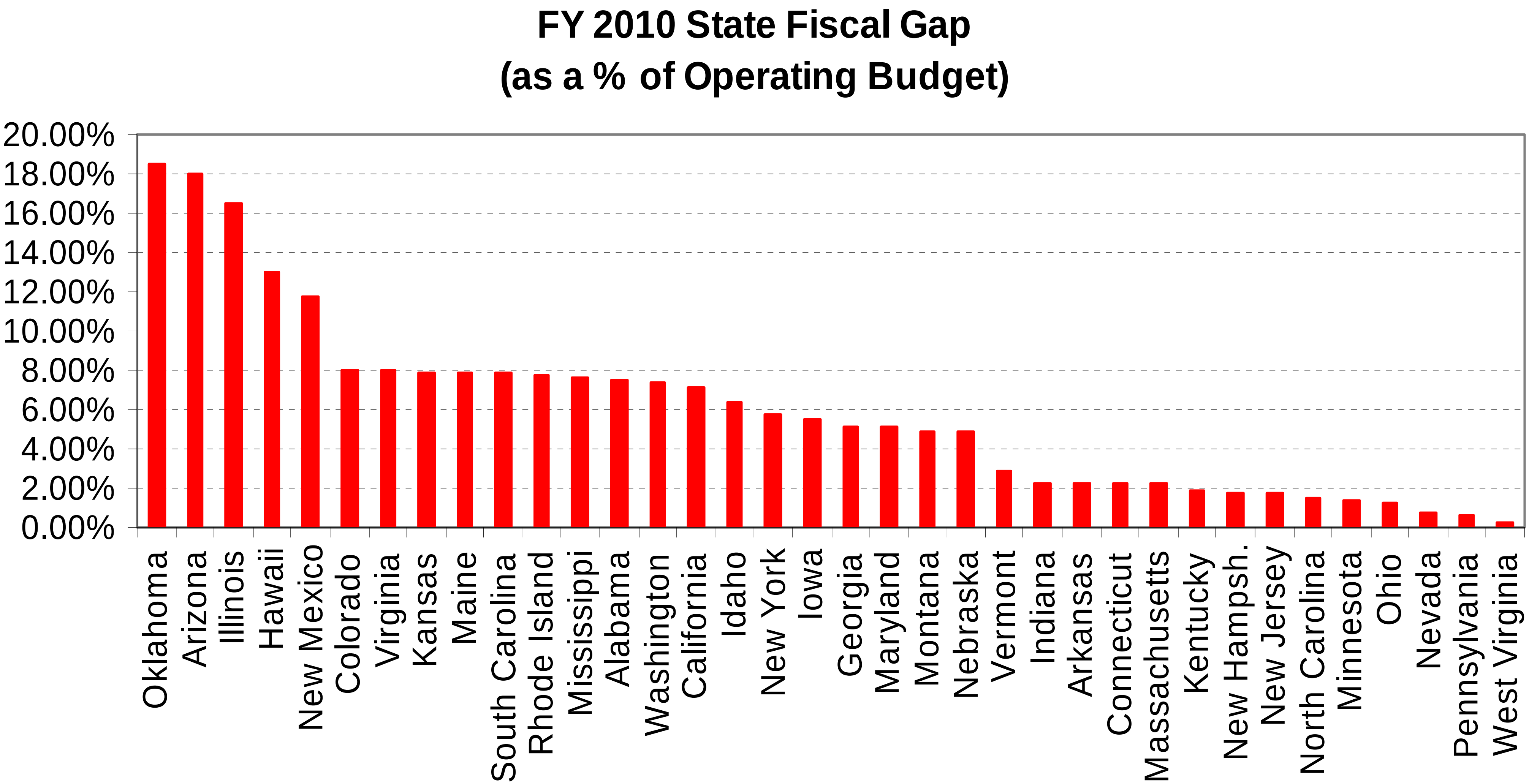
Sources: Bloomberg, Citi.

Relative Credit Concerns

- Sovereign and Quasi Sovereign entities in Greece Spain and Portugal have been active in interest rate and other forms of swaps where the credit annexes do not require them to post collateral
- Counterparties have become nervous and have tended to want to hedge their exposures which is in part responsible for the move out in sovereign spreads and in CDS of some of the major banks in these countries
- Key bank creditors that have been active in Greece and other PIGs have been hit in terms of equity sell offs and a move out in their CDS. Examples are French banks (SG); German (DB and other Landesbanks); and Swiss banks (CS and UBS).
- What will the EU and ECB do to strike the right balance between keeping pressure on countries like Greece to undertake very tough fiscal adjustment and also contain contagion and broader risks?
- We do not see the EU letting Greece default or restructure (technical default) despite the fact that the true net debt of Greece may under some slow growth EU scenarios (without expansion of the tax base) could imply technical insolvency given debt dynamics (e.g. Rogoff et al (2010))
- At the same time we do not see the EC and EU moving with great speed especially if the solution is the EMF –and time in this situation will be precious
- We anticipate that eventually the EC directives will be used to provide BOP support or if not we may see the cobbling together of a package such as that now rumored of EUR 50 billion from a combination of KFW, French and support from many other EU members.
- Ultimately we would not be surprised if eventually the IMF is called into provide **more** than technical assistance.
- These pressures will weigh on the Euro, sovereign and increasingly banking spreads for banks with large exposures to the PIGs or in some cases key banks in these countries that have not been hit badly and are liquid proxies. (BBV or Santander in the case of Spain)
  - We have met with many accounts that now express their negative view via short positions in the Euro but flows are not one way
  - In fairness the problem in Greece could be a silver lining for better fiscal sharing rules and a form of federal fiscal standards

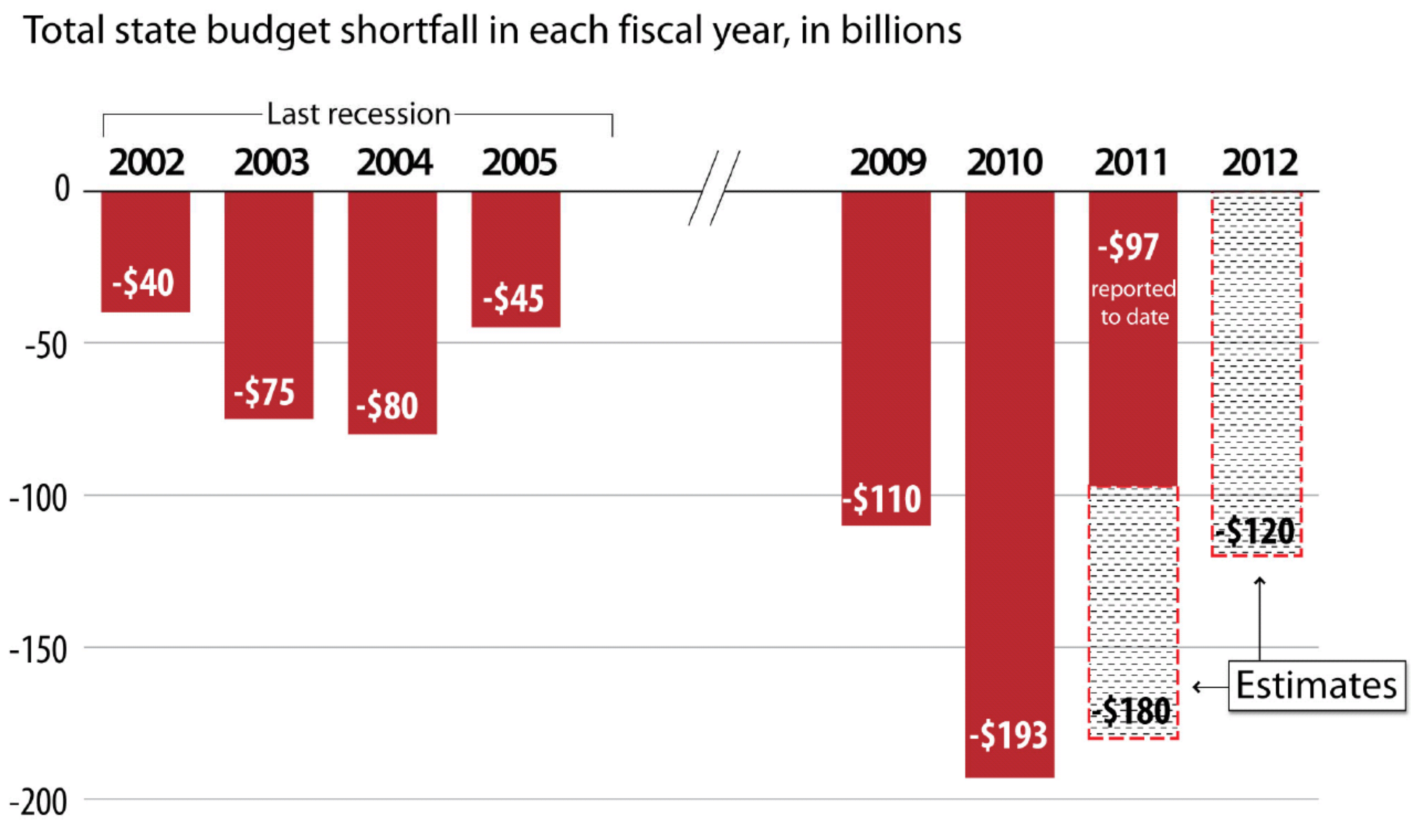
US Sate and Municipal Credit Concerns

FY 2010 new budget gaps exceed 28 billion



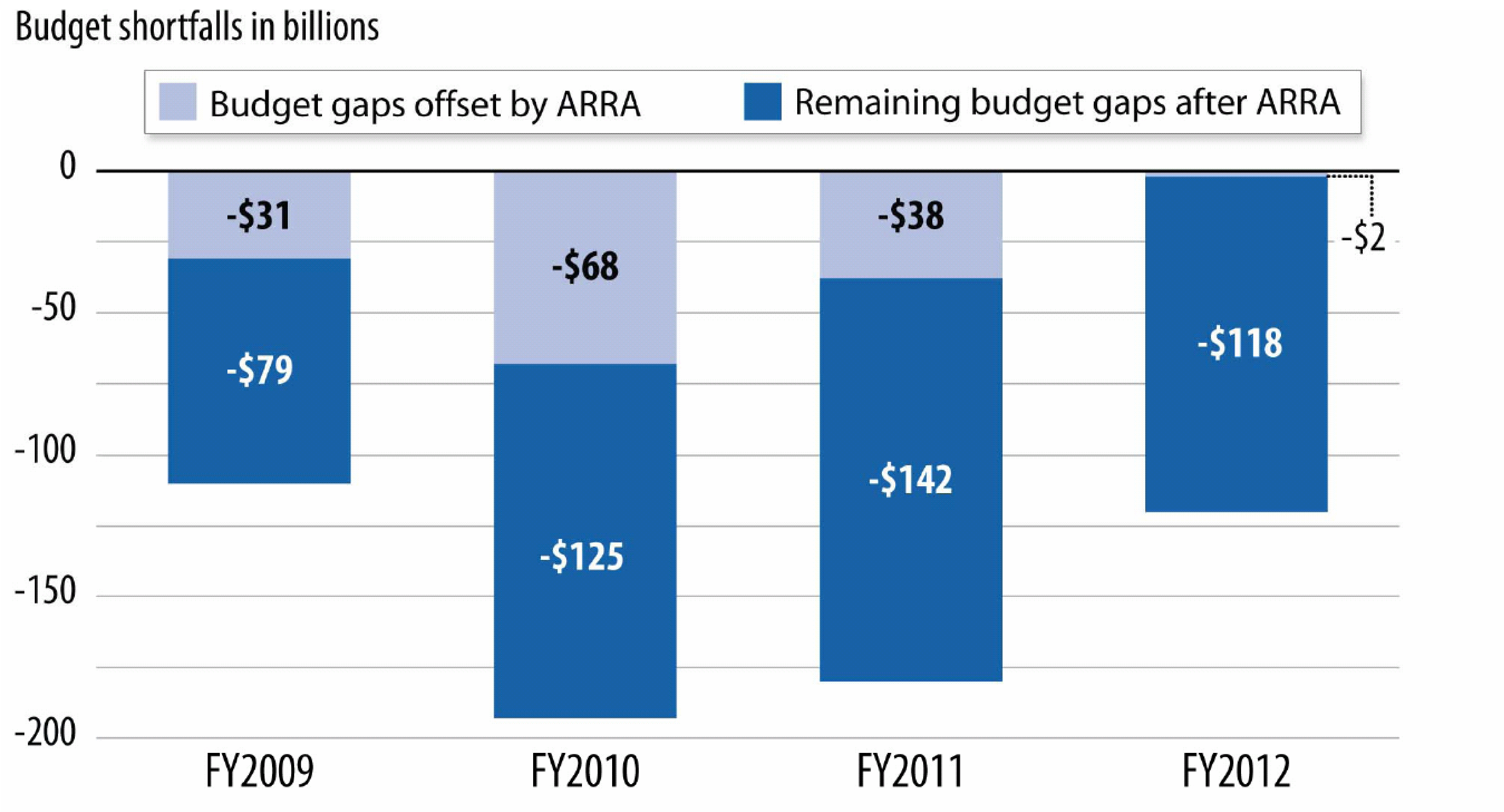
Source: National Association of State Budget Officers State Expenditure Report FY 2008

48 states face budget shortfalls



Source: Center on Budget and Policy Priorities

Budget deficits will cost us 900,000 jobs in FY 2011



Source: Center on Budget and Policy Priorities

State Budgets a Problem but Municipal Budgets and Debt Less Monitor able and cracks larger

- 900,000 jobs will be lost if states are unable to close their $142 billion deficit.
- Budget Shortfalls - 1/4 of state budgets need to be filled at the moment.
- Medicaid- States have to keep Medicaid at 2008 eligibility levels to receive Recovery Act funds. Enrollment increases went from -0.6% to 5.4% from 2007 to 2009
- Unemployment Insurance - will pose a problem if benefits are not extended federally.
  - Already 17 states have included the extension in their budgets for FY 2011.
  - States have outstanding loans from the Fed Govt for unemployment insurance payments ($28.7 bil.).
  - Unemployment extension was recently removed from the JOBS bill up for vote this week.
- States that face the most risk for FY 2011 include: Michigan, California, Arizona, NY, NJ, Illinois and Nevada
- Unfunded pension liabilities for the 23 million active and retired public employees at the state and municipal level is not included in this US$ 142 billion gap. This could amount to as much as 1-2 trillion in studies by actuarial groups
- A bill is now being developed in the Congress and Senate HR 4213 to provide USD 140 billion in support of actions that can provide further support to households and states and municipalities ---- kicking the can down the road!

Exit in US and European Monetary Policy

Central Banks--Massive Money Creation and Market Interventions--Turkey has cut rates by more than a 1000bps and now has negative real rates—some starting exit

	Current rate	Start of easing cycle	Start of Hiking Cycle	Latest CB meeting	Latest action	Next CB meeting	Total cuts since start of easing cycle (w/o hikes)
G10							
US*	0.25	Sep 18, 07		Mar 16	pause	Apr 28	500 bps
EU*	1.00	Oct 8, 08		Mar 4	pause	Apr 8	325 bps
UK*	0.50	Dec 6, 07		Mar 4	pause	Apr 8	525 bps
Japan*	0.10	Oct 31, 08		Mar 17	pause	Apr 6	40 bps
Sweden	0.25	Oct 8, 08		Feb 11	pause	Apr 20	450 bps
Switzerland*	0.25	Oct 8, 08		Mar 11	pause	Jun 17	250 bps
Australia**	4.00	Sep 2, 08	Oct 6, 09	Mar 2	25-bp hike	Apr 6	425 bps
Norway**	1.75	Oct 15, 08	Oct 28, 09	Feb 3	pause	Mar 24	450 bps
ASIA							
China	5.31	Sep 15, 08		Dec 23	27-bp cut	NA	216 bps
India	5.00	Oct 20, 08	Mar 19, 10	Mar 19	pause	NA	425 bps
Indonesia	6.50	Dec 4, 08		Mar 4	pause	Apr 6	300 bps
Malaysia	2.25	Nov 24, 08	Mar 4, 10	Mar 4	25-bp hike	May 13	125 bps
Philippines	4.00	Dec 18, 08		Mar 11	pause	Apr 22	200 bps
South Korea	2.00	Oct 9, 08		Mar 11	pause	Apr 8	325 bps
Taiwan	1.25	Sep 25, 08		Dec 24	pause	Mar 25	225 bps
Thailand	1.25	Dec 3, 08		Mar 10	pause	Apr 21	250 bps
CEEMEA							
Czech Rep	1.00	Aug 7, 08		Feb 4	pause	Mar 25	275 bps
Hungary	5.75	Nov 24, 08		Feb 23	25-bp-cut	Mar 29	575 bps
Poland	3.50	Nov 26, 08		Feb 25	pause	Mar 31	250 bps
Israel* **	1.25	Oct 7, 08	Aug 27, 09	Feb 25	pause	Mar 28	375 bps
Turkey	6.50	Nov 19, 08		Mar 18	pause	Apr 13	1025 bps
South Africa	7.00	Dec 11, 08		Jan 26	pause	Mar 25	500 bps
LATAM							
Brazil	8.75	Jan 21, 09		Mar 17	pause	Apr 28	500 bps
Mexico	4.50	Jan 16, 09		Mar 19	pause	Mar 19	375 bps
Chile	0.50	Jan 8, 09		Dec 15	pause	Apr 15	775 bps
Colombia	3.50	Dec 19, 08		Feb 26	pause	Mar 26	650 bps

*Implementing Quantitative Easing

**Hiking

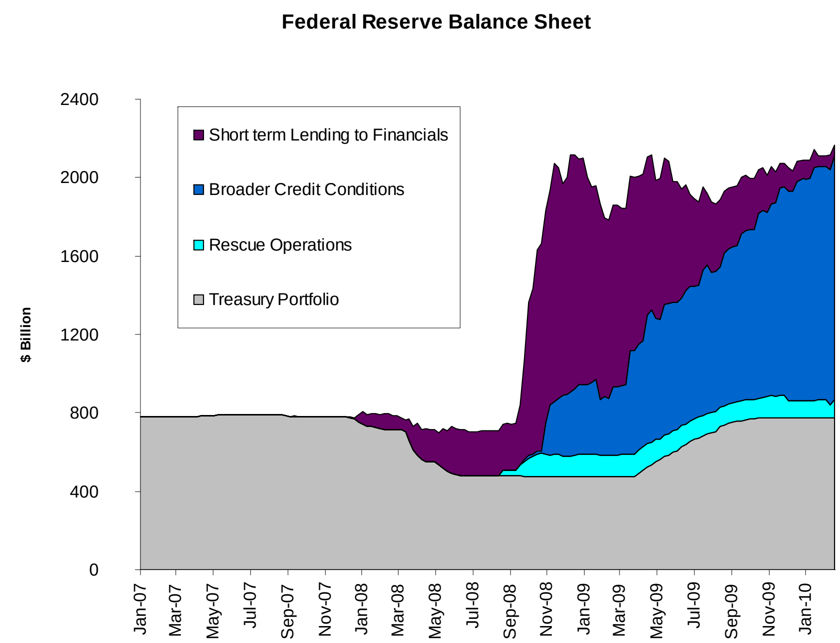
As of 3/19/2010

Source: OECD, combined central, regional and local governments

Federal Reserve Balance Sheet—Starting to Run Off

Fed Balance Sheet ($ bil)

	3/11/2010	10/15/2009	5/6/2009	Announced
Short Term Lending to Financials				
TAF	15	155	404	600
Currency Swaps	0	44	249	Unlimited
ALMF	0	0	29	Unlimited
MMIFF	0	0	0	540
Discount window	14	28	40	Unlimited
PDCF	0	0	1	Unlimited
Rescue Operations				
Maiden Lane I (Bear Stearns)	27	26	26	29
Maiden Lane II (AIG RMBS)	15	14	16	22.5
Maiden Lane III (AIG backed CDO's)	22	20	20	30
AIG Credit	25	41	45	59.5
Broader Credit Conditions				
CPFF	8	40	168	Unlimited
Agency Debt	169	136	67	200
Agency MBS	1029	763	366	1250
TALF	44	43	6	1000
Treasury Portfolio				
Treasury	777	773	561	n/a
less lent to dealers	*0*	*0*	33	n/a
Available Treasury Holdings	777	773	528	n/a
Other Assets	0	111	63	n/a
Total Portfolio	**2,146**	**2,194**	**2,028**	n/a



- The size of the Federal Reserve's balance sheet increased by $2 billion to $2.29 trillion.
- Net MBS purchases this week amounted to $10 billion, bringing total purchases to $1.23 trillion..
- • This week, the Federal Reserve conducted the final auction of TAF credit. $3.4 billion in bids were accepted, but had not yet settled as of March 10, 2010.

Source: Federal Reserve H.4.1 Release on Mar 11, 2010

Fed Liabilities Highlight the Large Reserves of Commercial Banks: How will these reserves be absorbed?

Reserve Bank credit, related items, and reserve balances of depository institutions at reserve balances of depository institutions at Federal Reserve Banks	Averages of daily figures (millions)
	Week ended 11-Mar-10
Currency in circulation	932,796
Reverse repurchase agreements	55,274
Treasury cash holdings	204
Deposits with F.R. Banks, other than reserve balances	91,853
Other liabilities and capital	66,397
Reserve balances with Federal Reserve Banks	1,175,051
Total factors absorbing reserve funds	**2,321,575**

- Total Liabilities stand at $2.3 Trillion
- 51% are reserve balances of commercial banks with the Federal Reserve Banks ($1.2 tillion)
- Tools to use to reduce liquidity will include:
  - -Reverse Repos maybe directly with MMFs
  - -The Deposit Facilities
  - -Interest on Excess Reserves
  - -Increases in Reserve Requirements although we do not think that this will be the preferred alternative
  - -How reserve requirements and excess reserve levels will relate to new prudential liquidity requirements yet to be defined

Source: Federal Reserve H.4.1 Release on Mar 11, 2010

ECB Balance Sheet has grown by 500 billion euros in 2 years—but form of interventions may make exit less complex

ECB Balance Sheet

	2 yrs Ago	1 Yr Ago	3/5/2010
		(Billions of Euros)	
Denominated in foreign currency:			
Claims on non-europe residents	136.35	156.80	197.51
IMF	*9.03*	*13.12*	*64.37*
Banks and others	*127.33*	*143.68*	*133.15*
Claims on europe residents	26.66	135.98	27.76
Denominated in euros:			
Claims on non-europe residen	15.20	21.00	16.12
Lending, monetary policy ops	**446.99**	**696.83**	**724.92**
Main refinancing operations	178.50	244.15	80.46
Longer-term refinancing	268.48	452.20	644.38
Marginal lending facility	0.00	0.48	0.06
Credits- margin calls	0.02	0.00	0.03
Other claims on banks	31.20	29.13	26.40
Europe resident securities	107.50	286.18	336.68
General government debt	38.64	37.43	36.14
Other assets	329.12	259.73	257.87
Gold	201.23	217.74	266.92
Total Assets	**1,332.89**	**1,840.82**	**1,890.31**

Source: Eurostats

ECB liabilities seem under control

Liabilities of European Central Bank	Averages of daily figures (billions of Euros) Week ended 5-Mar-10
Currency in circulation	788.372
Current accounts	163.966
Deposit facility	259.758
Euro area residents government liabilities	101.304
Euro area residents other	8.238
Non euro area residents	39.812
Other liabilities	168.826
Revaluation accounts	220.213
Capital and reserves	74.965
Denominated in foreign currencies:	
Euro area residents	1.811
Non euro area residents	11.398
Counterpart, IMF SDRs	51.249
Total Liabilities	**1,889.912**

- Total Liabilities stand at 1.9 Trillion Euros

Source: Eurostats

Liquidity Draining Road Map in the US

MBS & Treasury Buying by Fed to Stop

Treasury Buying Stopped. MBS and Agency end targeted end Q1 2010

Other liquidity adding programs to cease (PDCF, CPFF)

ABCP, CPFF, PDCF, TSLF all matured 1st Feb 2010

TAF to wind down. (Prevent potential Fed 'Arbing')

Last TAF scheduled for 8th March 2010 and end March purchase of agencies (mortgs)

Increase Primary Credit Rate (Discount Window Rate)

Start to drain real excess liquidity through 'Fed Term Deposits' and 'Term Repos'

Once real excess is drained and 'Fed Effective' is sitting near upper range of 0-25 band, the Fed Target Rate and IOER can be raised effectively.

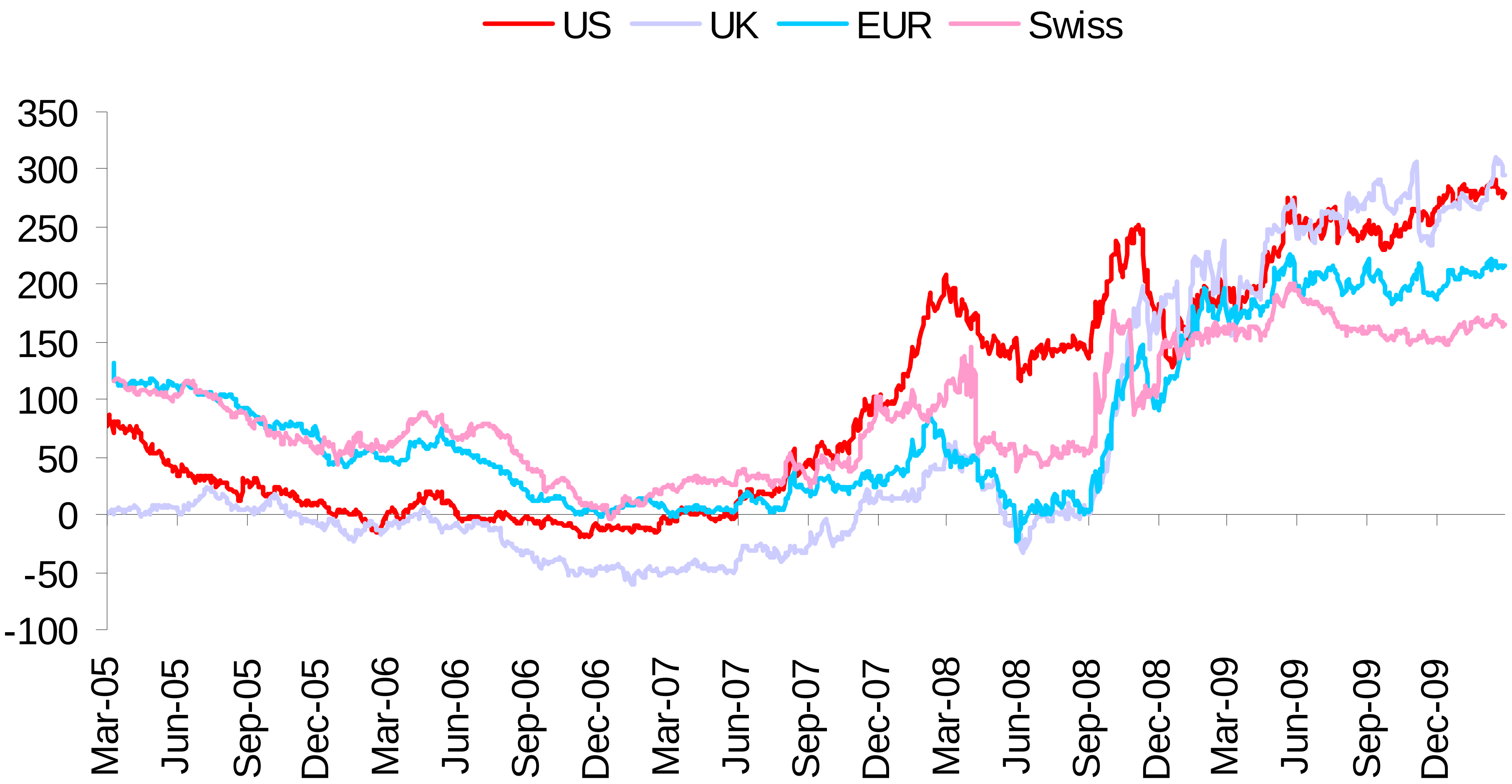
Exit in US Monetary Policy

- Exit will be slow, communication by the FED (and market confusion) will result in interesting opportunities for good entry into long bond and receiving in the short –end.
- The FED Balance Sheet is running off in some areas: Treasury Buying stopped on October 31, 2009; ABCP, CPFF, PDCF, TSLF all matured Feb 1, 2010; TAF auctions to end March 2010; MBS and Agency end targeted end Q1 2010;
- Large banks in the system unlike previous situations are long cash –with many of the largest banks having as much as US$ 100-200 billion in cash holdings in their accounts with the FED.
- Total commercial bank reserves of over US$ 1.3 trillion now on the liability side of the FED balance sheet
- Future elimination of many of the exceptional facilities is now in play with among the most important being the purchase of agency debt that likely will be ended in March of 2010
- It is likely that the FED will employ the interest rate on excess reserves (IEOR) as a floor rate. The discount rate will act as a form of ceiling (so-called corridor system).
  - The fed funds effective rate and other market rates will largely be above this rate and the fed funds rate may still be the intermediate target
  - Market rates will not be allowed to fall too far below the floor IEOR
  - An increase in the Federal Reserve Discount rate will be part of the return to more traditional means to provide liqudity assistance to banks, and will not signal the onset of “tightening” .
  - The announcement of the SPF of US$ 200 billion by Treasury like the discount rate is part of normalization
  - The FED doing reverse repos with the Agencies or letting natural run off take place will also be part of the process of driving the fed effective rate up to the floor IEOR or 28bps.
- The FED’s operations to reduce and normalize liquidity are likely not to be synonymous with monetary tightening—where removal of the “extended period” language will be key for actual target rate moves and further systematic liquidity removal.
- Under a dual mandate progress in employment (even if a lagging indicator) along with inflation expectations will still be key

Exit in ECB Monetary Policy

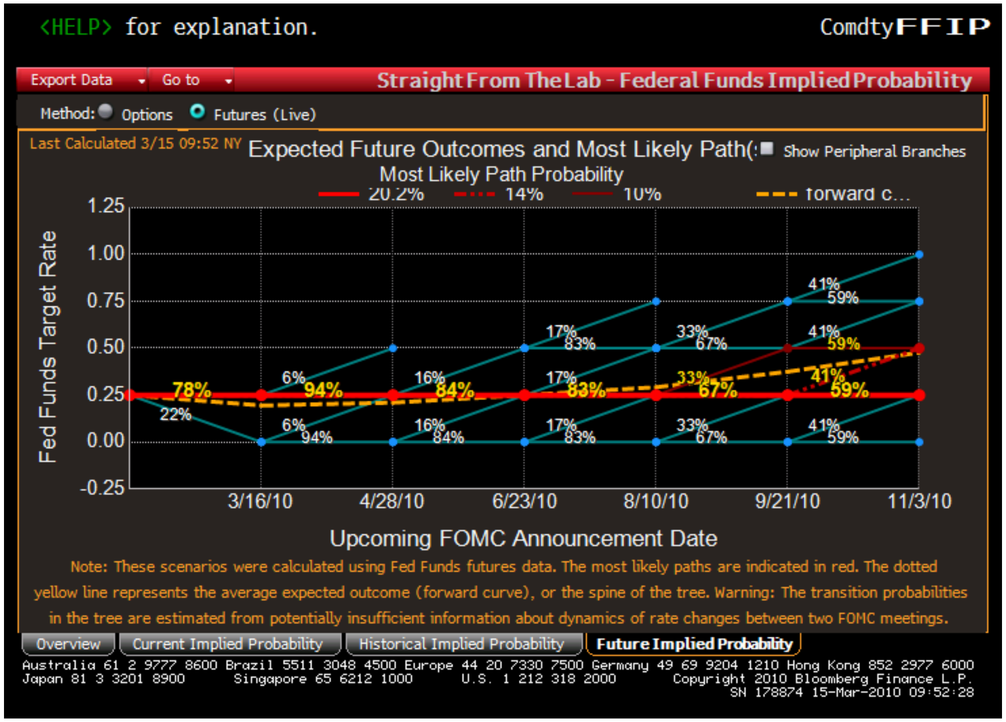
- We expect ECB to exit by October in the case of the long term credit facilities or even later.
- Delay of exit in this area could imply that the ECB special financing facilities are further extended into 2011, if there is not a more fundamental structural fix to financing arrangements for periphery countries taking tough fiscal actions.
- Real and more extensive monetary exit may actually take place from January 2011 onwards. A rate hike might well not occur before Q2 next year.
- Greece related problems have already made implementation of any real ECB exit strategy difficult. The ECB will make sure that Greek debt will be eligible as collateral also after next January when old rules (A-) will be reinstated as indicated of late by ECB officials.
- We have discerned a softening of views among many of the most hawkish ECB council members given deflation in last 6 months and the problems in periphery countries.
- We see inflation and inflation expectations well anchored for at least another year.
- Exit for the ECB is relatively easy relative to the US as entails gradual run off of liquidity. However, now with sovereign credit problems the quality of collateral problems can complicate the speed and form of exit.

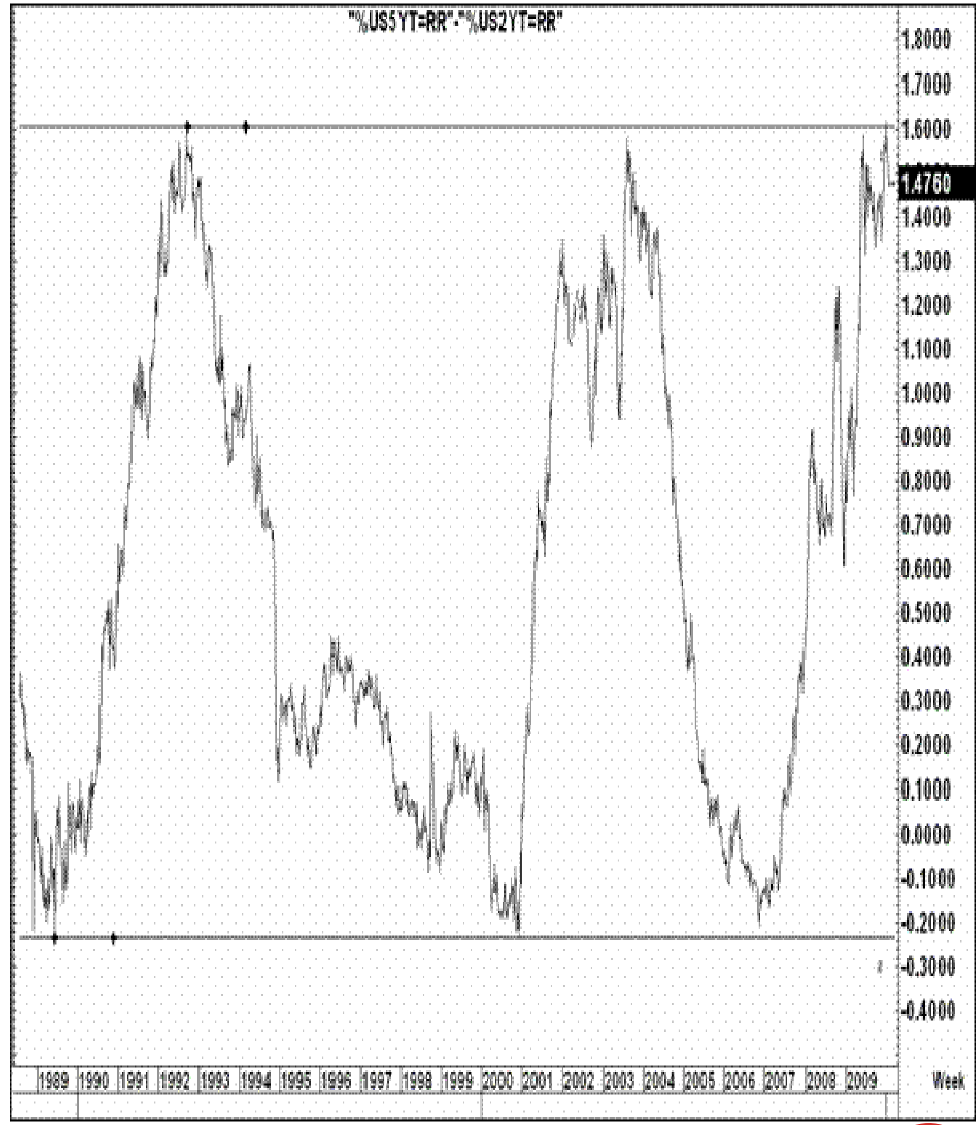
Historic 2s10s Slopes: At or Near Cycle Highs



Sources: Bloomberg, Citi.

What is Priced In? Will Fed be On Hold for all of 2010? Is 2-5s a key?





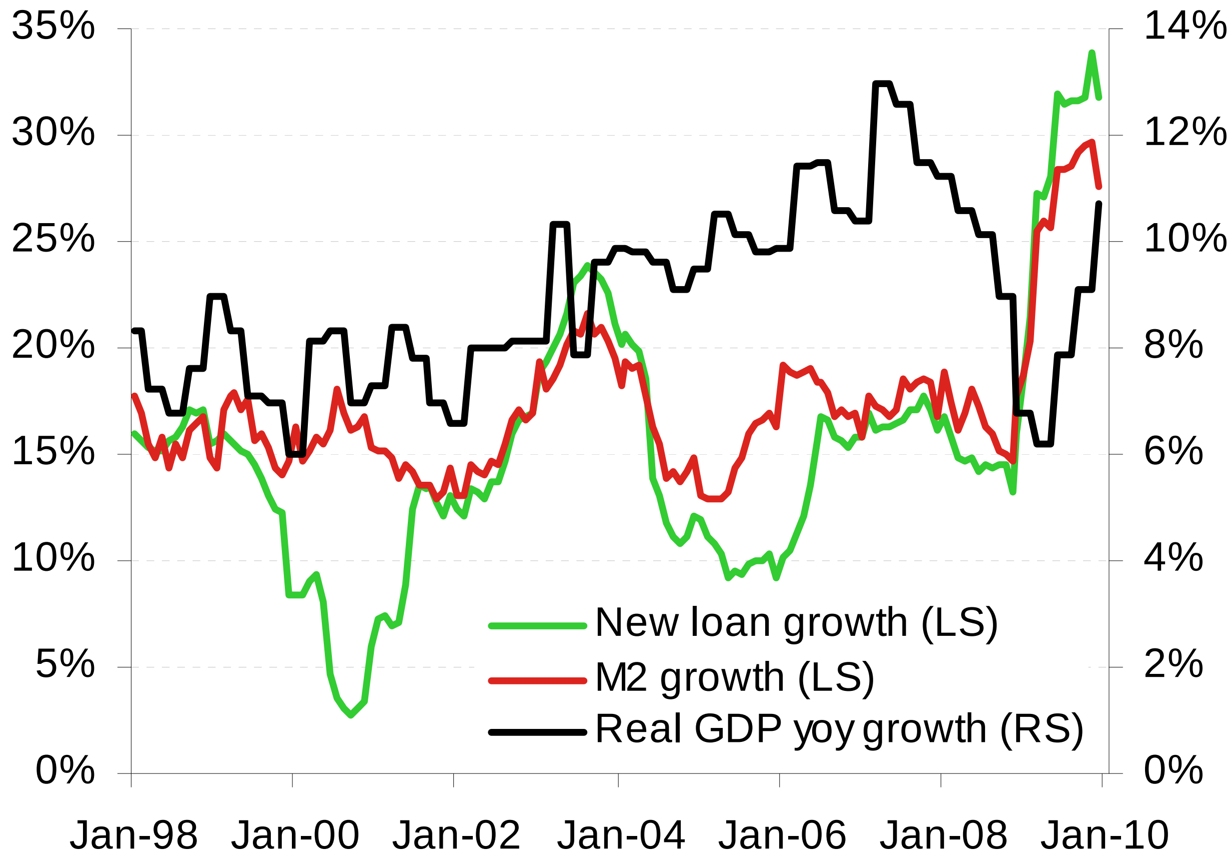
Sources: Bloomberg, Citi.

Five Year Five Year Break Evens Returning to Long Term Average

Sources: Bloomberg, Citi.

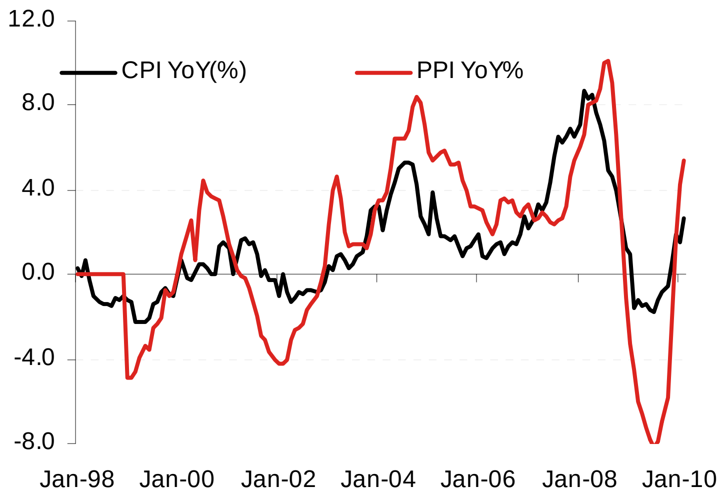
Implication of Exit in China

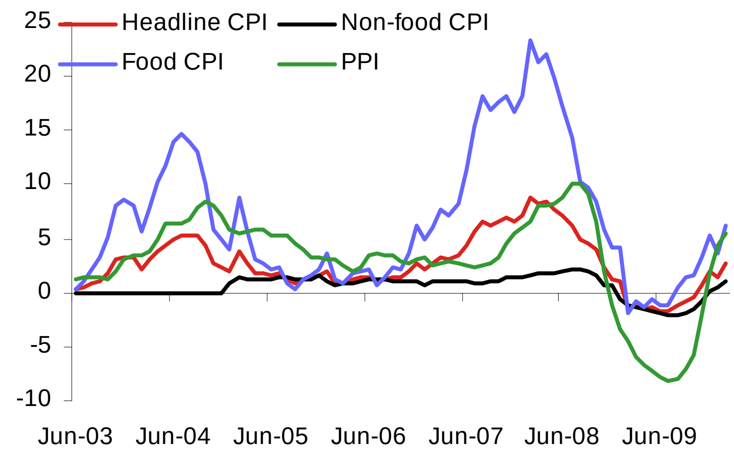
Real GDP now running over 10 percent YOY, Money Supply and Loan Growth still strong

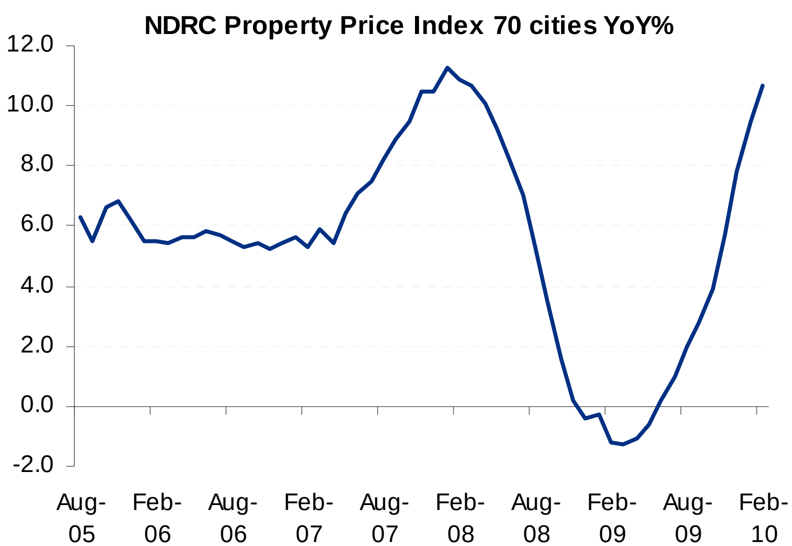


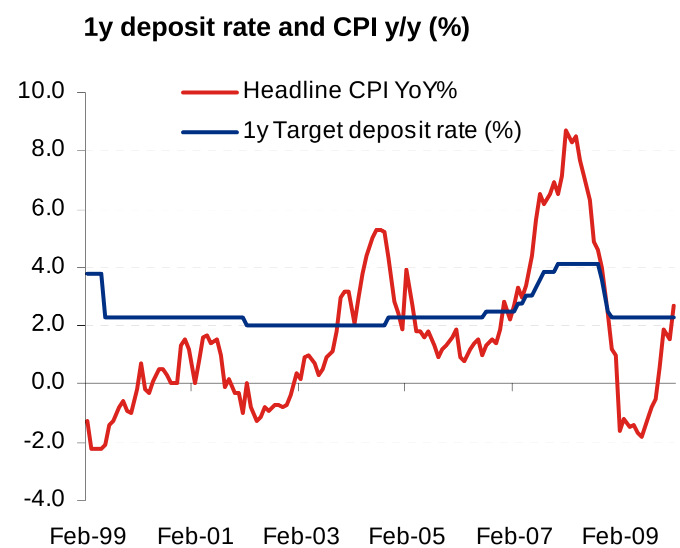
Sources: Bloomberg, Citi.

CPI is turning and we expect an acceleration in inflation pressure and not only due to the increase in real estate prices





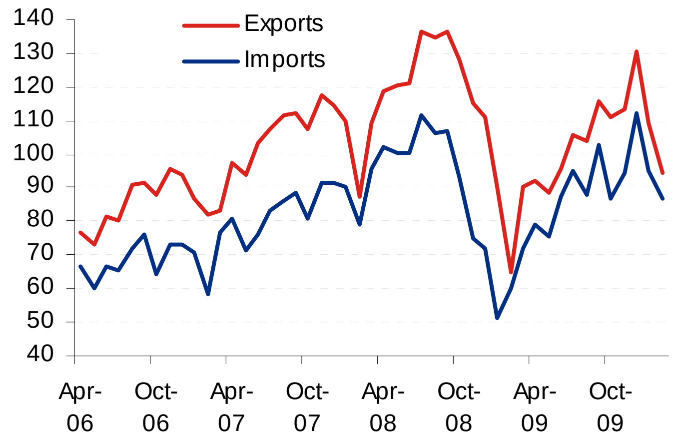




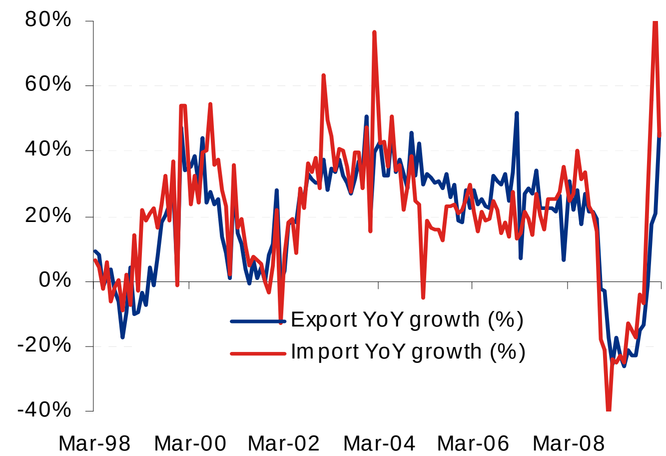
Sources: Bloomberg, Citi.

Solid export but more robust import growth cause trade surplus to narrow

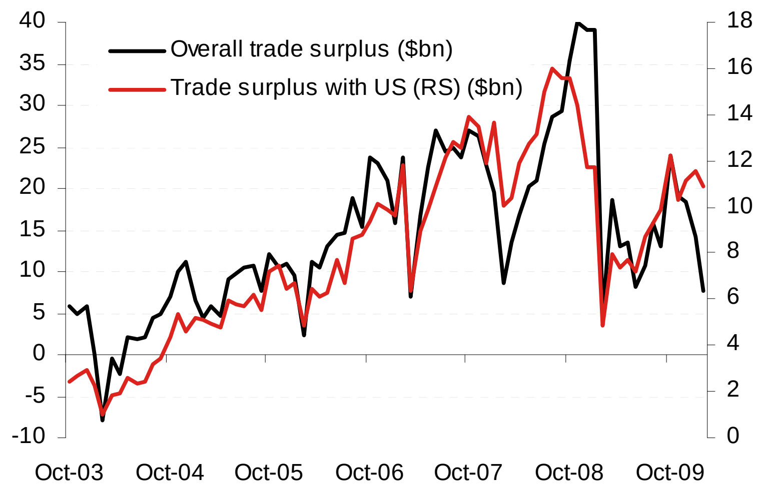
China Monthly Exports and Imports ($bn)



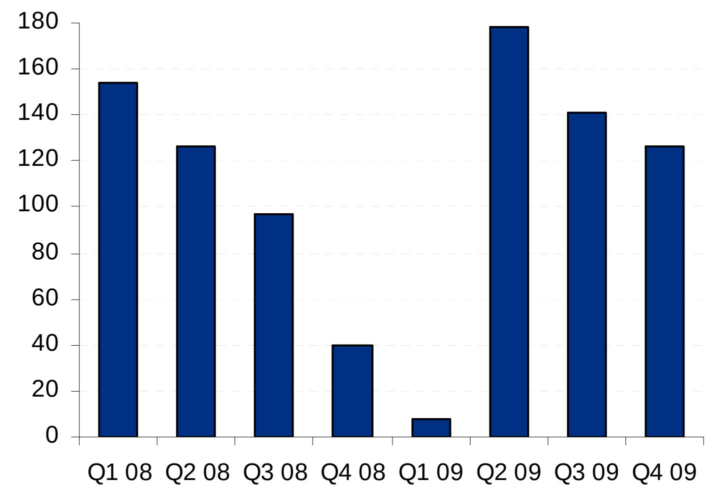
Exports and imports YoY growth



Trade surplus (Overall and with US) ($bn)



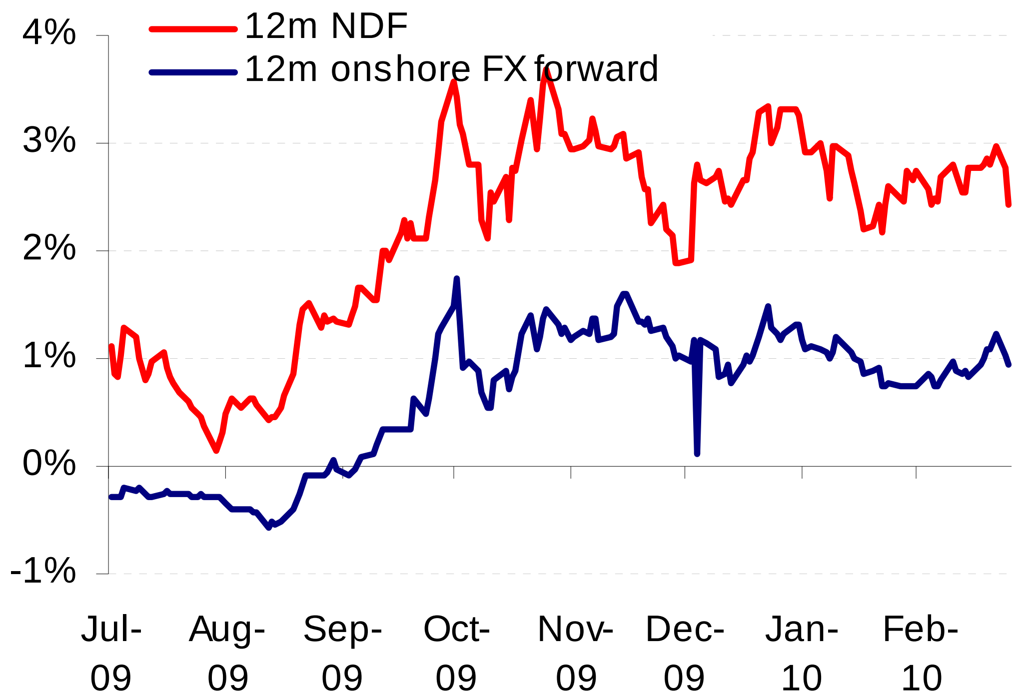
Quarterly PBOC FX Reserve Growth ($bn)



Sources: Bloomberg, Citi.

Imminent CNY move now less likely, but many accounts still see value to sell long-end on any rebound in anticipation of an eventual change in fx policy

Implied 1y CNY Appreciation from spot



Sources: Bloomberg, Citi.

CNY Revaluation Will Have Implications for EURJPY, as Reaction to Statement by Geithner on 2/4/10 Shows

China, Imbalances and the EURO

- The Chinese authorities face a dilemma:
  - They do not want to be seen to bow to pressure to the US or G-20 or the IMF in moving the exchange rate
  - The G-20 meeting looms and many CBs we have spoken with continue to be unhappy about the current approach to exchange rate management and that like the Gold standard there is uneven adjustment
  - Unlikely that the IMF mutual assessment process can actually be used to create avenues for better mutual adjustment by the G-2.
  - Timing of US and Chinese Elections—also play a role in this dynamic
  - Escalation of trade frictions and the possibility in May that China could be declared a currency manipulator
  - Chinese appear to already be behind the curve on inflation as the latest inflation print of 2.7% suggested
  - Move in fx will only come about if the authorities decide that the exchange rate is a tool they need to combat inflation and if the fx move is seen to be helping them in efforts to improve employment
  - Chinese will try to stem over-heating and still generate employment by control of lending growth and using reserve requirements and other special administrative measures relating to real estate and administered prices
  - **The key concern of the Chinese (ironically like the US) is employment and the export sector and growth**
- Key Chinese concerns about the US:
  - US fiscal position and sustainability
  - Monetary policy being too easy
  - They want to force more adjustment back on to US or at least have more of a sharing in the process
  - They hold over $2 trillion in reserves and have concerns about allocation of these resources and holdings in US
  - Trade restrictions—a strong concern
- Key Chinese concerns about the Euro Area
  - Trade restrictions
  - Competition in similar export markets (esp Germany)

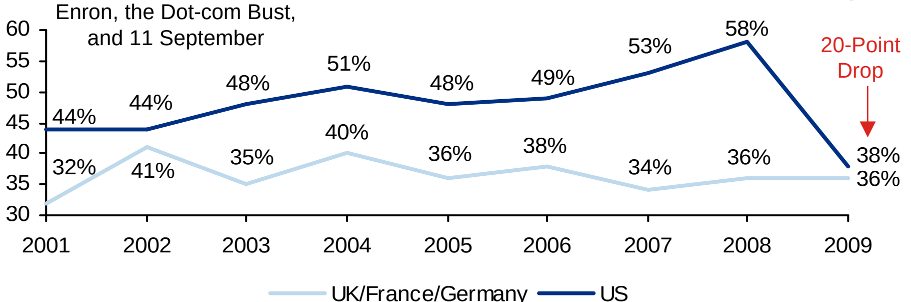
Policy Risks and Interventions and the Euro

Trust in Government and Business Has Declined Extensively

Trust in business has declined in every industry—62% of respondents in 20 countries say they trust business less now than a year ago, though support remains higher in EM. 65% support stricter government regulation—even through trust in government has also declined.

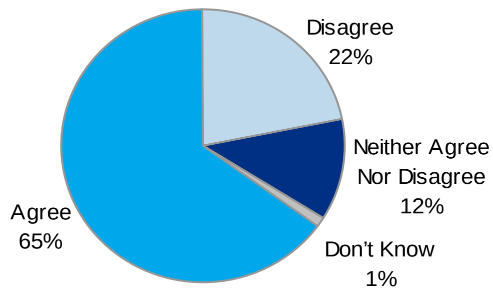
In the US, Trust in Business at Lowest Level, Including Post-Enron; Now on Par with UK/France/Germany

How much do you trust business to do what is right?



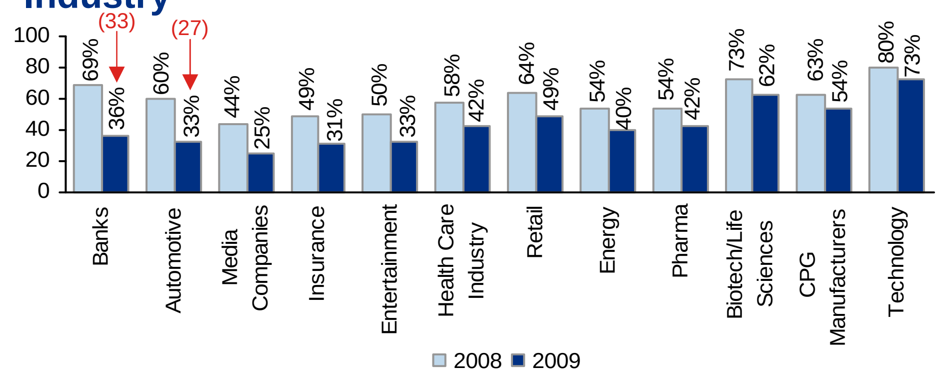
Note: Informed publics ages 35–64 in the US and UK/France/Germany. Responses 6–9 only on 1–9 scale; 9 = highest.

A Strong Global Majority Agree Government Should Impose Stricter Regulations and Greater Control Over Business



Note: Informed publics ages 25–64 in 20 countries.

In the US, Trust in Business has Declined in Every Industry



Note: Informed publics ages 35–64 in the US. Responses 6–9 only on 1–9 scale; 9 = highest.

- Implications:
- Public support for greater regulation will make the business environment more unpredictable and challenging
- Trust is a more highly valued corporate asset since trusted companies will be more successful at addressing public concerns and navigating the regulatory environment

Source: Edelman Trust Barometer, April 2009

Global challenges are on the increase.

Iran

Russia/Ukraine Energy

North Korea

Iraq

"AfPak"

Israel-Palestine

Climate Change

Terrorism

Pandemics

Selected Countries Imposing Capital Controls or Intervening in their Currency or where under active consideration

- **LATAM:**
  - Brazil (capital controls and spot fx intervention)
  - Mexico (options fx intervention)
  - Colombia (options fx intervention)
  - Chile (intermittent fx intervention)
- **Asia**
  - India (Fx intervention and capital controls)
  - China (Intervention and capital controls)
  - Hong Kong (Currency Board)
  - Thailand (fx intervention likely at certain levels)
  - Malaysia (fx intervention likely at certain levels)
  - Vietnam (fx intervention and capital controls are possibilities)
  - Philippines (capital controls and fx intervention always a threat)
  - Indonesia (capital controls and fx intervention always possible)
- **CEEMEA**
  - Israel (Fx Intervention)
  - Hungary (Under consideration)
  - Russia (FX intervention in relation to basket)
  - Ukraine (capital and other controls
  - Turkey (fx intervention)
- **G-10**
  - Switzerland (cash and options fx intervention)
- **Key Countries not Intervening yet**
  - Australia
  - Canada
  - New Zealand
  - US
  - Euro-zone Members
  - Japan
  - Poland
- **Broad Policy:**
  - A wild card are tax regime changes that impact capital flows—e.g. Boxer ammendment in US
  - Trade disputes

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