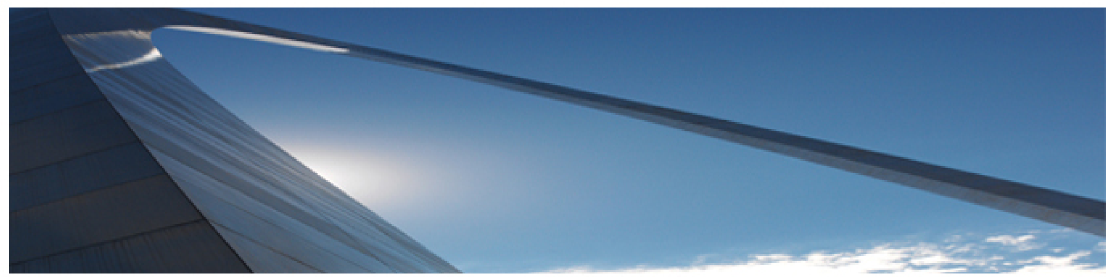
Greece: Containing “the Contagion”

Assessing the Rapid Escalation of the Sovereign Credit Crisis

May 2010



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Containing “the Contagion”

"A continental currency, with a dual metallic and fiduciary base, resting on all Europe as its capital, and driven by the activity of 200 million men: this one currency would replace and bring down all the absurd varieties of money that exist today with their effigies of princes, those symbols of misery.“

- Victor Hugo (1855)

“Every once in a while, the world is faced with a major economic development that is ill-understood at first and dismissed as of limited relevance, and which then catches governments, companies and households unawares.”

~ Mohamed El-Erian, PIMCO (February, 2010)

“In our super-cycle era of Western market leverage, we need capital markets to be fully functioning 24 / 7. Any blockages leave the numerous refinancing entities vulnerable. It just so happens that those currently in need of the most refinancing are Governments.”

~ Jim Reid, Deutsche Bank Macro Strategist (April, 2010)

Contents

Week of May 3: Failure to Contain the Contagion

Section 1

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Global Equity Markets Plunge (Week of May 3rd)

	Monday May 3	Tuesday May 4	Wednesday May 5	Thursday May 6	Friday May 7	Weekly Change
FTSE 100 Index	Closed	-2.56%	-1.28%	-3.20%	-2.62%	-8.81%
DAX Index	0.51%	-2.60%	-0.81%	-0.84%	-3.27%	-6.86%
CAC 40	0.30%	-3.64%	-1.44%	-2.20%	-4.60%	-11.12%
Nikkei 225	Closed	Closed	Closed	-3.27%	-3.10%	-7.18%
Hang Seng Index	-1.41%	-0.23%	-2.10%	-0.96%	-1.06%	-5.63%
Dow Jones	1.30%	-2.02%	-0.54%	-3.20%	-1.33%	-5.71%

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Source: Deutsche Bank Global Markets Research

Euro Drops Sharply Below 1.30

There have been times during the escalation of the Sovereign crisis where the Euro has been remarkably resilient…

…to be sure, this resilience broke down during the week of May 3rd

EUR / USD Spot (Jan 1, 2010 – Present)

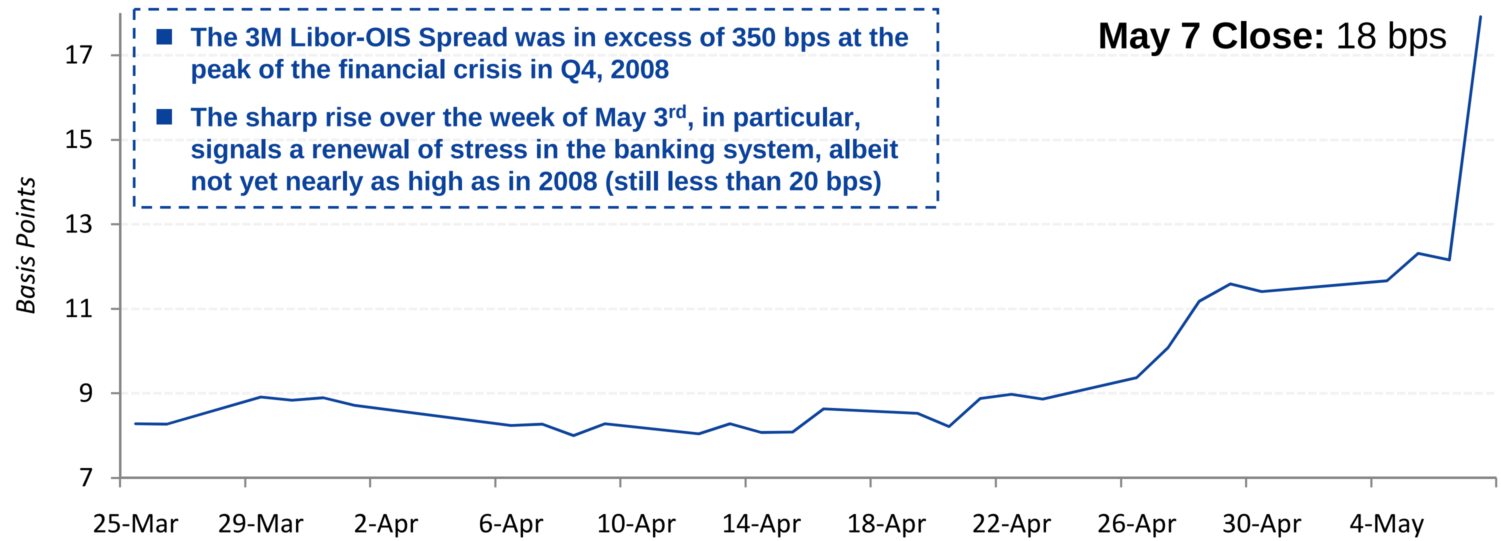
- **The Euro collapsed sharply during the week of May 3rd, dipping to 1.2529 on Thursday, May 6, its lowest point since March 5, 2009**
  - Rallied back above 1.27 on Friday, May 7

Source: Deutsche Bank Global Markets Research

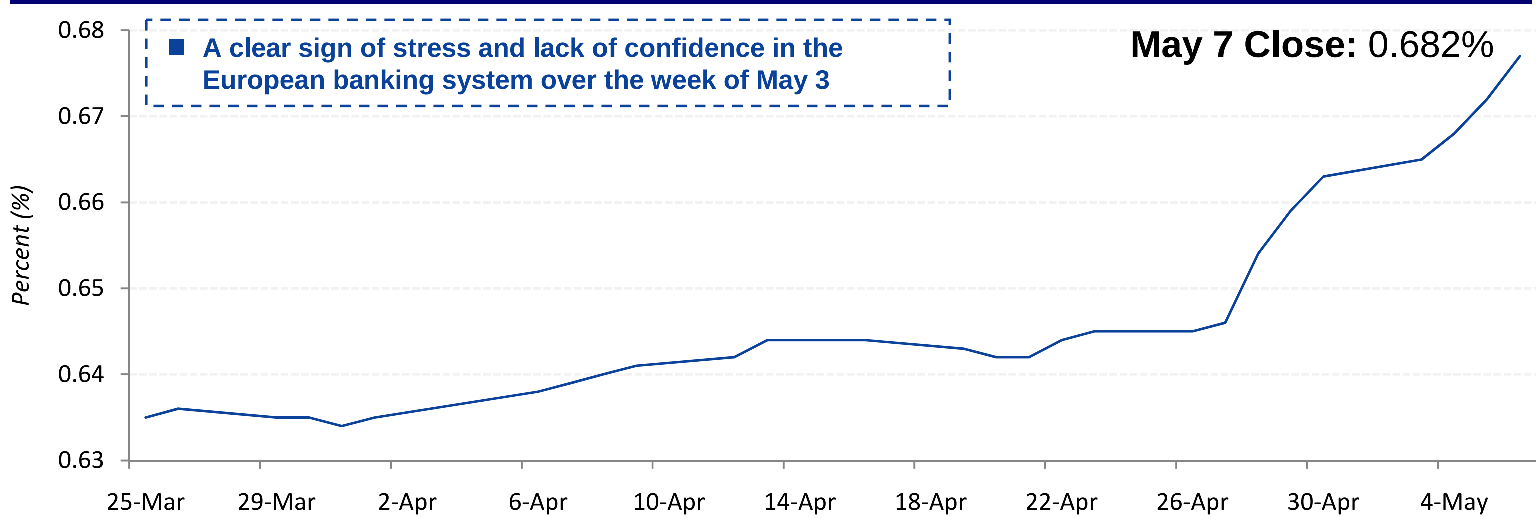
Significant Stress in the Banking System

Perhaps the most serious global market impact of the escalating Greek credit crisis was felt in the global banking system as inter-bank lending rates spiked sharply over the week of May 3rd

3m LIBOR / OIS Spreads Since March 25



3m EURIBOR Since March 25



Source: Deutsche Bank Global Markets Research

VIX Volatility Index Leaps 85%

We expect the highly levered Western economies (Europe + UK + the U.S.) to be a primary source of global market volatility over the next few years

This increased volatility is likely to be particularly acute, episodically, throughout the remainder of 2010

VIX Daily Closing Values (Jan 1, 2010 to Present)

- **During the week of May 3rd, the VIX jumped a breathtaking 85%, as investors rapidly re-priced risk and embarked on a massive "flight to quality"**
- **In addition to re-pricing risk, and seeking safe haven investments, investors continued their focus on "the weakest links" in the system**

Source: Deutsche Bank Global Markets Research

US Dollar Credit Spreads Somewhat Resilient

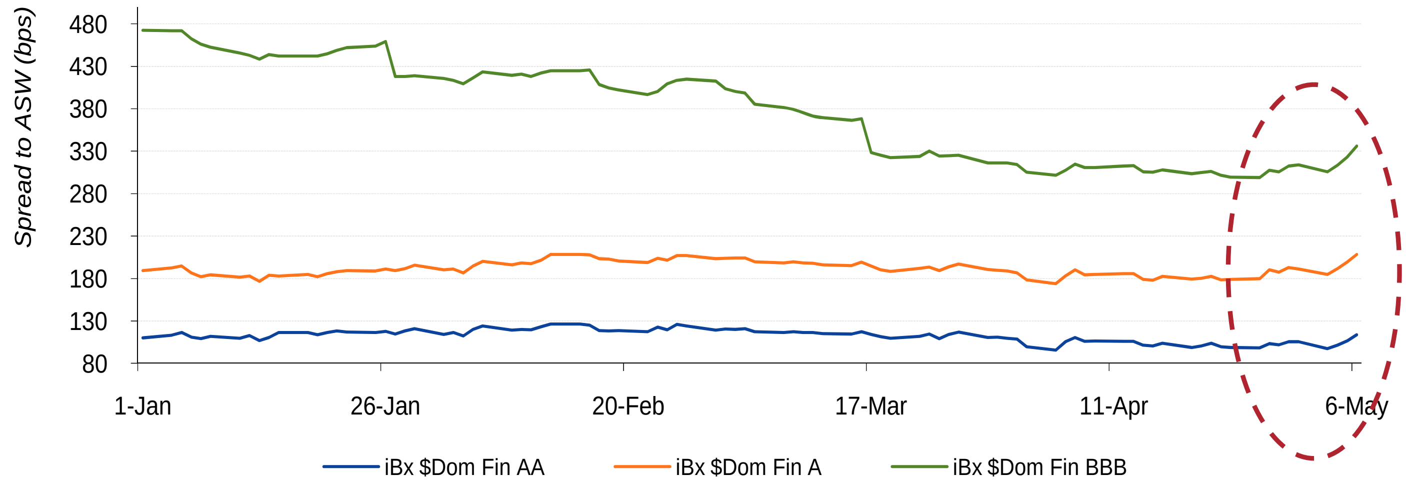
The sharp rise in volatility during the week of May 3rd was accompanied by US$ spread widening, and the slowest new issue volume week in the IG bond market since Sept 2008 (US$450 million)

Key Takeaways for US$ Issuers

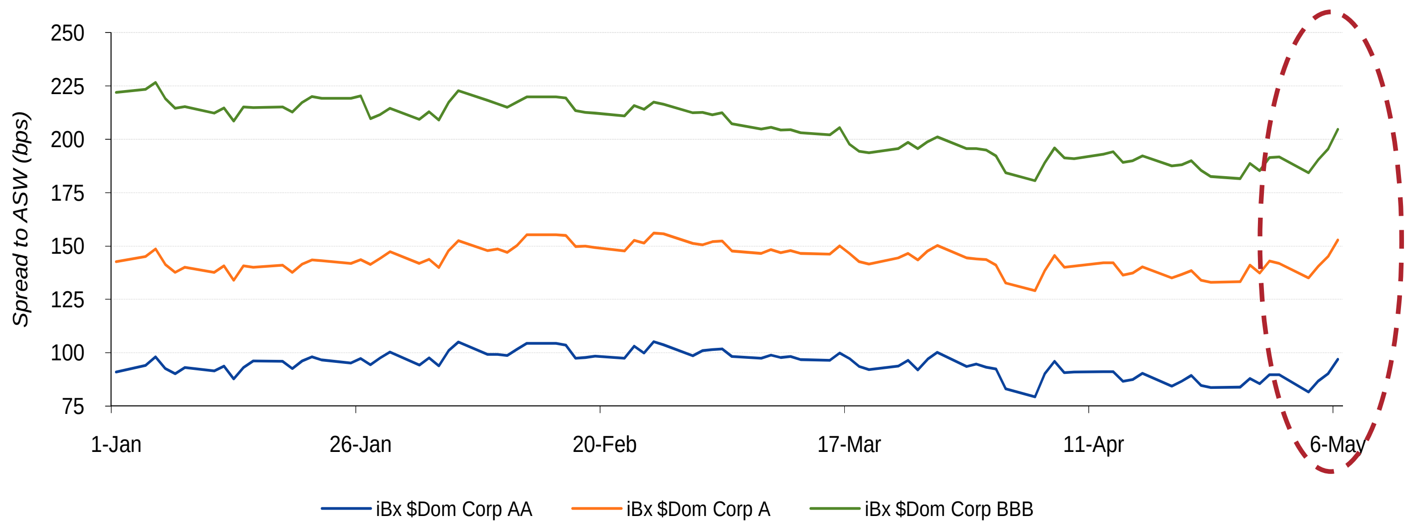
- Pre-fund!!!
- More execution risk
- High volatility
- Higher new issue premiums (15 bps+)
- Less liquidity
- Wider spreads
- Tighter US Treasury Yields

US$ Financials Credit Spreads Since March 25

- **U.S. financial spreads, especially banks, will be more vulnerable than U.S. corporates**



US$ Corporates Credit Spreads Since March 25



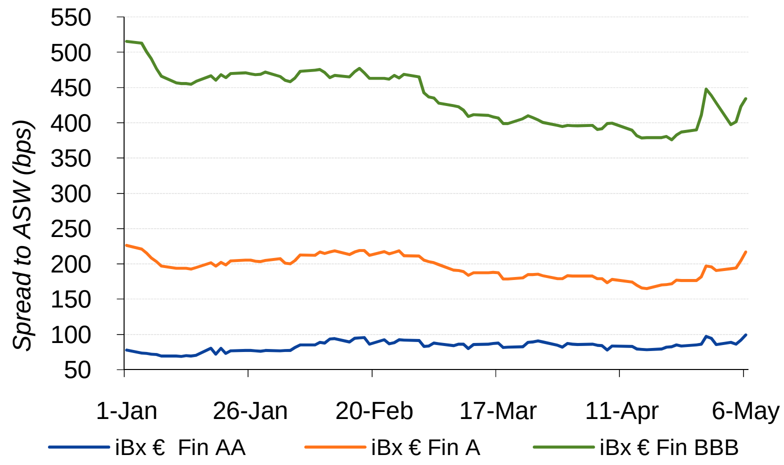
Source: Deutsche Bank Global Markets Research

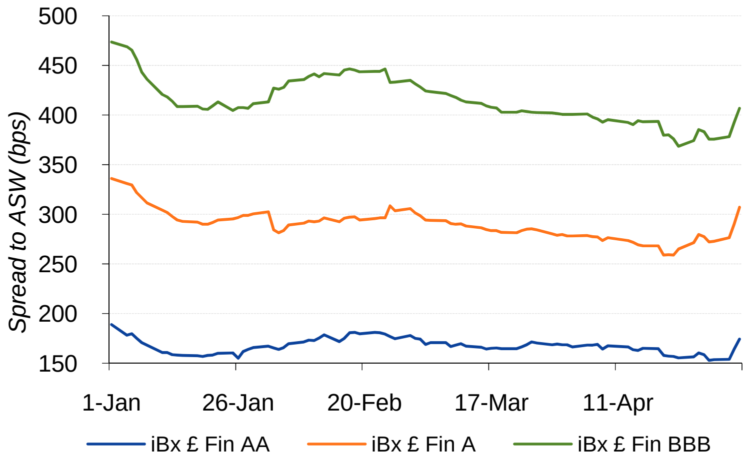
Euro & Sterling Credit Spreads More Volatile

Euro and Sterling credit spread volatility has been markedly higher than in the US$ market, and with substantively less liquidity, as the sovereign credit crisis has escalated in 2010

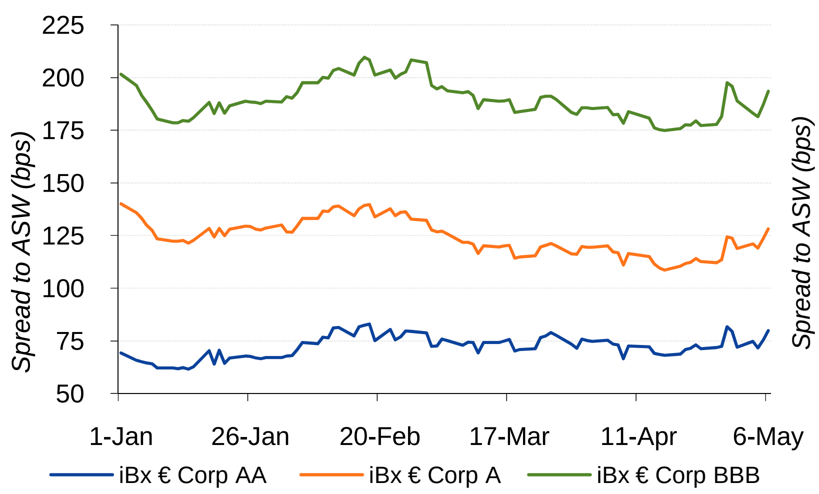
This has been especially true among European financial names

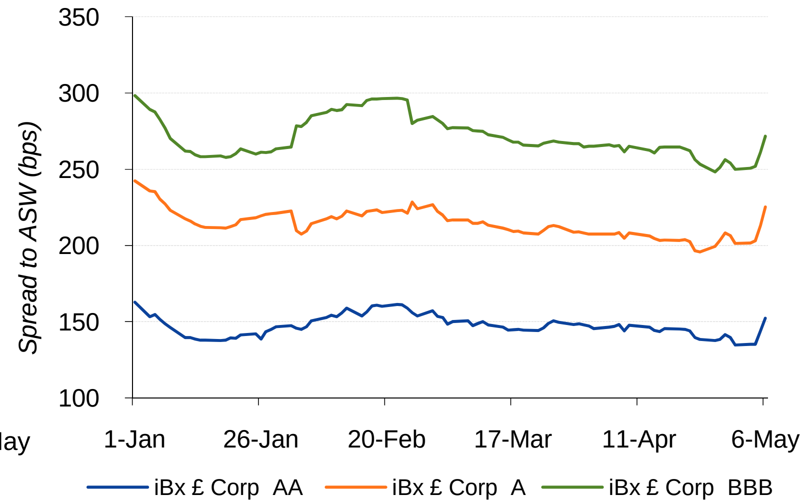
Euro and Sterling Financial Credit Spreads Since March 25





Euro and Sterling Corporate Credit Spreads Since March 25





Source: Deutsche Bank Global Markets Research

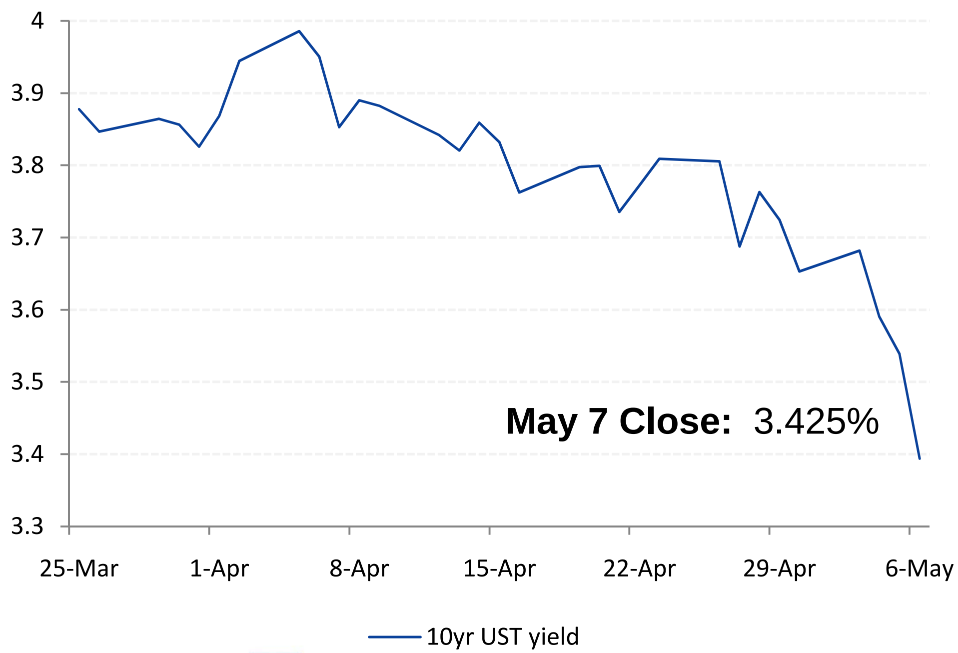
Investor Asset Allocations in “Flight to Quality”

Flight to Quality After March 25, 2010

- Market re-pricing of risk picked up pace after March 25th, in particular
- Recognition that the core cause of the financial crisis has still not been resolved; that is, leverage
- **Strong asset allocation shifts:**
  - **Out of: Equities, Commodities and Euros**
  - **Into: Bonds, US Treasuries, US Dollar and Gold**

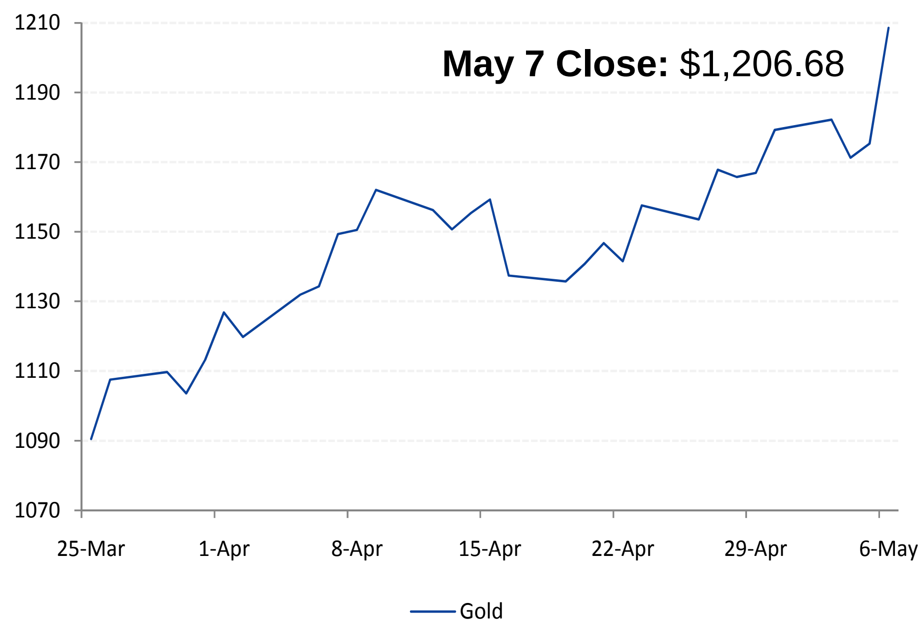
10yr UST Yields

- ***US 10 Yr Treasuries closed at a 3.43% yield on May 7, its biggest 2 week drop since December 2008 (38 bps)***
- ***The Treasury will auction US$78 billion the wk of May 10***



Gold (US$ per oz.)

- ***Gold posted its 3rd straight week of gains on May 7th, a reflection of its safe-haven appeal***



Focus on Greece

Section 3

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The Problem

Section A

Greece's 4 Part Problem

Greece has the most acute and complex sovereign debt problem in the European Union…

…and is currently the primary driver of "contagion" risk across the global economy and capital markets

4 Primary Problems	
Problem	**Consideration**
#1: Credibility Problem	▪ Restated budget deficits each of last 10 years; 4x in 2009 alone
#2: Liquidity Problem	▪ Largely addressed through record EU / IMF bailout packages
#3: Insolvency Problem	▪ **The market took little comfort from a EUR 110 billion EU/ IMF Greek rescue as it focused on this core long-term issue**
#4: Banking System Problem	▪ Came under intense pressure week of May 3; ratings downgrades; decline in confidence; rapidly rising LIBOR

4 Primary Risks	
Risk	**Consideration**
#1: Socio - Political Risk	▪ Limited social acceptance of fiscal reforms; ▪ "All sovereign crises are political crises"
#2: Implementation Risk	▪ Aggressive fiscal targets, monitored quarterly, for next 4 years
#3: Debt Restructuring Risk	▪ Market currently focused on when, not if? Size of haircut will be the pivotal issue for the European financial and banking system
#4: Contagion Risk	▪ Spillover to global capital markets; Portugal, Spain & others

Source: Deutsche Bank Markets Research. Mark Wall, DB Chief European Economist.

Problem # 1: Credibility Problem

Greece is highly dependent on the capital markets to solve its liquidity problem…

…and to this end, Greece has a significant credibility problem that has been building for many years

Sources of Greece's Credibility Problem

- Inconsistent budget forecasts and revisions
- Tax system
- Fiscal irregularities
  - Overstatement of social security surpluses
  - Incorrect reporting of military expenditures
  - Incorrect reporting of healthcare expenditures
  - Treatment of certain EU subsidies as revenue
- Accounting irregularities
- Derivatives transactions (to mask debt levels)

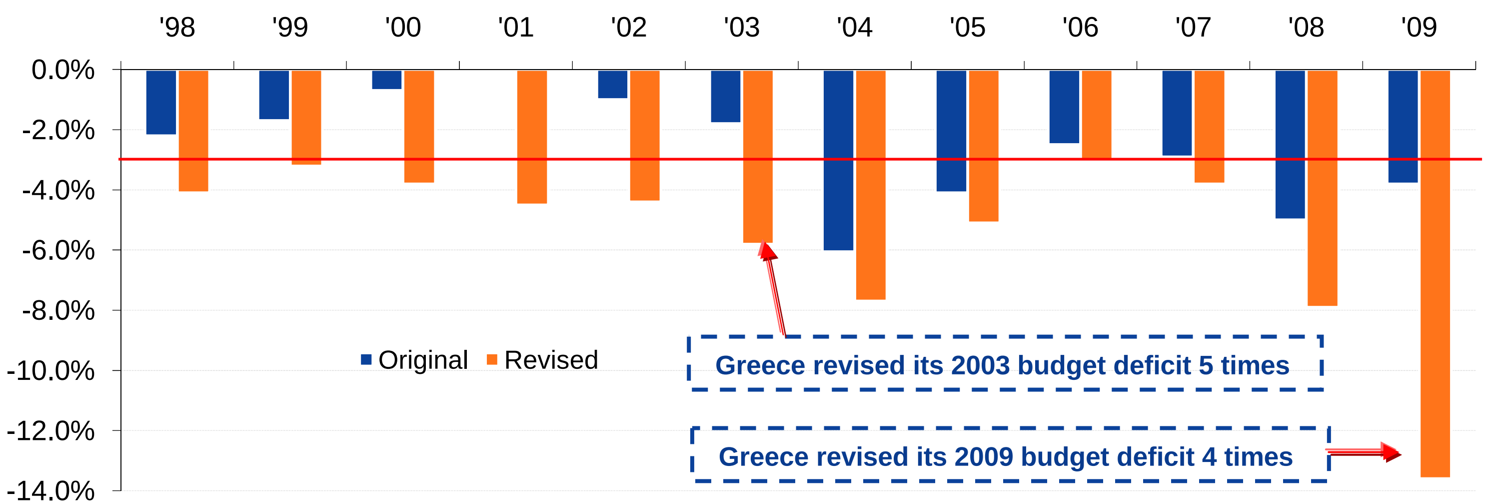
2009 Fiscal Deficit Revisions

- On April 22, 2010, Greece's 2009 budget deficit was revised higher for the 4th time, to 13.6%, up from a prior estimate of 12.9%
- Eurostat indicated that uncertainties around Greek economic data could cause a 5th revision, up to 14.1%

Greece has habitually under-reported the severity of its Deficit-to-GDP ratio

The deficit limit to be allowed into the Euro-zone (red line) is 3%

Greece's Budget Deficit / GDP



Source: Deutsche Bank Markets Research. Moody's. WSJ.

Problem # 2: Liquidity Problem

Although Greece has lost access to the capital markets to refinance its maturities, the EUR 110 billion EU / IMF rescue package announced on May 2nd will address Greece's liquidity needs for 2010…

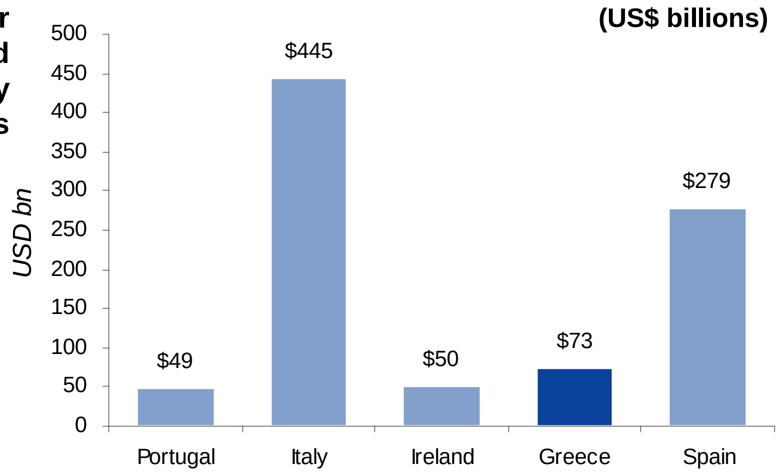
…and assuming Greece hits its fiscal targets, this package will be sufficient to cover Greece's 2011 and 2012 liquidity needs

Greece's 2010 Liquidity Needs

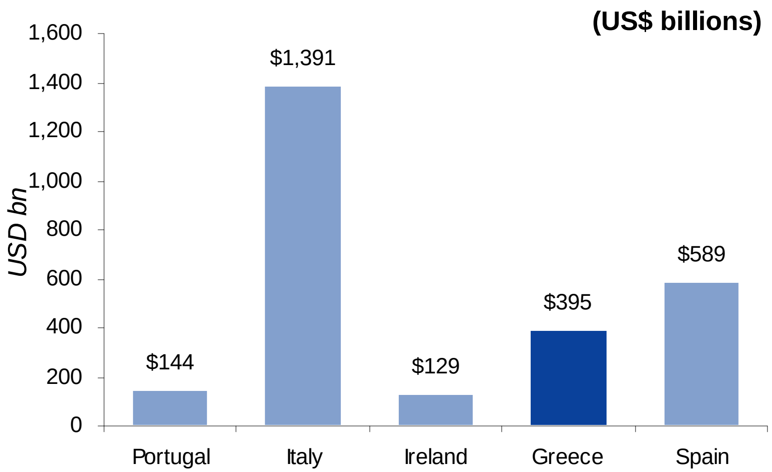
- **Total Debt Outstanding:** Nearly **US$ 400 billion** of total outstanding debt
- **Near-term Maturities:** Nearly **US$ 73 billion** of maturities in 2010 alone
- **Capital Markets Access:** As of late March, Greece has effectively lost access to the capital markets to refinance its upcoming maturities

Next Critical Maturity: EUR 8.5 billion 10 Year Bond on May 19, 2010

2010 Liquidity Needs
(Bond Maturities + ST Debt Roll + Fiscal Deficit)



Total Debt Outstanding (US$)



Critics of the current Greek Government would say that they inherited a significant fiscal deficit crisis, and in the course of several months, created an unparalleled liquidity crisis.

Source: Fitch, Wall Street Research. US$ values based on 1.36 Euro exchange rate

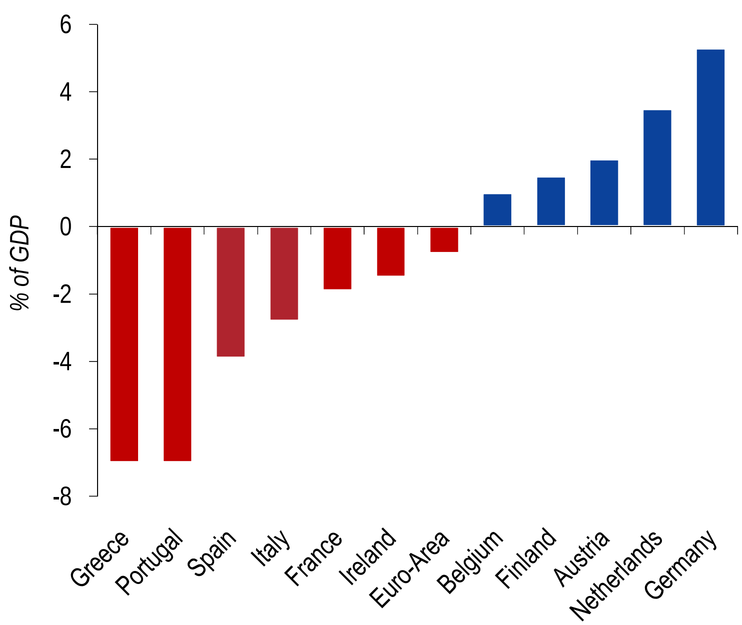
Problem # 3: Insolvency Problem

Twin deficits are a key determinant for analyzing sovereign credit risk

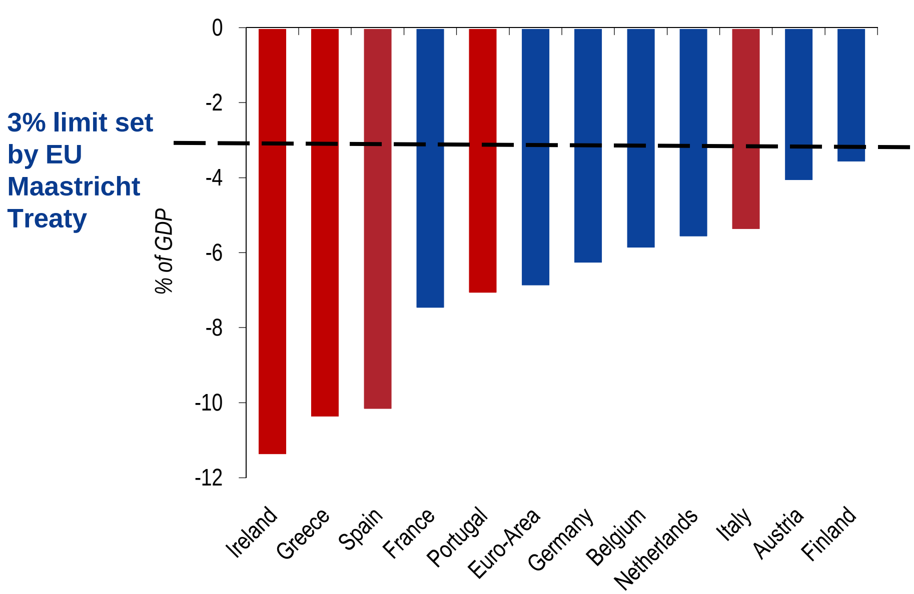
Assessing Euro Sovereign Risk Through the Lens of Twin Deficits

- **An IMF regression analysis of 24 countries indicates that (i) current account deficits, and (ii) fiscal deficits, are highly correlated with higher sovereign CDS spreads**
  - **Greece's Fiscal Deficit:** At 13.6% of 2009 GDP, it is the second largest in the European Union (after Ireland), and well above the 3% limits set by the EU's Maastricht Treaty in 1992
  - **Greece's Current Account Deficit:** Peaked in Q3 2008; should be down sharply in 2010 – 2011 with aid packages (but still projected to be negative in 2010)

2010E Current Account Deficit (% of GDP)



2010E Fiscal Deficit (% of GDP)



Source: Deutsche Bank Global Markets Research. IMF Global Financial Stability Report (April 2010).

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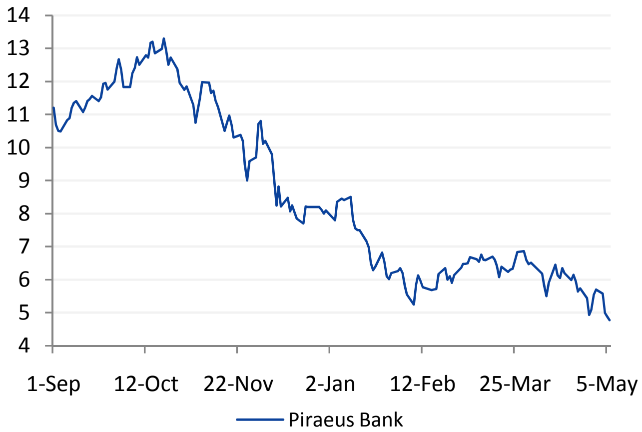
Problem # 4: Banking System Problem

Greece's Top 4 Banks (Stock Price Performance)

- **The Greek Banking System is currently under significant, unsustainable pressure**
- **On May 2nd, after previously lowering its collateral standards, continued Rating Agency downgrades forced the ECB to eliminate its minimum rating requirements for Greek bonds used as collateral to the ECB**
- **On April 7th, Greece's 4 largest banks requested access to the remaining EUR 17 billion of a total EUR 28 billion state support package established in 2008**
  - Combination of loan guarantees and Greek government bonds which the banks could use as collateral for credit lines from the ECB
  - Prior requests entailed preferred stock issuance for capital injections

Piraeus Bank



Alpha Bank

EFG Eurobank Ergasias

National Bank of Greece

Deutsche Bank

Source: Deutsche Bank, Bloomberg

Why the Greek Crisis Accelerated After March 25th?

The Greek sovereign credit crisis began to accelerate rapidly after March 25th, 2010

The Acceleration of the Greek Credit Crisis after March 25th, 2010

Date	Key Event
March 25	Joint EU / IMF Commitment Announced with Very Few Details
March 30	Low Demand for Greek 20 Year Bond Re-Opening
April 7	Top 4 Greek Banks Turn to Government
April 9	Fitch Downgrades Greece to BBB- (Negative Outlook)
April 11	EU / IMF Announce Details of EUR 45 Billion Package
April 19	Volcanic Ash Delays EU/ IMF/ Greece Meetings
April 20	IMF Releases Global Financial Stability Report with Sovereign Warnings
April 22	■ Eurostat Increases Greek 2009 Budget Deficit (Again) to 13.6%
	■ Moody's Downgrades Greece to A3 (and Review for Downgrade)
April 23	Greek Prime Minister, George Papandreou, formally activates EU / IMF aid in a live television address
April 27	**S&P Downgrades Greece to non-investment grade status (BB+)**
May 2	EU/IMF announce larger Greek aid package of EUR110 billion (US$146 bn)

Pivotal Event

On April 27, S&P also forecasted a 30% recovery value for Greek bonds in default, an estimate S&P is required to make when it downgrades a name to non-investment grade; Markets reacted very negatively

Selected Key Dates

Selected Key Dates

Date	Key Event
May 6	UK General Elections
May 7	EU Summit in Brussels
	Germany Approves their EUR 8.4 billion 2010 installment to Greece
	9 other Euro-zone nations also approve their respective contributions
	G-7 meetings scheduled via conference call
May 9	German regional elections (has constrained Merkel's response to date)
	Finance Ministers from EU 27 meet to approve a new financial stability package
May 19	**Greece's EUR 8.5 billion (US$11.3 billion) 10-yr bond maturity obligation**
June 26 - 27	G-20 meetings in Toronto, Canada

Potential Solutions

Section B

Step # 1: Address Greece's Liquidity Problem

As of Friday, May 7th, over 10 EU nations (including Germany) had already received legislative approval for initial installments on the EUR 110 billion rescue program for Greece (EUR 80 billion from the EU)

As such, the liquidity risk has essentially been eliminated on Greece's closely watched EUR 8.5 billion redemption obligation on May 19, 2010

Joint EU / IMF Solution (for 2010)

- **Key Details:**
  - **Announced:** May 2, 2010
  - **Size: ~ EUR 110 billion (US$146 billion)**; EUR 80 billion from EU and EUR 30 billion from IMF
  - **Cost: Approximately 5%** (Equal to Euribor + 300bps + 100 bps step-up in year 3 + 50 bps service charge)
  - **Duration: 3 years**

Other Options Considered

- **Raise debt in capital markets** (too little demand for Greek debt; pricing too high)
- **EU Debt guarantees** (violation of EU treaties; difficult precedent)
- **EU Bond issuance** (reconciliation with EU treaties challenging)
- **Bilateral arrangements** (moral hazard issues; little German domestic support)
- **Infrastructure advances:** not sufficient size

Key Question

- *Will Greece meet the aggressive fiscal targets required to ensure continued future installments on the EUR 110 billion rescue package?*

"If I owe you a pound, I have a problem, but if I owe you a million, the problem is yours."
~ John Maynard Keynes (English Economist, 1883 – 1946)

Step # 2: Decisive ECB Support for Euro Bank System

Possible ECB Actions

Purchase Sovereign Debt

- ***Status**: No longer unthinkable, but highly unlikely; would put ECB Balance Sheet at HIGH risk*
- Investors unreasonably focused on such a Quantitative Easing (QE) announcement (disappointed that Trichet avoided on May 6th)
- Also blurs boundary between ECB independence and EU sovereigns
- Likely an option of last resort

Relax Mark-to-Market Margin Calls on ECB Collateral

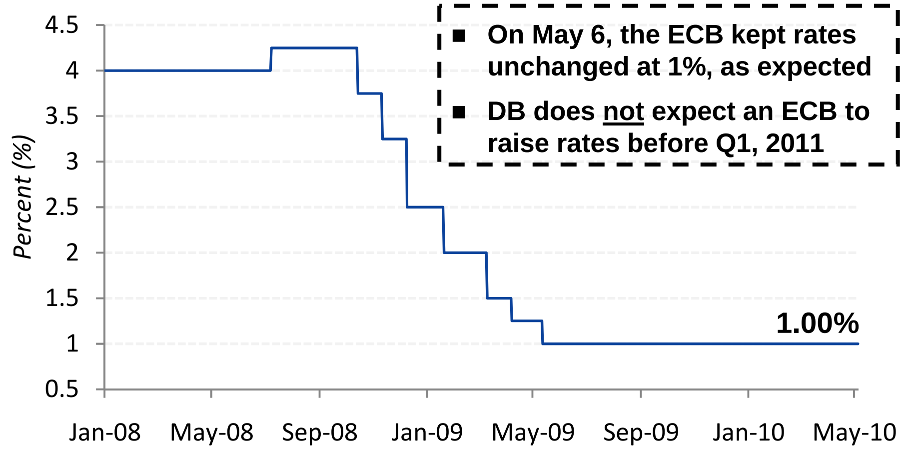
- ***Status**: Very unlikely; would put ECB Balance Sheet at risk*
- Banks don't necessarily have to mark-to-market their government bond holdings; however, they must do so if they use them as collateral to the ECB
- Would reduce bank margin calls and significantly reduce pressure on the system
- However, would effectively pose unsecured lending risk on the ECB

Expand Refi Liquidity Facilities

- ***Status**: Appears very likely*
- ***Current facilities (as of May 7)**:*
  - Unlimited (full allotment basis) and cheap liquidity via 1W and 1M tenders
  - 3M tenders shifted to variable rate, fixed allotment basis
  - 6M and 1Y tenders have been discontinued
- ***Possible changes**:*
  - Returning to full allotment on LTRO (long-term refinancing operations)
  - Move 3M tenders back to fixed rate and unlimited basis (avoids over-bidding problems)
  - Reintroduce long term tenders (6M and 1Y)
  - Roll the first 12M tender which expires on July 1 (EUR 442 billion)

Source of significant market speculation on Friday, May 7th

ECB Benchmark Main Refinancing Rate



- **On May 6, the ECB kept rates unchanged at 1%, as expected**
- **DB does not expect an ECB to raise rates before Q1, 2011**

We expect the ECB to stick to its "knitting" (refi operations) in order to add the liquidity and confidence required to break the negative feedback loop between sovereigns and banks

Source: Deutsche Bank Global Markets Research. Soniya Sadeesh, Mohit Kumar, Mark Wall and Gillian Edgeworth

Step # 3: U.S. Federal Reserve Swap Lines to ECB

Review of Possible U.S. Federal Reserve Swap Lines to the European Banking System

Description

- **Origin:** US Federal Reserve lending program put in place during the 2007 – 2009 Global Financial Crisis
- **Mechanics:** US Fed shipped US dollars overseas through currency swaps with foreign central banks (ECB, Swiss National Bank, Bank of England)
  - European Central Banks then lent the US dollars to banks in home countries that required funding for their US dollar assets

Financial Crisis Precedent

- **Program Peak:** December 2008 (US$ 583 billion)
- **Program Discontinued:** February 2010 (no longer needed)
- **Need:** Was very high (Libor-OIS was at 300 bps +)
- **Risk Profile:** Fed viewed as low risk since its counterparties were foreign central banks
- **Assessment:** Highly successful

Considerations

- **Market expectation:** Many expect re-introduction by Fed very soon given the current crisis
- **Need:** Though European banks under stress, +20 bps may still be too low to spur U.S. Fed action
- **Constraints:** U.S. Fed under very politically toxic criticism from U.S. Congress at a time when U.S. Financial Regulatory Reform and scrutiny of Fed is peaking in mid May

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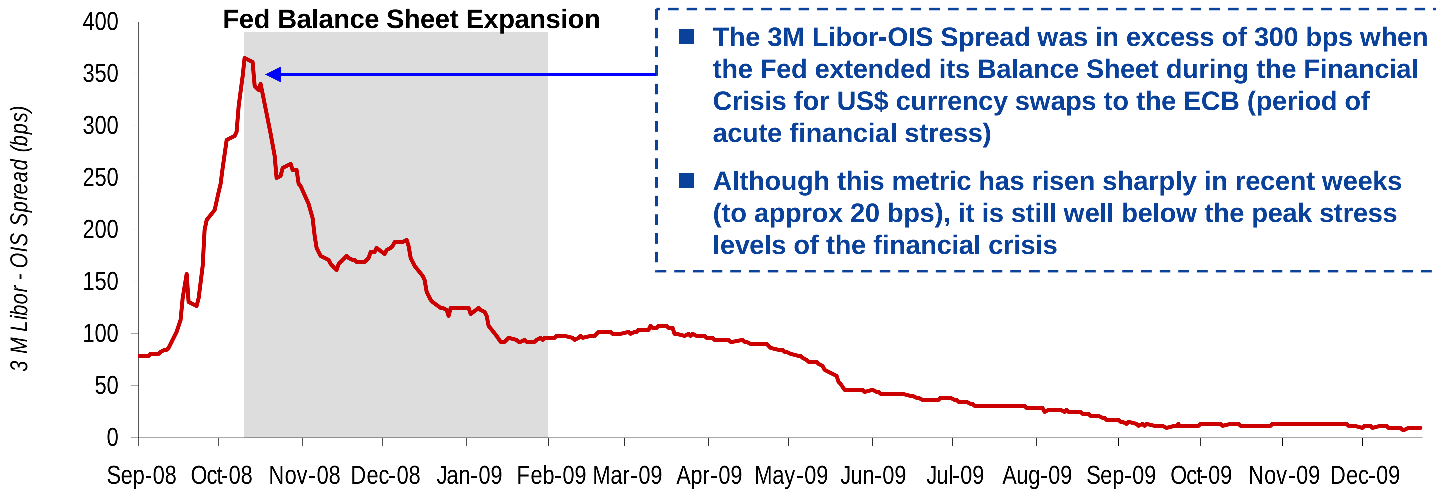
- **Positive impact on:** Would relieve short-term US$ funding pressures only
- **No impact on:** Non US$ funding needs (Euros); bigger non-bank sovereign issues; inability of European banks to unload illiquid sovereign debt

LIBOR – OIS Spreads (Sept 2008 – Dec 2009)



- **The 3M Libor-OIS Spread was in excess of 300 bps when the Fed extended its Balance Sheet during the Financial Crisis for US$ currency swaps to the ECB (period of acute financial stress)**
- **Although this metric has risen sharply in recent weeks (to approx 20 bps), it is still well below the peak stress levels of the financial crisis**

Source: Deutsche Bank Global Markets Research

Step # 4: Address Long-Term Solvency

On March 3rd, Greece announced a more detailed plan for achieving its 3 year fiscal and growth targets

Greece's Fiscal Plan: EUR 4.8 billion (USD 6.5 billion, or 2% of GDP)

#1: Revenue Raising Initiatives (EUR 2.4 billion / USD 3.25 billion)	#2: Expenditure Reductions (EUR 2.4 billion / US 3.25 billion)
Increase value added tax from 19% to 21%	Reduce public sector wages and pensions (EUR 1.7 billion)
Excise tax on petrol, alcohol, cigarettes and luxury goods	Reduce size of public investment programs (EUR 500 million)
Sale of selected state assets	Reduce education expenditures (EUR 200 million)

***** Implementation Risk on Greece's Fiscal Plan is Very High *****

The IMF will increase these fiscal austerity measures in its negotiations with Greece, which should conclude by May 6th

Unprecedented EU Role in Europe

- The EU has embarked on a path of not just intensely monitoring Greek policy, but actually steering Greek policy
  - **Greek interest rate policy**: to be determined by the ECB
  - **Greek currency policy**: to be determined by the EMU
  - **Greek fiscal policy:** to be (effectively) determined and monitored by the EU & IMF
  - **Economic policy?**
- The IMF will focus on 3 critical areas in its new fiscal austerity demands: **labor market reform, healthcare and pension system reforms**

Key Question: How will Greece mitigate the vicious circle of fiscal cuts and economic slowdown as it strives to meet its 4 Year Stability and Growth Program targets?

Step # 5: Greece Must Meet its Fiscal Targets

In 2010, Greece needed to tap the assistance offered by the EU and IMF

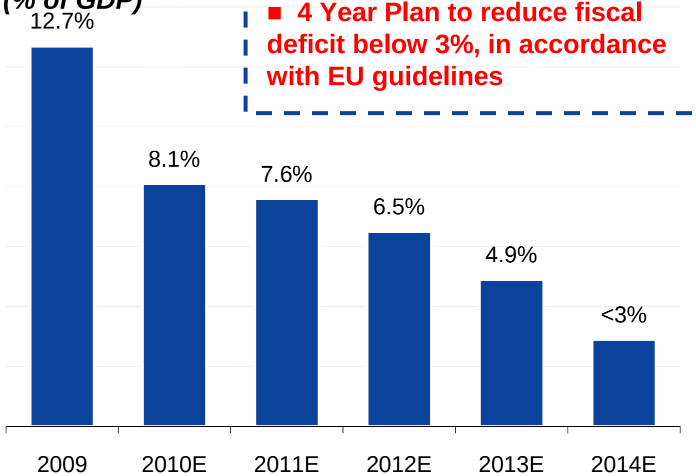
To avoid a potential default, Greece will have to deliver on its official 4 Year "Stability and Growth Program" targets

Greece's 4 Year "Growth and Stability Program" Forecasts

Fiscal Deficit Forecast

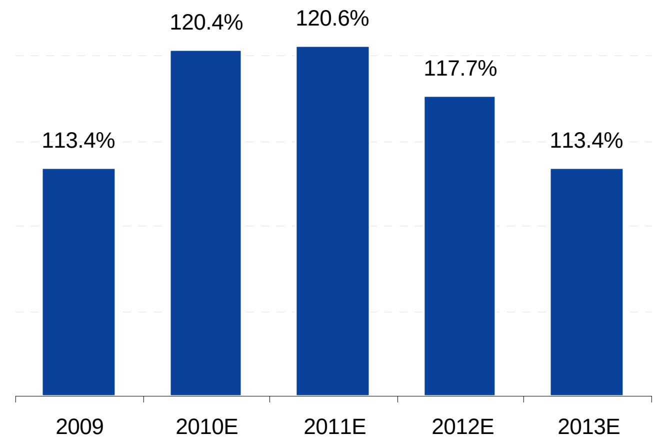
(% of GDP)

- 4 Year Plan to reduce fiscal deficit below 3%, in accordance with EU guidelines



Debt / GDP Forecast

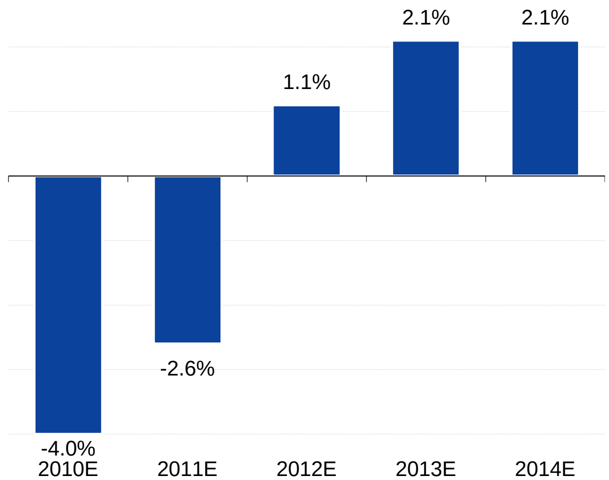
Debt / GDP will peak in 2011



Projected GDP Growth

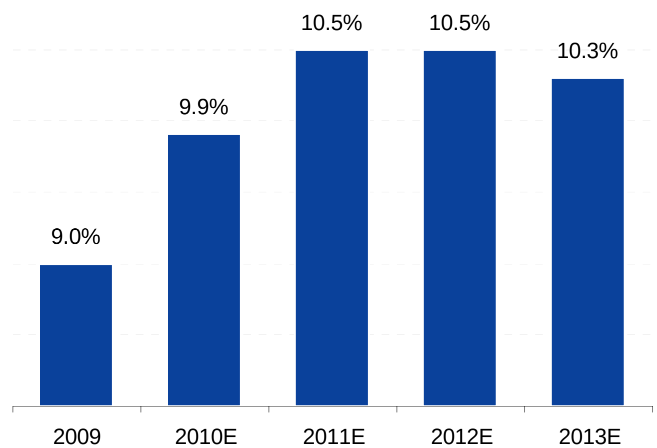
2010 Greece GDP Forecasts:

- **EU Forecast:** (-4.0%)
- **DB Forecast:** (-4.0%)



Source: Deutsche Bank Global Markets Research

Projected Unemployment Rate



Critical Step # 6: Potential Debt Restructuring?

A Greece restructuring could possibly be the largest sovereign default in history

While the EU is calling a debt restructuring "off the table"…

…many investors are viewing it as an "overwhelming probability"

Historical Note:

Greece's last sovereign debt default was resolved in the mid-1960s

Potential Implication of a Greece Debt Restructuring?

- **Official EU & Greek Position:** Debt restructuring is "off the table"
- **Market Position**: Already pricing in either partial reductions, or delays, in Greek debt repayments
- ***Key Question:*** *If Greece was to "trip" in its fiscal consolidation program, and a restructuring of Greek debt followed, would such a default unfold more aggressively (with the 75% haircuts of Argentina's precedent), or in a highly managed and orderly fashion (with modest to medium haircuts of < 50%)?*

Argentina Precedent, 2002 (Less controlled; 75% Haircuts)	Poland Precedent, early 1990s (More Managed; ~ 50% Haircuts)
■ **Would be a "devastating" event for the European financial system** – Defaults of many creditor institutions – Massive investor losses and cross-exposures ■ Greek debt / GDP would decline to ~ 30% ■ Would likely trigger a European financial and banking crisis (and possibly global) – Analogous to a "Lehman-type" event with full range of unintended consequences ■ Confidence in European "peripherals" would evaporate immediately (significant contagion effects to Portugal, Spain, Ireland, Italy and others) ■ Significant questions for Euro longer term	■ **Would be a "significant" event for the European financial system** – If managed in "orderly" fashion, most creditors would avoid default themselves – However, losses would be significant ■ Greek Debt / GDP would decline to ~ 60% ■ Could trigger a European financial crisis, but should be more contained – Range of significant "unintended consequences" likely ■ Significant contagion and spill-over effects to European peripherals likely ■ Significant downward pressure on European growth ■ Significant questions for Euro longer term

Source: Deutsche Bank Markets Research.

<u>Step # 7:</u> Strengthen Long Term Viability of the Euro?

More effective fiscal monitoring mechanisms, with real accountability, will be critical to the long-term viability of the Euro

Many have also raised the longer term possibility of EMU membership returning to a much smaller group of nations in line with its original construct…

…such an unwind would be exceptionally difficult to execute, but should not be ruled out as a longer term possibility

Critical Mechanisms to Ensure Long Term Viability of the Euro

- Bankruptcy regime for failing member states
- Exit mechanism from EMU for failing member states
- Efficient fiscal transfer mechanisms for member states requiring assistance
- **More effective fiscal monitoring and enforcement mechanisms**

EUR / USD Spot (Jan 1, 1999 – Present)

Although Europe will not attain the political union so many have cited as critical to monetary union, more aggressive fiscal enforcement mechanisms will be critical to the long-term viability of the Euro

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Source: Deutsche Bank Global Markets Research

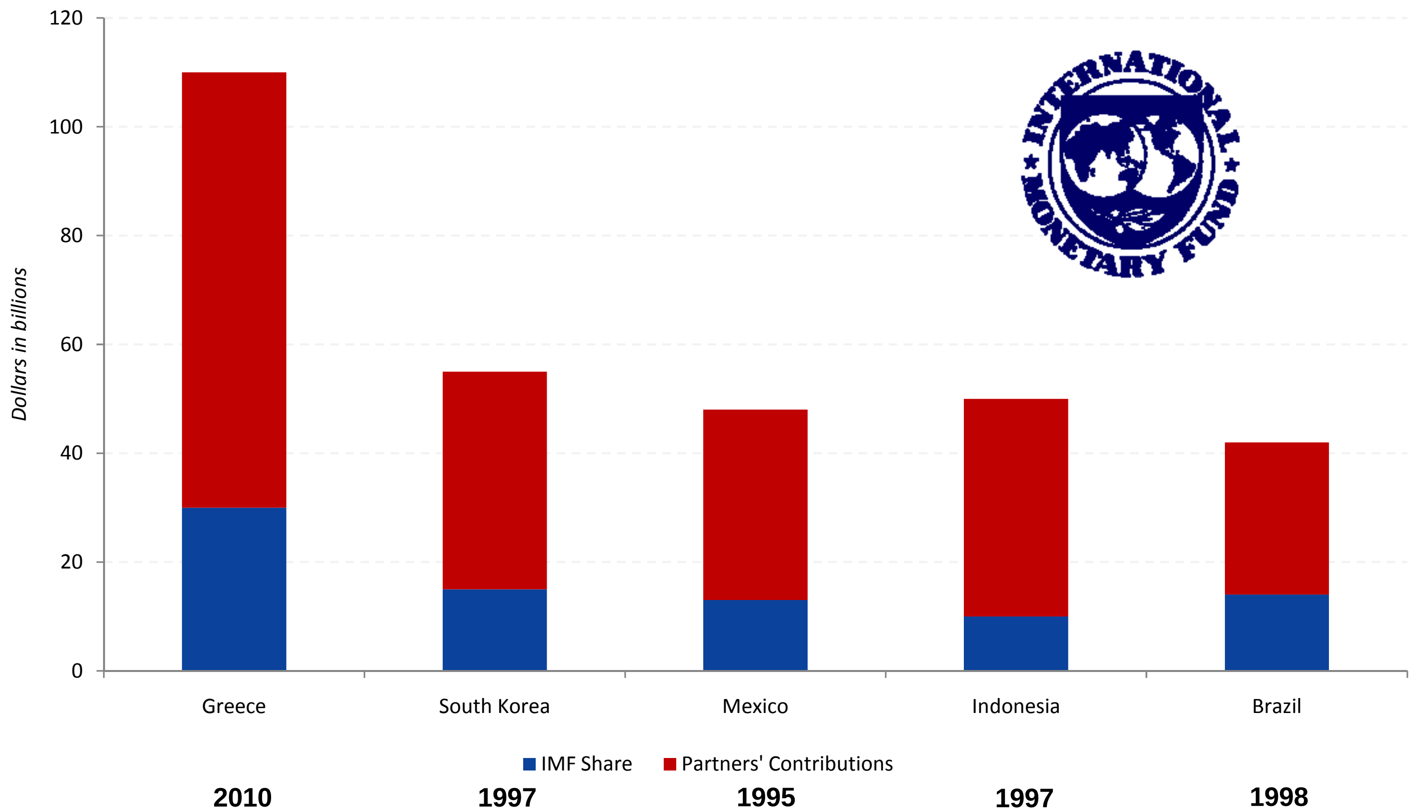
Precedent Large IMF Sovereign Bailouts

The IMF EUR 30 billion aid to Greece represents 3200% of Greece's official quota, the largest ever such disbursement of IMF aid to any country

Selected Large IMF Bailouts

- **IMF aid to Greece will likely be accompanied by aggressive fiscal reforms, particularly:**
  - Pension reform
  - Healthcare reform
  - Labor system reform

- **There has actually been significant precedent for sovereign default, even after IMF aid**



Selected IMF Sovereign Bailouts that Subsequently Defaulted

- **Argentina**
- **Indonesia**
- **Uruguay**
- **Dominican Republic**

Source: Deutsche Bank Global Markets Research

Who are the Key Players in Europe?

Greece

- **Prime Minister:** George Papandreou
- **Finance Minister:** George Papaconstantinou
- **Opposition Leader:** Antonis Samaras
  - *Currently endorsing Government plan*

Germany

- **Chancellor:** Angela Merkel
- **Finance Minister:** Wolfgang Schaeuble

France

- **President:** Nicolas Sarkozy
- **Finance Minister**: Christine Lagarde

European Union

- **European Central Bank President**: Jean-Claude Trichet
- **European Union President**: Herman Van Rompuy
- **(Rotating) President of EU**: Spain (Prime Minister Jose Luis Rodriguez Zapatero)
- **European Commission President:** Jose Manuel Barroso (former Prime Minister of Portugal)
- **Eurogroup Chairman (Chair of Euro-area Finance Ministers):** Jean-Claude Juncker (also Prime Minister of Luxembourg)
- **Economic & Monetary Affairs Commissioner:** Olli Rehn

IMF

- **Managing Director** (President): Dominique Strauss-Kahn
- **First Deputy Managing Director (IMF # 2):** John Lipsky

The Global "Contagion Effect"

Section 3

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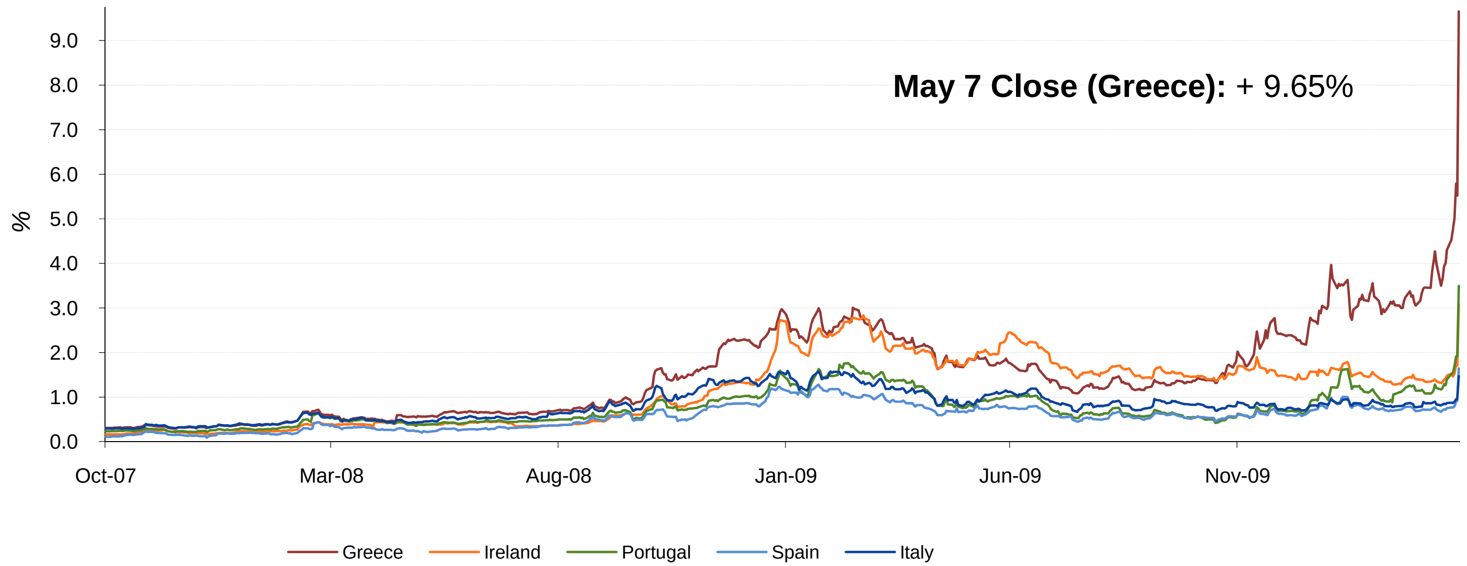
A. The Peripherals

The "Contagion Effect" for the Peripherals

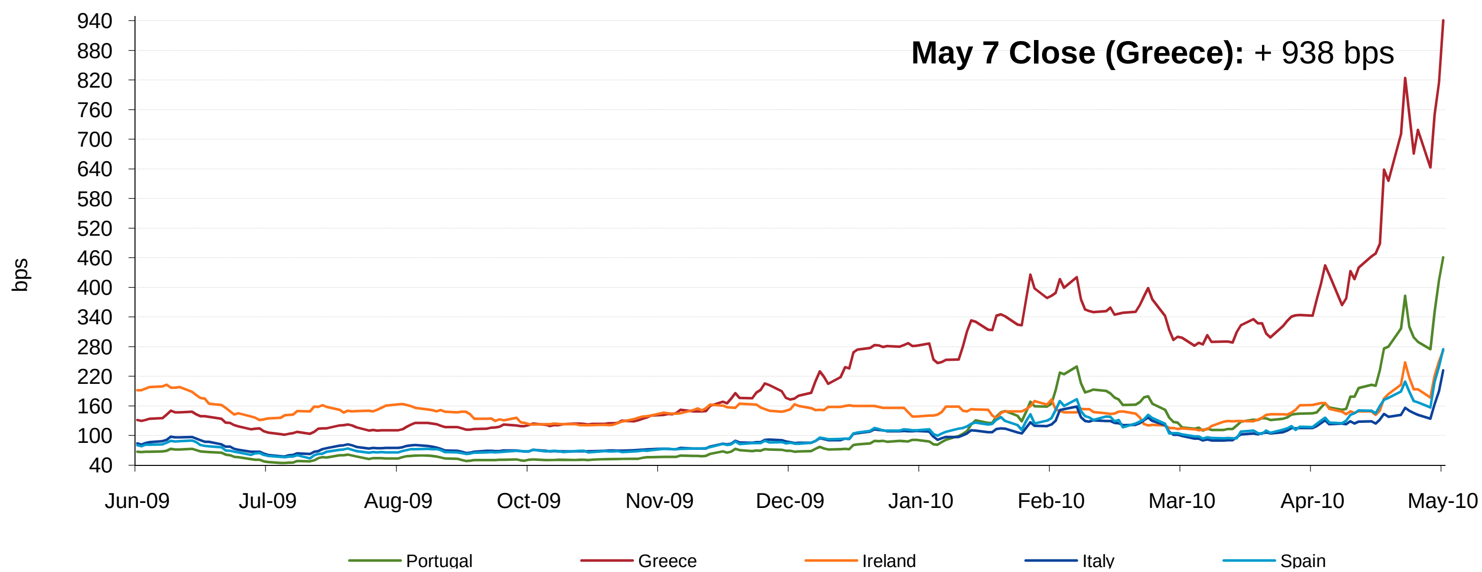
Greece continues to be an outlier, but has clearly had a direct impact on the "peripherals", especially over the last few weeks

The market will continue to be focused on "the weakest links" in the system

"Peripherals" 10 Yr Bond Spread over Germany



"Peripherals" CDS Under Pressure



Source: Deutsche Bank, Bloomberg

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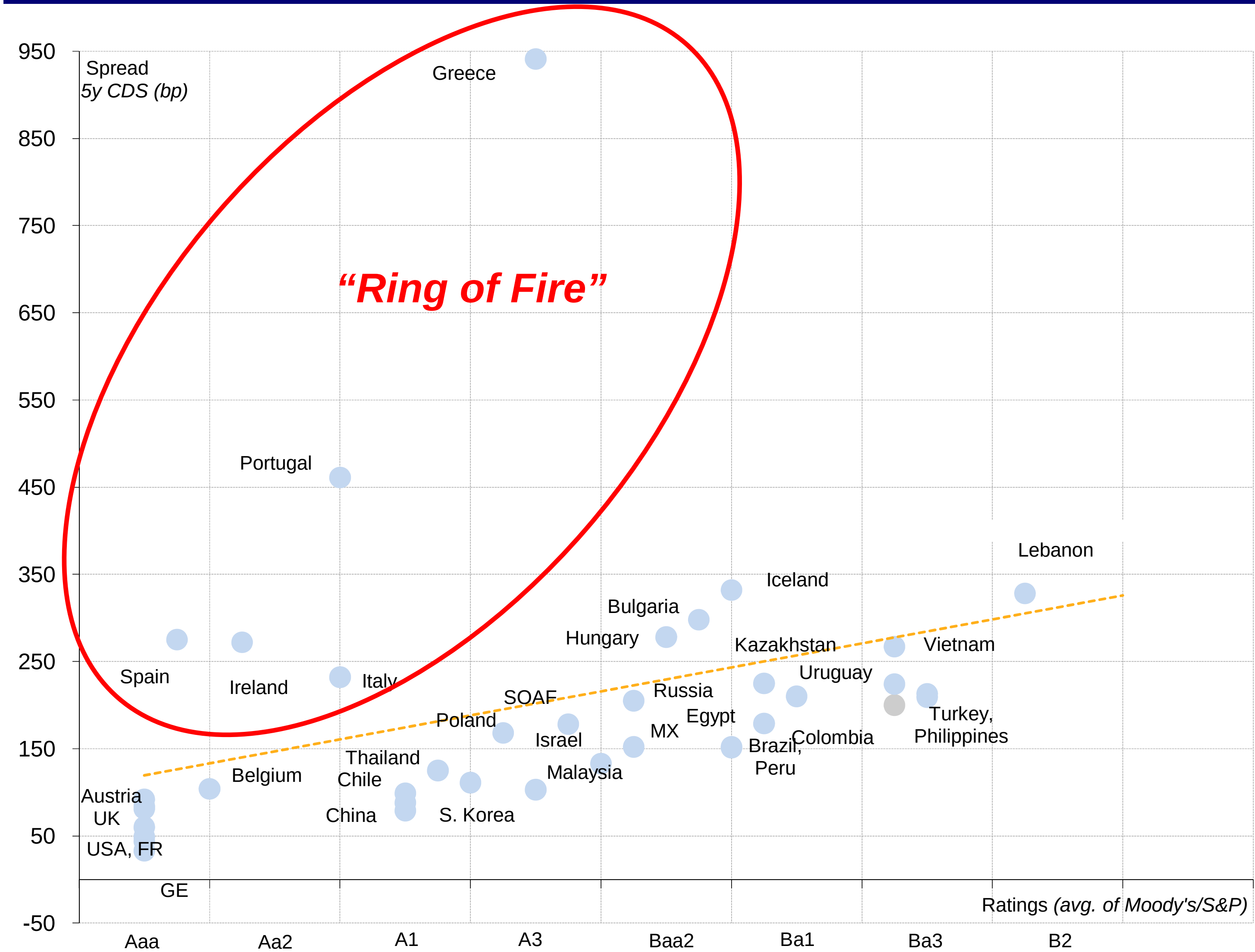
The "Ring of Fire"

Given their current ratings, the European "peripherals" are clearly trading "above the trend line" from a credit risk perspective vis-à-vis a very broad range of sovereign credits globally

5 Year CDS Spread Differentiation (As of May 7, 2010)



Source: Deutsche Bank, Bloomberg

2010 - 2011 Peripheral Redemptions (Monthly)

(Euro Billions)

Portugal	Bills	Bonds	Coupon	Total
May-10	1.3	5.9	0.3	**7.5**
Jun-10			1.6	**1.6**
Jul-10	3.9		0.0	**3.9**
Aug-10			0.0	**0.0**
Sep-10	2.2		0.4	**2.6**
Oct-10			1.2	**1.2**
Nov-10	2.6		0.0	**2.6**
Dec-10			0.0	**0.0**
Jan-11	1.3		0.0	**1.3**
Feb-11	1.8		0.0	**1.8**
Mar-11	1.5		0.0	**1.5**
Apr-11		5.0	0.7	**5.7**
May-11			0.0	**0.0**
Jun-11		6.8	1.6	**8.4**
Jul-11			0.0	**0.0**
Aug-11			0.0	**0.0**
Sep-11			0.4	**0.4**
Oct-11			1.2	**1.2**
Nov-11			0.0	**0.0**
Dec-11			0.0	**0.0**

Greece	Bills	Bonds	Coupon	Total
May-10	0.0	8.4	2.2	**10.7**
Jun-10	0.0	0.0	0.0	**0.0**
Jul-10	2.0	0.0	3.0	**5.0**
Aug-10	0.0	0.0	1.6	**1.6**
Sep-10	0.0	0.2	0.8	**1.0**
Oct-10	1.3	0.0	1.1	**2.4**
Nov-10	0.0	0.0	0.0	**0.0**
Dec-10	0.0	0.0	0.1	**0.1**
Jan-11	1.0	0.0	0.3	**1.4**
Feb-11	0.0	0.0	0.0	**0.0**
Mar-11	0.0	9.0	1.9	**10.9**
Apr-11	0.0	0.0	0.0	**0.0**
May-11	0.0	6.9	1.7	**8.6**
Jun-11	0.0	0.0	0.3	**0.3**
Jul-11	0.0	0.0	3.0	**3.0**
Aug-11	0.0	6.0	2.1	**8.1**
Sep-11	0.0	0.0	0.8	**0.8**
Oct-11	0.0	0.0	1.1	**1.1**
Nov-11	0.0	0.0	0.0	**0.0**
Dec-11	0.0	5.8	0.1	**5.8**

Source: Bloomberg, DB Global Markets Research, Gillian Edgeworth

2010 - 2011 Peripheral Redemptions (Monthly)

(Euro Billions)

Spain	Bills	Bonds	Coupon	Total
May-10	8.3	0.0	0.0	**8.3**
Jun-10	6.5	0.0	0.0	**6.5**
Jul-10	6.7	17.7	7.3	**31.6**
Aug-10	5.4	0.0	0.0	**5.4**
Sep-10	4.4	0.0	0.0	**4.4**
Oct-10	4.9	0.0	0.0	**5.0**
Nov-10	5.5	0.0	2.4	**7.9**
Dec-10	4.6	0.0	0.0	**4.6**
Jan-11	4.5	0.0	5.4	**9.9**
Feb-11	4.0	0.0	0.1	**4.1**
Mar-11	4.7	0.0	0.0	**4.7**
Apr-11	0.0	0.0	0.0	**0.0**
May-11	0.0	0.0	1.7	**1.7**
Jun-11	0.0	0.0	0.0	**0.0**
Jul-11	0.0	17.0	0.0	**17.0**
Aug-11	2.8	0.0	6.7	**9.5**
Sep-11	0.0	0.0	0.0	**0.0**
Oct-11	0.0	14.1	2.4	**16.5**
Nov-11	0.0	0.0	0.0	**0.0**
Dec-11	0.0	0.0	0.0	**0.0**

Ireland	Bills	Bonds	Coupon	Total
May-10	4.2		0.0	**4.2**
Jun-10	1.0		0.3	**1.3**
Jul-10	2.0		0.0	**2.0**
Aug-10			0.0	**0.0**
Sep-10			0.0	**0.0**
Oct-10		0.4	1.0	**1.4**
Nov-10			0.2	**0.2**
Dec-10			0.0	**0.0**
Jan-11			0.4	**0.4**
Feb-11			0.0	**0.0**
Mar-11			0.7	**0.7**
Apr-11			1.1	**1.1**
May-11			0.0	**0.0**
Jun-11			0.3	**0.3**
Jul-11			0.0	**0.0**
Aug-11			0.0	**0.0**
Sep-11			0.0	**0.0**
Oct-11			1.0	**1.0**
Nov-11		4.4	0.2	**4.6**
Dec-11			0.0	**0.0**

Source: Bloomberg, DB Global Markets Research, Gillian Edgeworth

Focus: Portugal

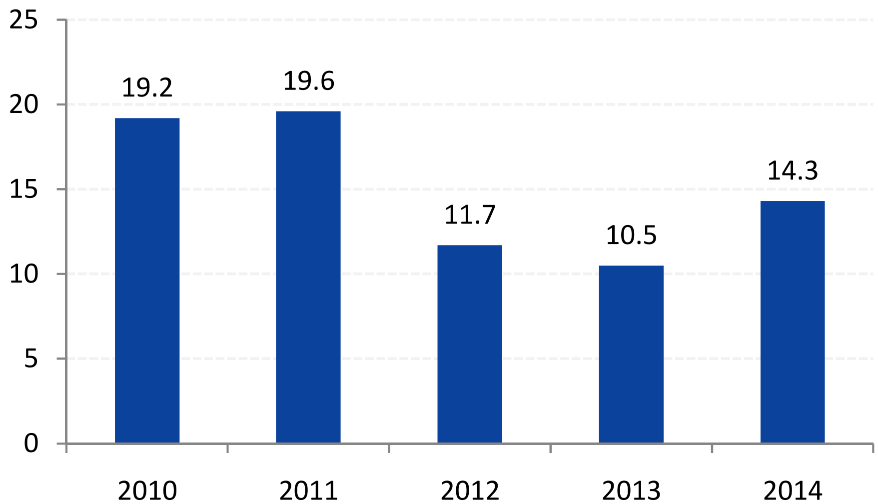
Historical Note:

Portugal had an IMF assistance program as recently as 1984

Key Facts

■ **Economy Size:**	US$ 228 billion
■ **Unemployment Rate:**	10.1%
■ **2010E GDP Growth:**	0.7%
■ **2010E Fiscal Deficit:**	(- 8.3%)
■ **Debt Outstanding:**	EUR 191 billion
■ **Foreign Ownership of debt (% of GDP):**	60.2%

Remaining Redemptions & Coupon Payments (EUR bn)



Key Considerations

- Small economy (2% of European GDP)
- Very little economic diversification
- Economic competitiveness and productivity growth has been especially weak; no ability to devalue currency to improve competitiveness
- Very high twin deficits (current account and fiscal)
- Less public debt than Greece, but still high
- Very high foreign ownership of debt (and so highly dependent on capital markets)
- Highly levered private sector as well
- Does not have same market credibility problem as Greece
- Moved earlier on many of its fiscal austerity measures
- More implementation risk with minority Government

Source: DB Global Markets Research. IMF.

Focus: Spain

Key Facts

Economy Size:	US$ 1.46 trillion
Unemployment Rate:	20.05%
2010E GDP Growth:	(- 0.2%)
2010E Fiscal Deficit:	(-10.2%)
Debt Outstanding:	EUR 560 billion
Foreign Ownership of debt (% of GDP):	26.9%

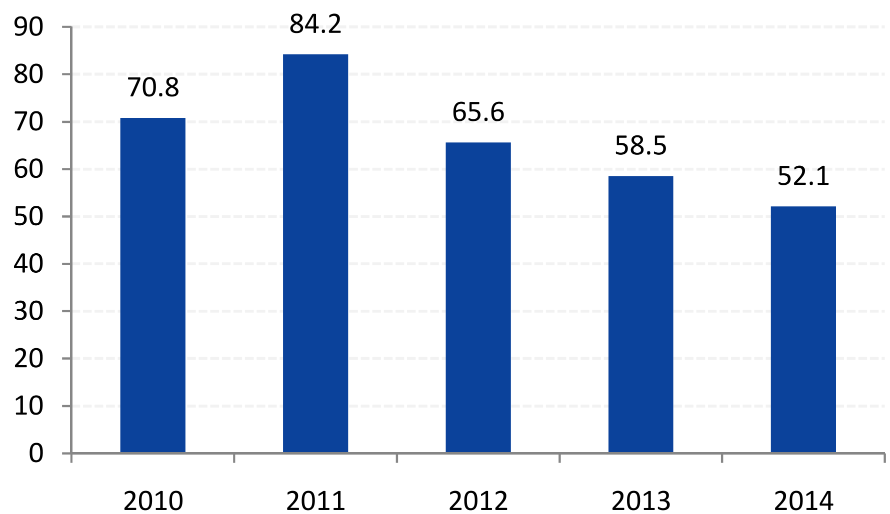
Key Considerations

- Large economy (greater potential contagion impact)
- 20% unemployment among highest in Europe
- Very weak banking system; real estate crisis was greater than most European EMU peers
- One of the most highly levered private sectors in Europe
- Weak economic competitiveness; no ability to devalue currency to increase growth and competitiveness; labor system reform progress needed
- Very high twin deficits (current account and fiscal), but manageable
- Better liquidity position than Greece and Portugal with less dependence on foreign bond ownership; Spanish banks absorb much bond issuance; EUR 40 billion to raise by July 2010
- Does not have same market credibility problem, or capital market dependence, as Greece

***Historical Note**:*

Despite a relatively better modern history, Spain holds a record for the most independent sovereign default episodes (12)

Remaining Redemptions & Coupon Payments (EUR bn)



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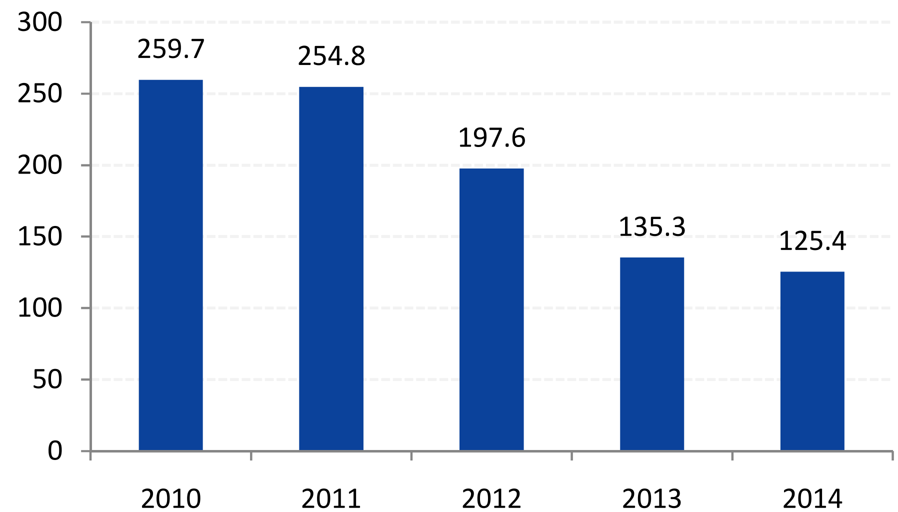
Source: DB Global Markets Research. IMF. Kenneth Rogoff and Carmen Reinhart: This Time is Different

Focus: Italy

Key Facts

- **Economy Size:** US$ 2.12 trillion
- **Unemployment Rate:** 8.2%
- **2010E GDP Growth:** 0.9%
- **2010E Fiscal Deficit:** (- 5.1%)
- **Debt Outstanding:** EUR 1.76 trillion
- **Foreign Ownership of debt (% of GDP):** 56.4%

Remaining Redemptions & Coupon Payments (EUR bn)



Source: DB Global Markets Research. IMF.

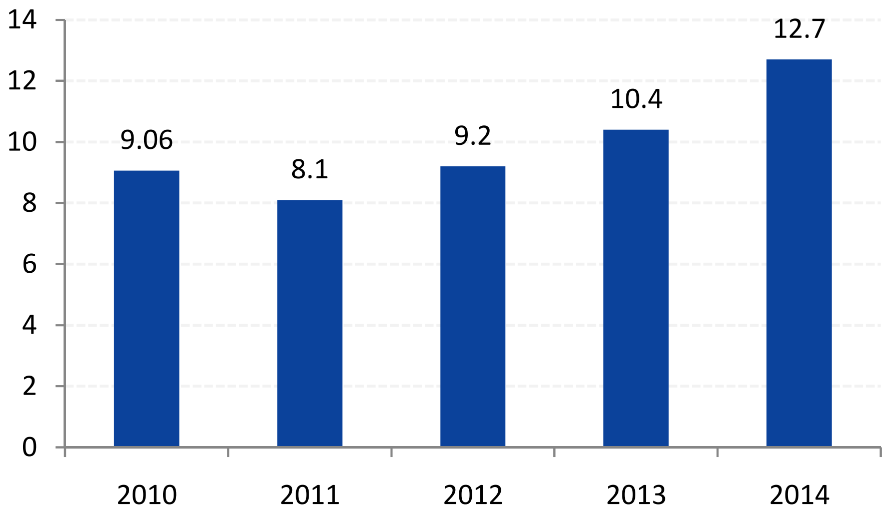
Key Considerations

- Large economy (greater potential contagion impact)
- More powerful and diversified economic engine, and so more ability to grow through debt burden
- Strong manufacturing sector has shown improvement with recent Euro weakness
- Unemployment rate not as high as many Euro peers
- Public sovereign debt levels among the highest in Europe; however, household leverage reasonably low
- Very high twin deficits (current account and fiscal)
- Relatively high foreign ownership of debt
- Does not have same market credibility problem as Greece

Focus: Ireland

Key Facts	
■ **Economy Size:**	US$ 223 billion
■ **Unemployment Rate:**	13.4%
■ **2010E GDP Growth:**	(- 0.3%)
■ **2010E Fiscal Deficit:**	(- 10.7%)
■ **Debt Outstanding:**	EUR 104.7 bn
■ **Foreign Ownership of debt (% of GDP):**	47.2%

Remaining Redemptions & Coupon Payments (EUR bn)



Key Considerations

- Small economy (2% of European GDP)
- Likely to outperform other peripheral economies over the next 1 – 2 years
- Moved early on fiscal austerity measures
- Weak banking system with significant exposure still to real estate crisis; majority Government stake or full nationalization of several Irish banks
- Highly levered private sector as well
- Double-digit fiscal deficits
- Much less public debt than Greece, but a series of needed bank bailouts have sharply increased public debt (90% of GDP by 2013)
- Less dependent on capital markets and foreign investors than Portugal and Greece
- Has suffered from among the highest GDP declines during the Financial Crisis in all of Europe; however, the economy is showing more signs of recovery than many other peripherals

Source: DB Global Markets Research. IMF.

Focus: United Kingdom

With the national elections on May 6th now over, markets and Rating Agencies are likely to increase the intensity of their focus on the U.K.

Any significant delays in forming a new Government, and any delays in implementing fiscal austerity measures, could create increased volatility in the market

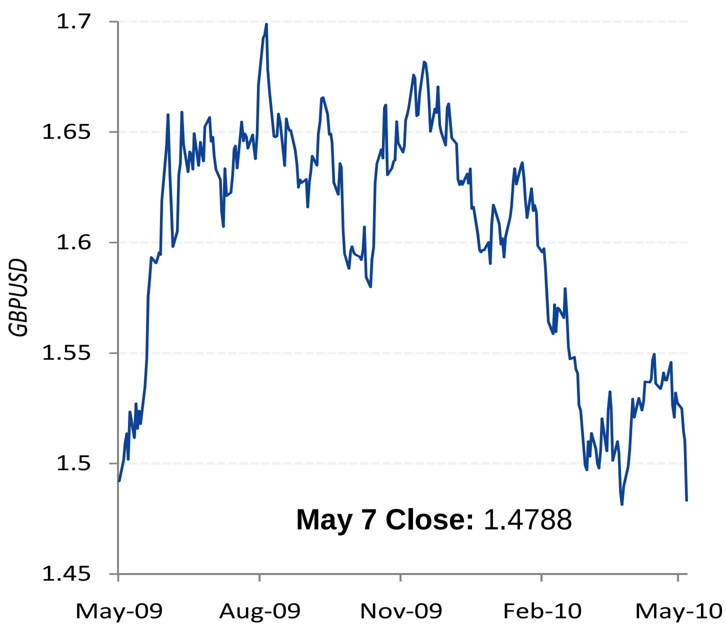
Key Facts

■ **Economy Size:**	US$ 2.18 trillion
■ **Unemployment Rate:**	8.0%
■ **2010E GDP Growth:**	1.5%
■ **2010E Fiscal Deficit:**	(- 11.3%)
■ **Debt Outstanding:**	GBP 923 billion
■ **Foreign Ownership of debt (% of GDP):**	17.9%

UK May 6th Election Results

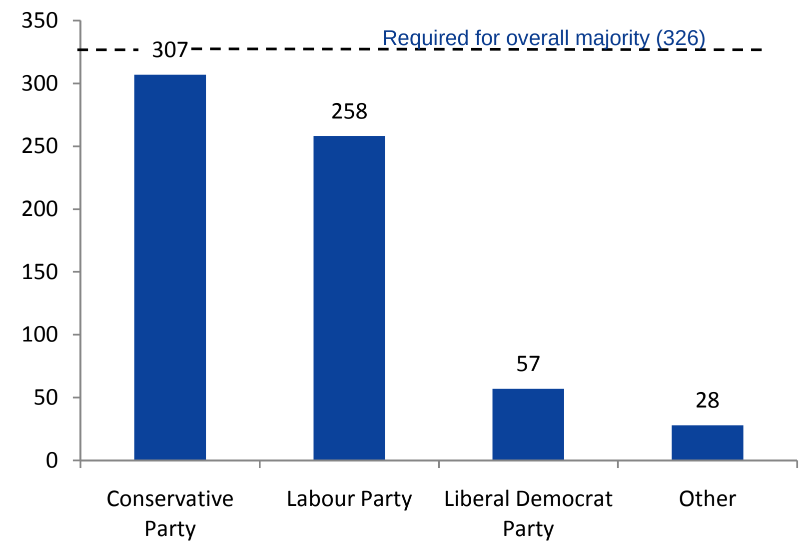
- **Inconclusive, producing first hung Parliament in over 35 years (1974)**
  - Conservatives fell 19 votes shy of 326 seats required for majority in 650 seat House of Commons
  - Likely minority Government or a coalition
  - Conservative / Liberal deal most likely
- ***Likely Prime Minister:*** David Cameron (Conservative)
- ***Potential Market Risk:*** *Any significant delays in forming a new Government, and any subsequent delays in implementing fiscal austerity measures*

GBP / USD



Source: DB Global Markets Research. IMF.

Number of Seats in the UK General Election



Focus: United Kingdom

The UK has several key advantages over "the peripherals" in managing the leverage in its economy…

…and several very substantive weaknesses

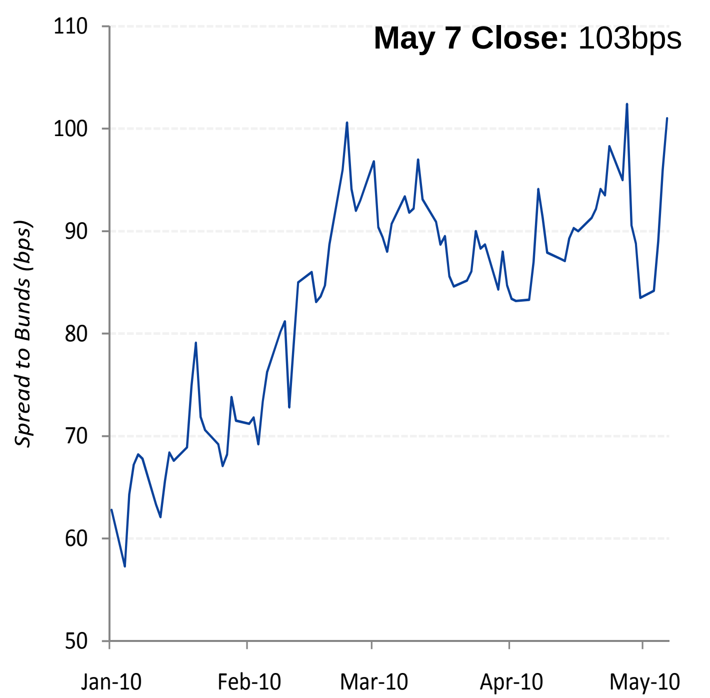
United Kingdom Credit Risk

Positives	Considerations
■ Larger, more diversified economy than the peripherals ■ Ability to devalue its currency to increase competitiveness (and inflate through debt) ■ Less coordination to implement fiscal cuts ■ "Flight to quality" at times of peak stress ■ Strong access to capital markets	■ Significant private sector leverage (consumer, financial and corporate debt among highest in Europe) ■ Sovereign debt rapidly rising toward 90% of GDP by end of 2010 ■ Financial sector/ banks still weak from Financial Crisis ■ High exposure to the "peripherals"

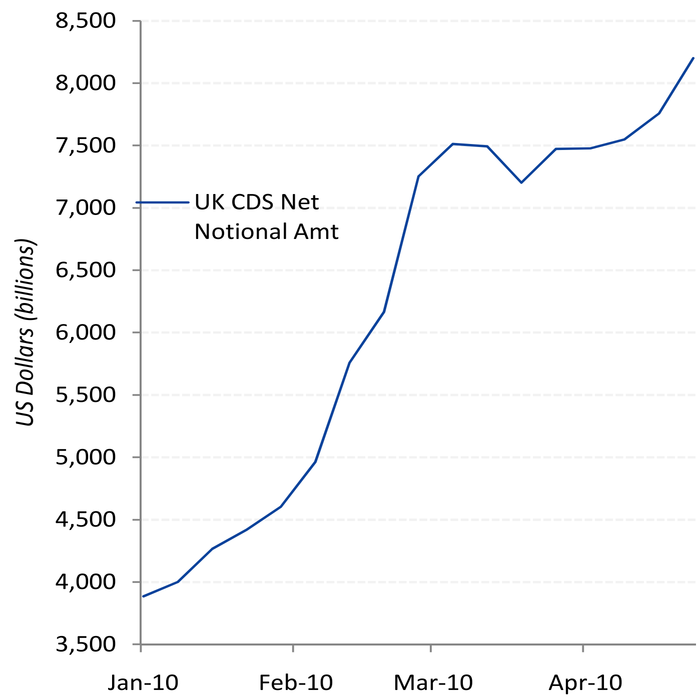
Evidence of More UK Investor Concern

- Doubling in UK CDS outstanding
- Rising UK bond yields
- Sterling weakness

UK Bond Yields Over Germany



Net Notional UK CDS



Source: DB Global Markets Research

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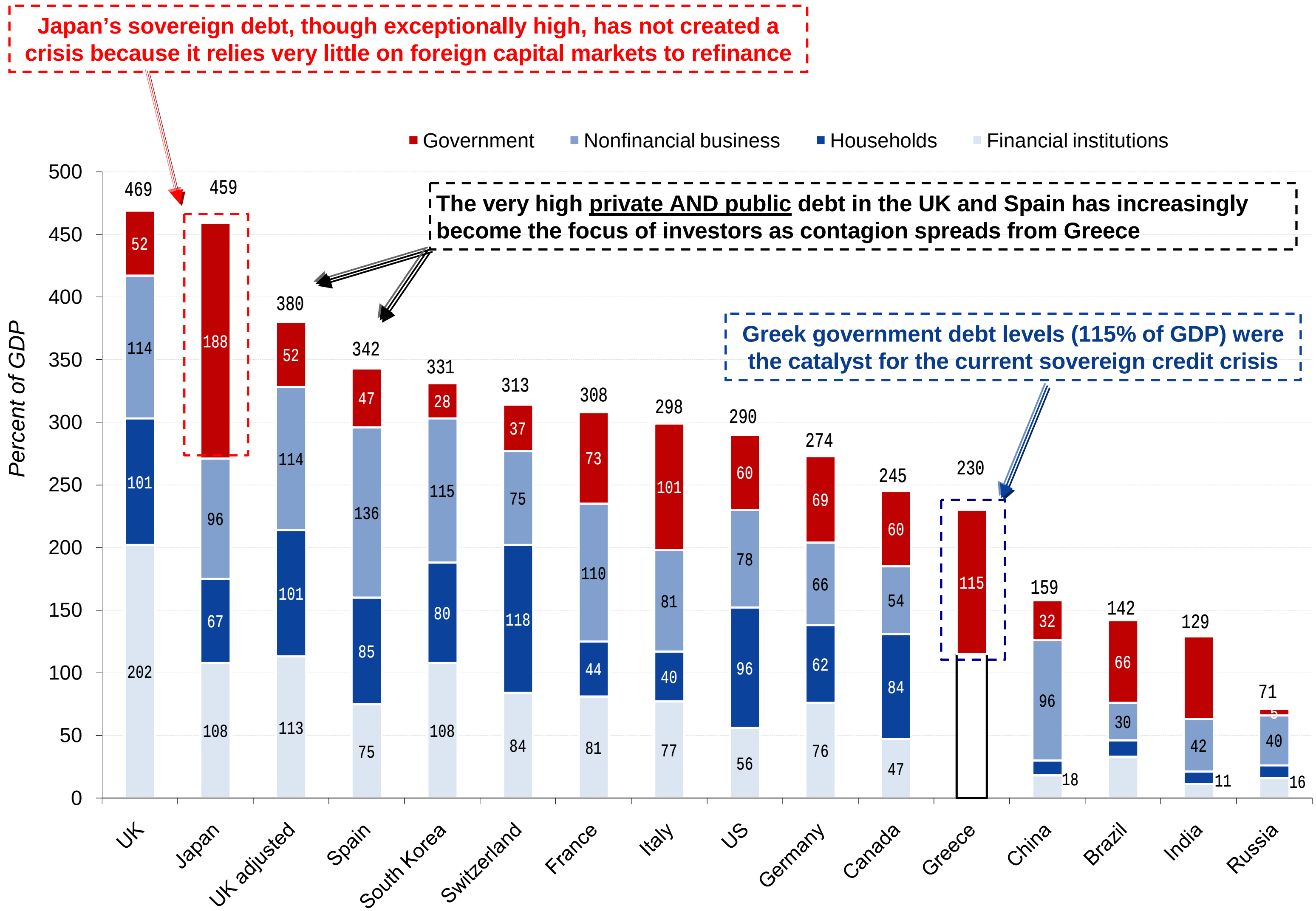
Markets Shifts Focus to “Total Economic Leverage”

Market attention has shifted toward a renewed focus on balance sheet adjustment

In analyzing leverage within an economy, it is very important to focus on where in the economy the debt resides

The market has begun to focus not only on sovereign leverage, but on <u>both</u> public and private sector leverage throughout the economy

Sector Composition of Debt Across Economies



**The UK financial sector was adjusted to reflect its position as a financial hub. *Data for Switzerland represent year-end 2007*

Source: Haver Analytics, FDIC, SNL Financial, Federal Reserve. McKinsey Global Institute. IMF Global Financial Stability Report.

Sovereign Market Vulnerability Indicators

There are several key indicators, beyond the absolute amount of sovereign debt, that are critical to understanding the vulnerability of sovereign leverage to an economy

Review of Selected Sovereign Vulnerability Indicators

Country	Gov't Debt Held Abroad (% of GDP)	Depository Bank Claims on Government [1] (% of GDP)
Greece	99.0%	17.5%
Portugal	60.2%	10.2%
Italy	56.4%	29.4%
Ireland	47.2%	5.8%
Spain	26.9%	20.6%
United States	24.7%	8.2%
United Kingdom	17.9%	5.1%
Japan	13.7%	69.3%

According to Ken Rogoff and Carmen Reinhart in "This Time is Different," most emerging market countries run into trouble at external debt levels above 60% of GDP

Why is Japan's High Debt Seemingly Lower Risk?

- **High domestic savings**
- **Low foreign ownership of debt (< 14% of GDP)**
- **Strong home bias**
- **Stable institutional investors**
- **Local banks purchase high % of Govt debt**

(i) Source: IMF Global Financial Stability Report (April 2010). Includes all claims of depository institutions, excluding the Central Bank, on the Government.

Recent Downgrades “Feeding the Contagion”

	Moody's Investors Service Rating	Moody's Recent Action	Standard & Poor's Rating	S&P Recent Action	Fitch Ratings Rating	Fitch Recent Action
Portugal	Aa2 (Neg)	Negative outlook in Sep '09 Review for negative outlook May '10	A- (Neg)	2 notch downgrade in Apr '10	AA- (Neg)	1 notch downgrade in Mar '09
Ireland	Aa1 (Neg)	1 notch downgrade in Jul '09	AA (Neg)	1 notch downgrade in Jun '09	AA- (Stable)	1 notch downgrade in Nov '09
Greece	A3 (Neg)	1 notch downgrade in Apr '10	BB+ (Neg)	3 notch downgrade in Apr '10	BBB- (Neg)	2 notch downgrade in Apr '10
Spain	Aaa (Stable)	n/a	AA (Neg)	1 notch downgrade in Apr '10	AAA (Stable)	n/a

- **On April 27nd, S&P downgraded Greece from BBB+ to BB+, making Greece the first EU nation to be rated non-investment grade (and also warned investors could recover as little as 30% on a restructuring)**
- **Recent downgrades of Greece, Spain and Portugal (including both the sovereign and selected banks) have demonstrated how ratings can become a loose cannon as the Sovereign Crisis unfolds**

Source: Bloomberg

Rating Downgrades Impact on Banking System

The recent sovereign ratings downgrades have put an enormous amount of systemic pressure on the European banking system

Systemic Impact of Ratings Downgrades on the European Banking System

Drivers of Bank Pressure

- **As sovereign funding increases, bank funding costs will also increase**
- **Mark-to-market impact of government bond holdings for banks**
  - Likely to be limited
  - Most German and French banks, for example, carry government bonds at face value (held to maturity book) rather than market value
- **Margin calls due to falling value of government bonds used as collateral in repo operations with (i) other banks; and (ii) central banks**
  - Greek banks were funding EUR 61 billion via the ECB through Repo
  - A 10% increase in 2 year yields on Greek bonds since February, for example, would require Greek banks to post an additional 20% of collateral, or EUR 12 billion

Signs of Bank Pressure

- **Bank equities under-performing**
- **Libor/ Euribor levels have increased**
- **Libor / OIS spreads have widened**
- **Swap spreads have widened**
- **EUR / USD cross currency basis has widened**

- **These stresses in the banking sector make the current situation unsustainable for the ECB**
  - Must either ease current collateral standards or risk triggering a liquidity crisis for banks)

Source: Deutsche Bank Global Markets Research. Mohit Kumar and Abhishek Singhania.

C. The European Financial System

Section

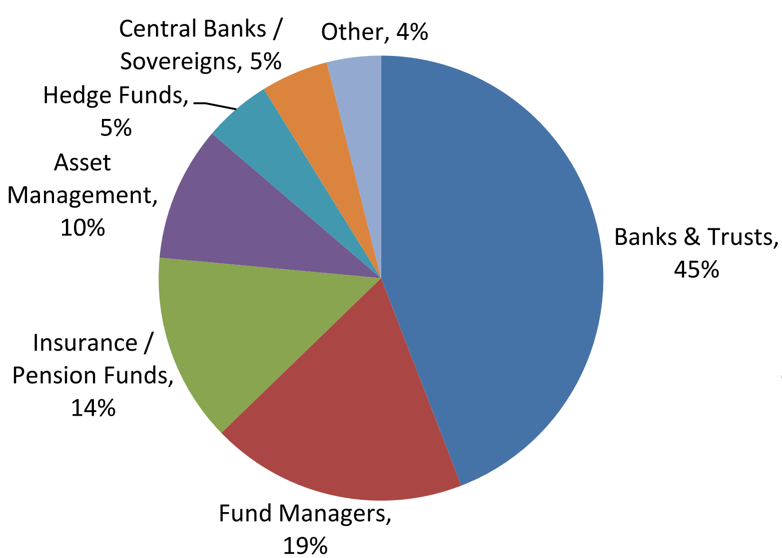
Ownership of Greek Government Bonds

The European financial system has most of the exposure to Greek Government bonds (banks, pension funds and investors)

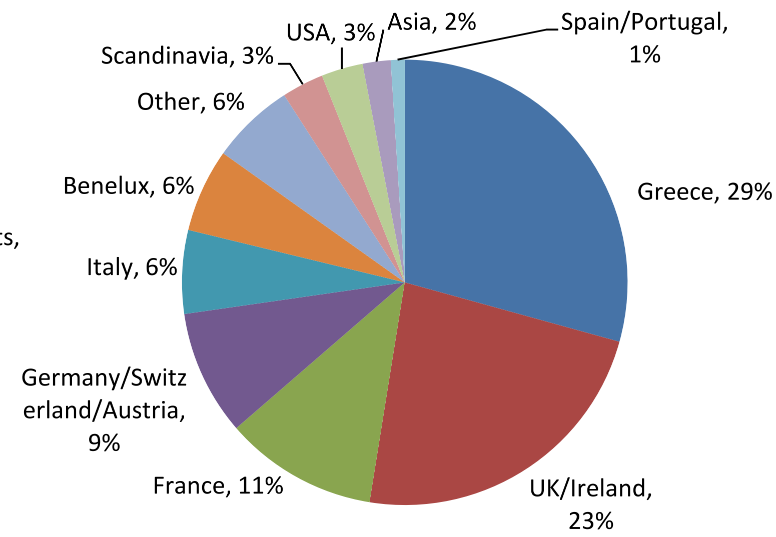
Ownership of Greek Government Bonds (2009)

- **Total Greek Government Debt: EUR 273 billion** (2009)
- **Domestic (Greek) Ownership: EUR 59 billion** (EUR 44 billion banks; EUR 15 billion "Other")
- **Foreign Ownership**: **EUR 214 billion** (EUR 75 billion banks; EUR 139 billion "Other")
  - "Other" comprised largely of European fund managers, pension funds and insurance
  - U.S. ownership (3%) and Asia ownership (2%) is de minimus

By Owner Type (2005 – 2009)



By Country Region



Source: Deutsche Bank Global Markets Research, Gillian Edgeworth, Greek Public Debt Management Agency. Institute of International Finance (IIF)

Foreign Claims: Who do the Peripherals Owe Money To?

(US$ Billions)

	Total Foreign Claims	Breakdown of Ownership: Austria	Belgium	France	Germany	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	Switzerland	UK	US	European Banks
	303	6	8	75	43	9	8	12	10	1	1	64	12	16	**253**
	939	9	72	78	193		23	34	22	16	6	18	193	74	**692**
	1463	21	50	494	209	47		78	6	51	4	22	76	61	**1072**
	287	3	9	36	47	6	7	12		89	1	4	25	6	**239**
	1154	9	46	196	240	32	31	127	29		6	14	119	53	**868**
	3809	27	108	389	503	233	57	207	13	393	40	238		550	**2304**

Source: Deutsche Bank Global Markets Research, Gillian Edgeworth, BIS

Massive Exposure for European Banks

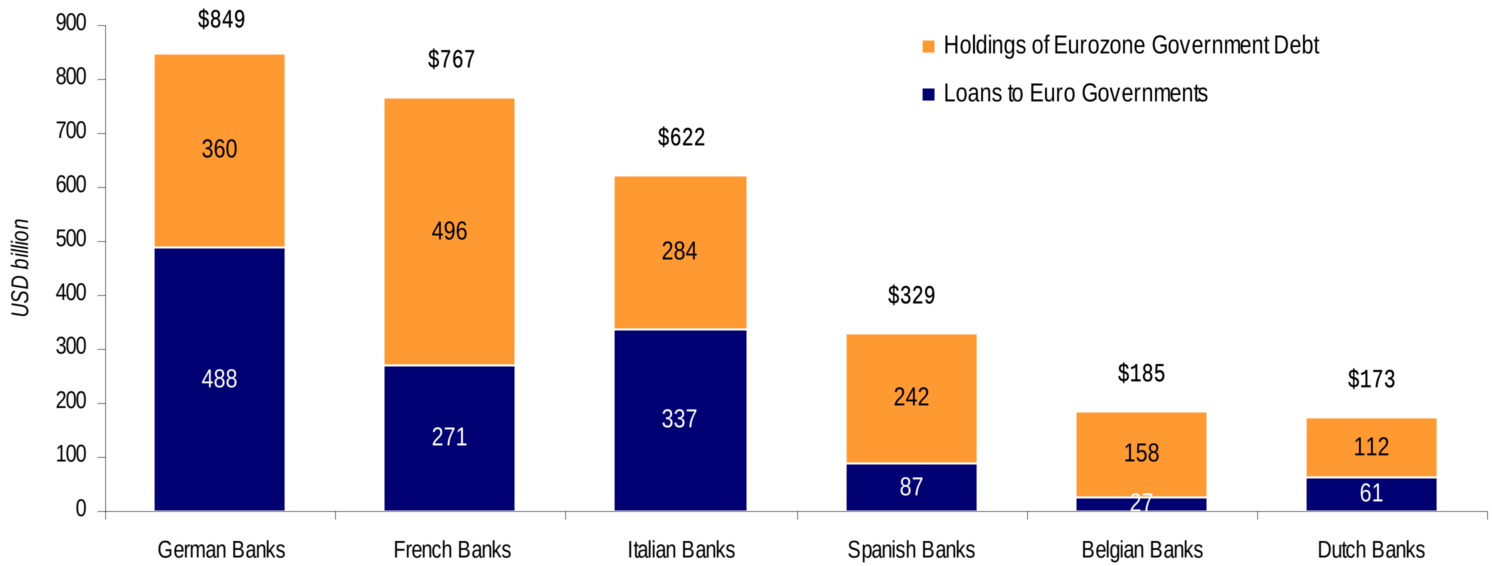
European Banks may represent the most significant channel for "contagion" from the sovereign credit crisis

Sources of European Bank Exposures

Asset Side	Liabilities Side
■ Losses on government bond portfolios ■ Losses on loan portfolios (cross-border, local) ■ Counterparty exposures on derivatives ■ Generally, bank business models highly susceptible to economic slowdowns and market instability	■ Higher bank funding costs, and less financing market access (less demand, more volatility) ■ Erosion in perceived value of Government guarantees ■ Ratings downgrades can drive higher haircuts on government securities used for central bank or commercial repo

Sources of contagion: Higher losses; difficult financing markets; less lending

European Bank Exposure to Eurozone Governments (December 2009)



Source: Autonomous, February 8, 2010. Based on Euro Exchange Rate of 1.36

Less Exposure for U.S. Banks

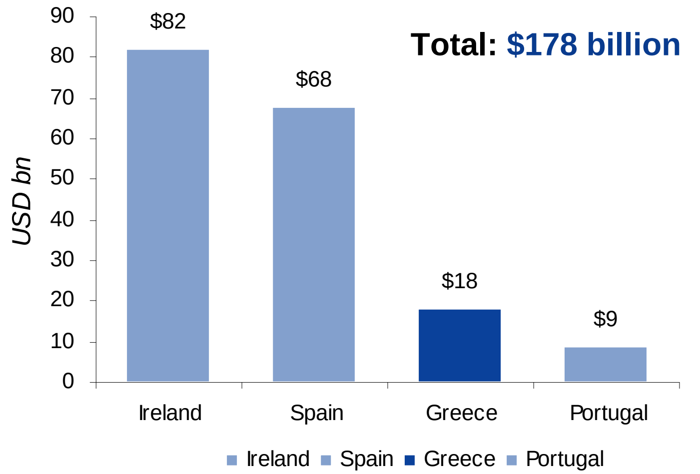
Direct exposure of the U.S. banking system to over-indebted European sovereign credits is reasonably limited…

…but the indirect impact of "contagion" effects on a vulnerable global financial system could be substantive

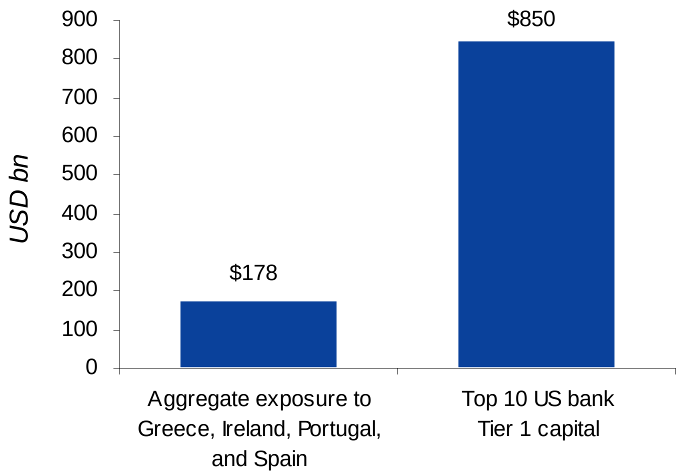
Implications for U.S. Banks

- **Direct Losses from Lending / Derivatives:** limited, especially compared to European banks
  - The U.S. banking system relies very little on overseas earnings (< 20%)
  - Tier 1 capital is well in excess of direct exposures
- **However, indirect impact of an escalating crisis could be significant**:
  - ***Bank spreads are particularly vulnerable to exogenous shocks in the global financial system***
  - Negative impact on lending and bank facilities
  - Contagion through increased systemic risk
  - Heightens focus on financial regulation (with upward pressure on capital, and downward pressure on earnings)

Claims on Sovereigns Held by U.S. Banks (1) (September 2009)



Aggregate U.S. Bank Exposure vs. Top 10 U.S. Bank Capital



Source: Federal Financial Institutions Examination Council.

(1) Claims consist of cross-border loans, claims from derivatives, and foreign office claims on local residents

Why the Greece Sovereign Credit Crisis Accelerated Sharply After March 25th?

Appendix A

Deutsche Bank

March 25: Joint EU / IMF Package with **Few** Details

On March 25th, the European Council met in Brussels for their quarterly summit meeting and agreed on a rescue package of "last resort" that would involve both the IMF and the EU

By involving the IMF in the solution already, the EU essentially cut off Greece's other key option, and Germany, in particular, increased its leverage over the process

Overview of March 25th Joint EU / IMF Package

Announced Details

- **Joint EU / IMF package of loans**
  - IMF involvement is "substantial"
  - Euro countries "expected" to pay based on their capital weights
- **Tough conditionality**
  - "Last resort" only (not a freely available backstop facility)
  - IMF not part of decision for its use
  - Requires unanimous 27 nation support
- **Not cheap**
  - "Risk adequate pricing" that will encourage Greece to return to market for financing
- **Required review of EU budget rules**
  - Proposals due by year-end
  - Tougher budget rules
  - More flexibility for crisis response

The Missing Details?

- **Exact size of the package**
- **Exact cost**
- **Duration of the loans**
- **Duration of the package**
- **Exact role of IMF**
  - Distribution of funds?
  - Technical assistance?
  - Enforcement power / set conditions?

****** Over subsequent weeks, Investors reacted very negatively to the lack of detail ******

The sharp acceleration of the Greek credit crisis began on March 25th, when the EU and IMF announced a "joint-rescue package" with very few details; uncertainty and volatility followed

Source: Mark Wall, DB Chief European Economist. Deutsche Bank Markets Research.

March 30: Low Demand For Bond Re-opening

March 29: EUR 5 Billion New Issue

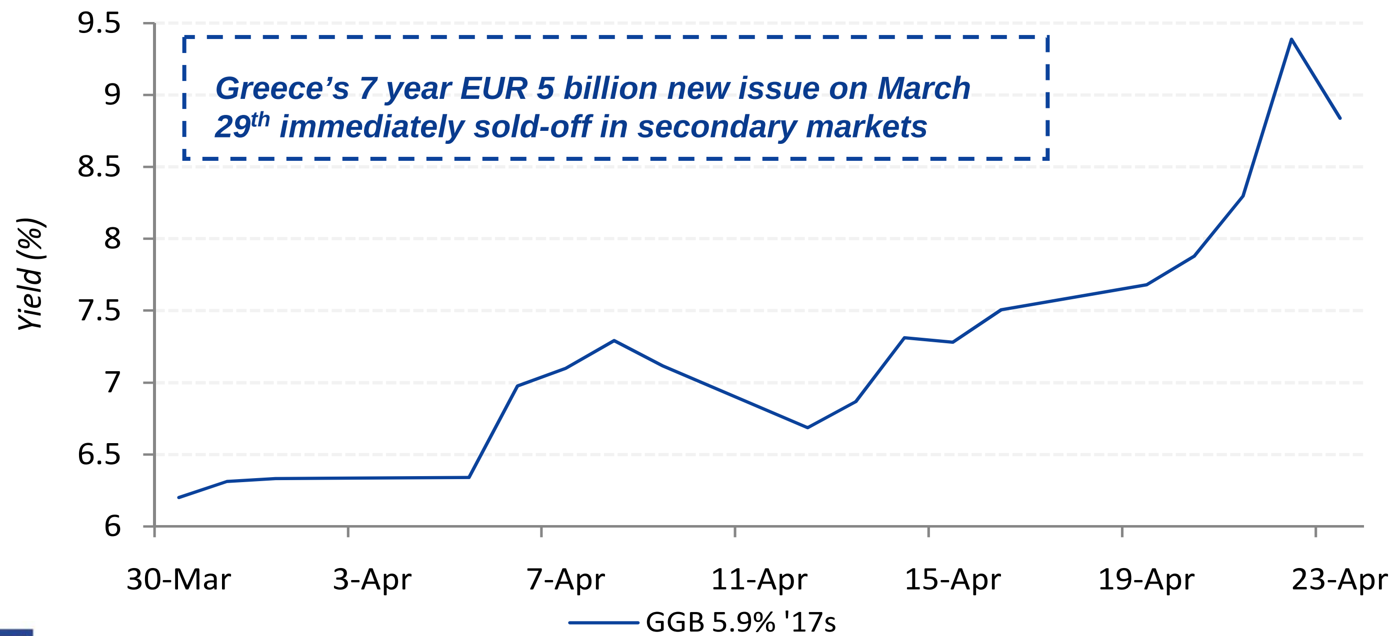
- **New Issue:** 7 Year bond raising EUR 5 billion at mid swaps + 310 bps, or ~ 6% YTM
- **Demand:** Over EUR 6.25 billion from 175 + accounts (10 year bond earlier in year had EUR 16 billion demand from 400 + accounts)
- **After-market performance**: Immediately sold-off in after-markets; negatively impacted demand for March 30 re-opening

March 30: EUR 390 Billion Re-Opening

- **Re-opening:** EUR 390 million re-opening of 20 year 2022 bond on March 30, 2010
- **Demand**: Greece had initially hoped to re-open this 20 year bond for EUR 1 billion, but demand was *not* sufficient

***** The poor performance of Greece's Mar 29th 7 year bond, and low demand for its March 30th 20 year re-opening, signaled limited Greek access to public debt markets***

After-market Performance of Greece's March 29th 7 Year EUR 5 Billion Bond Deal



Source: Deutsche Bank, Bloomberg (GGB, Corp).

April 9: Fitch Downgrades Greece to BBB- (Neg)

On April 9th, Fitch Ratings downgraded Greece from BBB+ to BBB-, Outlook Negative

Review of Fitch Downgrade

- **Downgrade:** Greece's Long Term foreign and local currency Issuer Default Ratings downgraded to BBB- from BBB+, Outlook Negative

- **Drivers of the Downgrade**:
  - Fiscal challenge increases
  - More adverse prospects for economic growth
  - Increased interest costs
  - Ongoing uncertainties on the Government's financing strategy amidst market volatility

FitchRatings

"The sharp rise in interest rates faced by the government this year, in combination with a deterioration in the outlook for economic growth, will make it harder for the government to achieve its fiscal targets of reducing the deficit to 8.7% of GDP this year and ensuring that public debt peaks at just over 120% of GDP in 2010 and 2011."

- Fitch Ratings (April 9, 2010)

Source: Fitch Ratings.

April 11: EU / IMF Announce EUR45 Billion Package

On Sunday, April 11th, following nearly 3 weeks of sharp deterioration in market conditions for Greece since the March 25th announcement, the EU and IMF finally announced a more detailed package of "aid" for Greece

Overview

- **Size: ~ EUR 45 billion** (US$ 60 billion)
  - EUR 30 billion from Euro nations (commitment)
  - Additional EUR 10 - 15 billion from IMF (expected)
- **Cost: Approximately 5%**
  - Equal to Euribor + 300bps + 100 bps step-up in year 3 + 50 bps service charge
- **Duration: 3 years**
- **Key Hurdles / Considerations:**
  - Several EU national Parliaments would have to approve
  - Greece would have to officially request the assistance
  - Details with IMF would need to be negotiated (multi-week process, expected to end by May 6th)

EU Member Contributions

- **Contributions by each EU member based on each country's capital weight at the ECB**

EMU Contributions Based on ECB Capital Weights

	Country	Capital Weight at ECB (%)	Implied Share of EUR 30 bn (EUR bn)
1	Austria	1.94%	0.9
2	Belgium	2.43%	1.1
3	Cyprus	0.14%	0.1
4	Finland	1.25%	0.6
5	**France**	**14.22%**	**6.3**
6	**Germany**	**18.94%**	**8.4**
7	Greece	1.96%	N/A
8	Ireland	1.11%	0.5
9	**Italy**	**12.50%**	**5.5**
10	Luxembourg	0.17%	0.1
11	Malta	0.06%	0.0
12	**Netherlands**	**3.99%**	**1.8**
13	Portugal	1.75%	0.8
14	Slovenia	0.33%	0.1
15	Slovakia	0.69%	0.3
16	**Spain**	**8.34%**	**3.7**
			30

Critical Question: Would markets be sufficiently satisfied with this detail, or would continued uncertainty around IMF details and nation-state approvals create continued uncertainty?

Source: Deutsche Bank Global Markets Research. ECB.

April 19: Volcanic Ash Cloud Delays IMF Meetings

The delay in scheduled IMF / Greece meetings, scheduled for April 19th, only exacerbated the uncertainty that had been driving low liquidity and high volatility in Greek securities

Planned attendees in Athens included senior officials from the European Union, the European Central Bank and the IMF

The Impact of Iceland's Eyjafjallajokull Volcano

- **The virtual shutdown of European air travel for 5 days caused the cancellation of in-person meetings planned for Athens between the EU, the IMF and Greece on April 19th**
  - Scaled back meetings took place instead by phone, but slowed down a critical negotiation process
  - Negotiations have since resumed, and are expected to end by May 6th
- **Markets reacted very negatively to the continued uncertainty and delays**
  - Greek bond yields and CDS levels spiked each day as the April 19th week progressed

April 20: IMF Warning on Sovereign Credit Risk

On April 20th, the IMF released its updated Global Financial Stability Report …

…and sovereign credit risks among advanced countries were emphasized as a primary source of renewed risk in the global financial markets

"Risks to global financial stability have eased as the economic recovery has gained steam, but concerns about advanced country sovereign risks could undermine stability gains and prolong the collapse of credit."

"The deterioration of fiscal balances and the rapid accumulation of public debt have altered the global risk profile. Vulnerabilities now increasingly emanate from concerns over the sustainability of governments' balance sheets."

- IMF Global Financial Stability Report **(April 20th, 2010)**

April 22: Greece 2009 Fiscal Deficit Increased

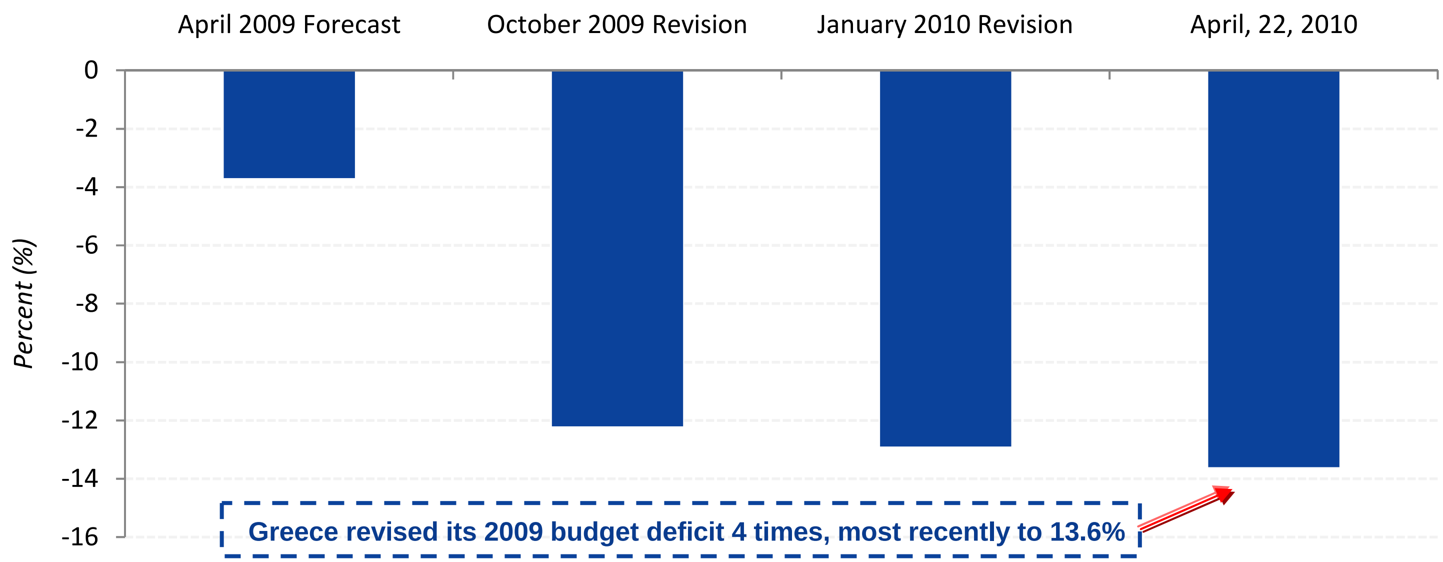
Greece's debt crisis reached a dramatic crescendo on April 22nd as Eurostat upwardly revised Greece's 2009 fiscal deficit to 13.6%, the 4th such revision in the last year

Markets reacted very dramatically on the news

Greece's 2009 Fiscal Deficit Forecast

- **On April 22, 2010, Greece's 2009 budget deficit was revised higher for the 4th time, to 13.6% (or US$44.3 billion), up from a prior estimate of 12.9%**
  - Eurostat indicated that Greece's debt is 115% of the size of the economy **(EUR 273.4 billion, or US $395 billion)**
- **Eurostat indicated that uncertainties around Greek economic data could cause a 5th revision, up to 14.1%**

Greece's 2009 Budget Deficit Revisions



Source: Deutsche Bank Markets Research. Moody's. WSJ.

April 22: Moody's Downgrades Greece to A3

On April 22nd, Moody's downgraded Greece from A2 to A3 and placed them on review for further possible downgrade

Review of Moody's Downgrade

- **Downgrade:** Greece's government bond rating downgraded from A2 to A3 and placed on review for further possible downgrade
  - A3 is just 4 notches above "junk" (non-investment grade) on Moody's ratings spectrum
- **Drivers of the Downgrade**:
  - Debt will only stabilize at a more costly level than previously anticipated
  - Uncertainty about credible debt stabilization
  - Headwinds of higher interest rates and lower economic growth
  - EU's fractious mobilization of emergency aid

Moody's Investors Service

"It is unlikely that the rating will remain at A3, unless the government's actions can restore confidence in the markets and counteract the prevailing headwinds of higher interest rates and low growth that could ultimately undermine the government's ability to sustainably cut debt levels."

- Moody's Investor Service (April 22, 2010)

April 23: Greece Formally Activates EU / IMF Aid

Following the sharpest deterioration in Greek bond market conditions on April 22nd since the crisis began, Greece's Prime Minister George Papandreou, in a live televised address, formally activated the "request for aid" from Europe

Key Next Steps

1) **ECB and EC will formally assess Greece's application for aid**
   - Should be a formality

2) **European Council must unanimously grant the joint-aid package**
   - Low risk of rejection; can be done via teleconference

3) **Various EU Governments/ Parliaments must approve**
   - Risk of one or more nations failing to gain approval
   - Would not jeopardise the EU deal; but rather, could reduce its size of EUR 30 billion

4) **EU / IMF negotiations must be completed on the conditions of additional IMF aid of ~ EUR 15 billion**
   - Will take additional 1-2 weeks and scheduled to conclude by May 6th
   - IMF focused on reform of Greece labor markets, healthcare and pension systems

5) **Formal approval from IMF Board**
   - Size and timing of co-investment from EU will be critical factors

Source: Mark Wall, Deutsche Bank Chief European Economist

"We believe our European partners will act decisively and provide Greece with a safe haven to rebuild our ship of state with strong and reliable materials."

-Greek Prime Minister, George Papandreou, announces the decision to seek EU loans in a live televised address (April 23, 2010)

April 27: S&P Downgrades Greece to BB+ (Non-IG)

On April 27, Greece became the first EU member to have its debt rating cut to "non-investment grade"

S&P also warned that investors could recover as little as 30% of face value if a Greek debt restructuring were to occur

Review of Moody's Downgrade

- **Downgrade:** On April 27th, S&P downgraded Greece's government bond rating from BBB+ to BB+ ("junk") and assigned a negative outlook
- **Drivers of the Downgrade**:
  - Government policy options are narrowing due to weakening economic growth prospects
  - Medium-term financing risks are growing
  - Massive political pressures for stronger fiscal adjustments
  - Uncertain capacity to implement reform quickly (and questionable resolve)

STANDARD & POOR'S

> ***"Based on our updated assessment, we estimate that the adjustment needed in Greece's primary fiscal balance relative to that of 2008 in order to stabilize the government debt burden amounts to at least 13% of GDP - a very high level compared with that which other sovereigns…At the same time, we expect official lender support to be highly conditional and revocable, and as such, we do not believe that it provides a floor under Greece's sovereign ratings.***
>
> ***- Standard & Poor's (April 27, 2010)***

May 2: EU Announces EUR 110 Billion Rescue

The Rescue

- **Overview:** Euro zone ministers met in an emergency session on May 2nd to approve the three-year package of emergency loans (EUR 110 billion) and agreed the funds would be released in time for Athens to meet its EUR 8.9 billion redemption on May 19

- **Greek response**: As a condition to the package, Greek Prime Minister Papandreou announced further austerity measures
  - More spending cuts
  - Further tax increases
  - Total of EUR 30 billion on top of previously announced measures

  - Ministers had been pressed by markets to come up with a concrete plan to address the Greek crisis so as to calm fears of contagion

Package Details

Size	Comment
EUR 80 billion	Contribution from the EU
EUR 22 billion	Germany's portion of EU contribution
EUR 30 billion	Contribution from the IMF
EUR 10 billion	Earmarked to stabilize the Greek banking sector

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