

Why The Global Financial Plumbing Matters

February 2012

"Financial intermediation is like plumbing: we take it for granted until something goes wrong." – Arnold Kling

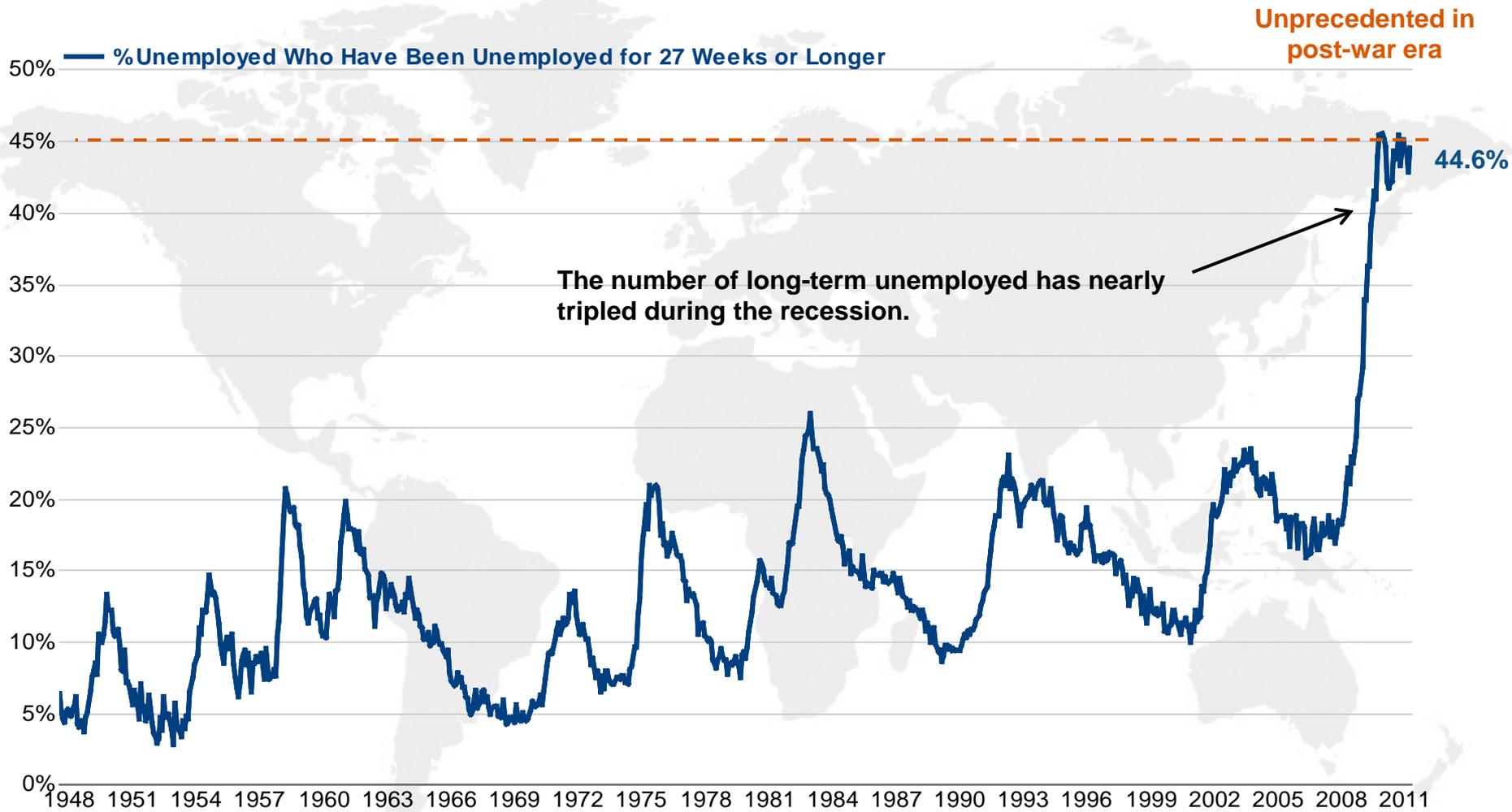




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**Symptoms: High
Unemployment Rates,
High European Sovereign
Bond Yields**

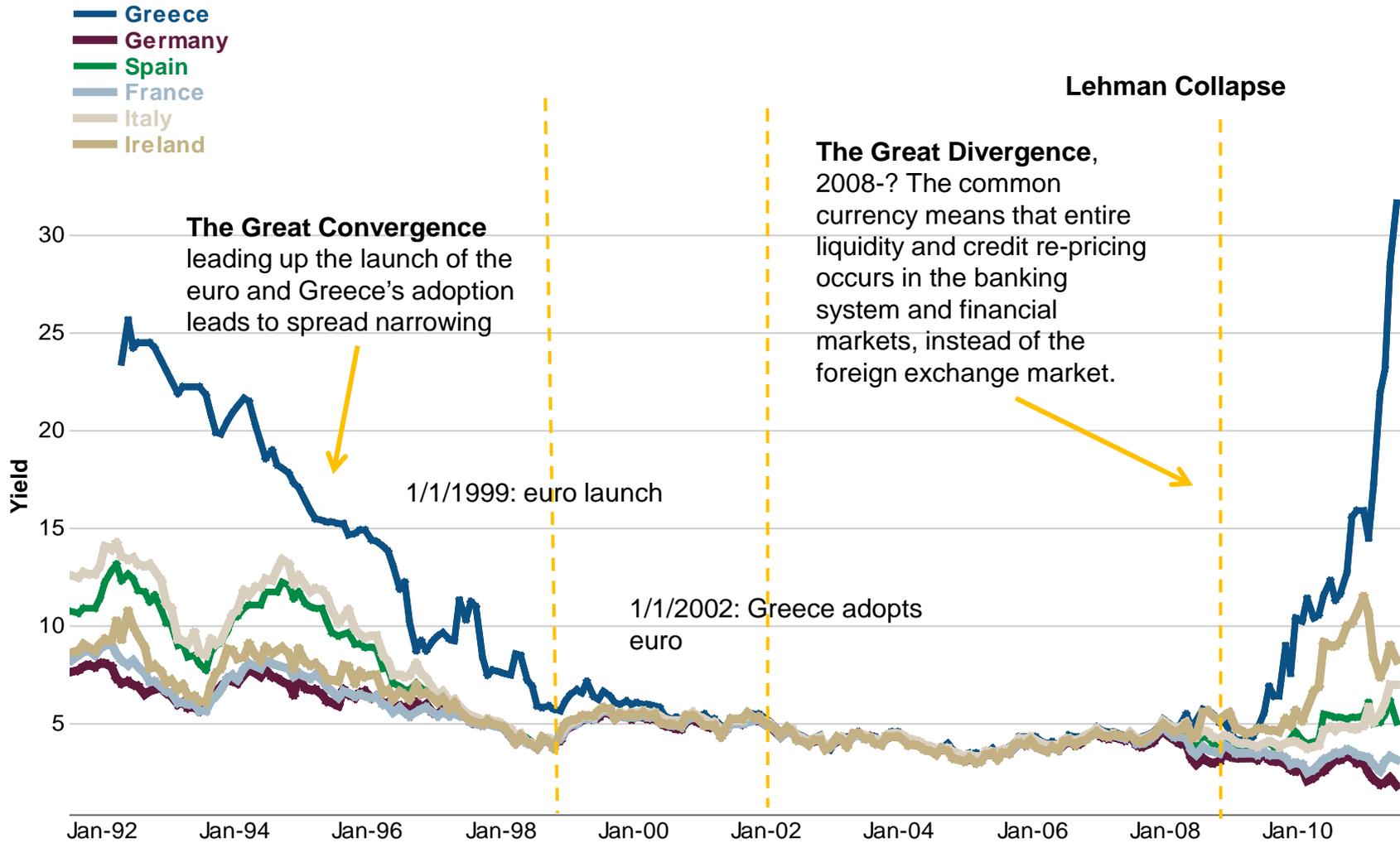
Symptom: The Long-Term Nature of Unemployment is A Major Concern



Source: US Department of Labor

Updated through: Sep 2011

The Most Important Chart of The Year



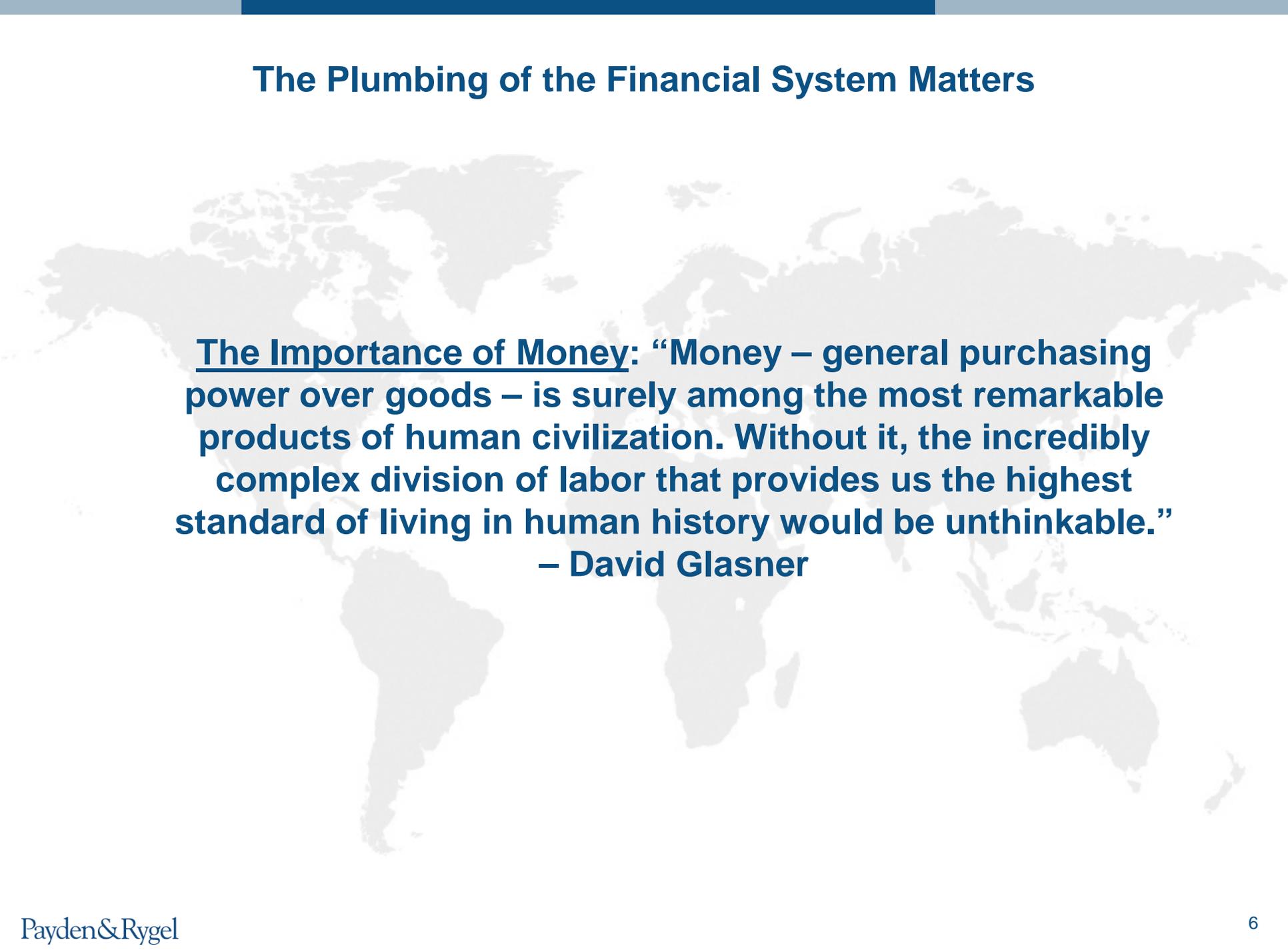
Source: Thompson Reuters



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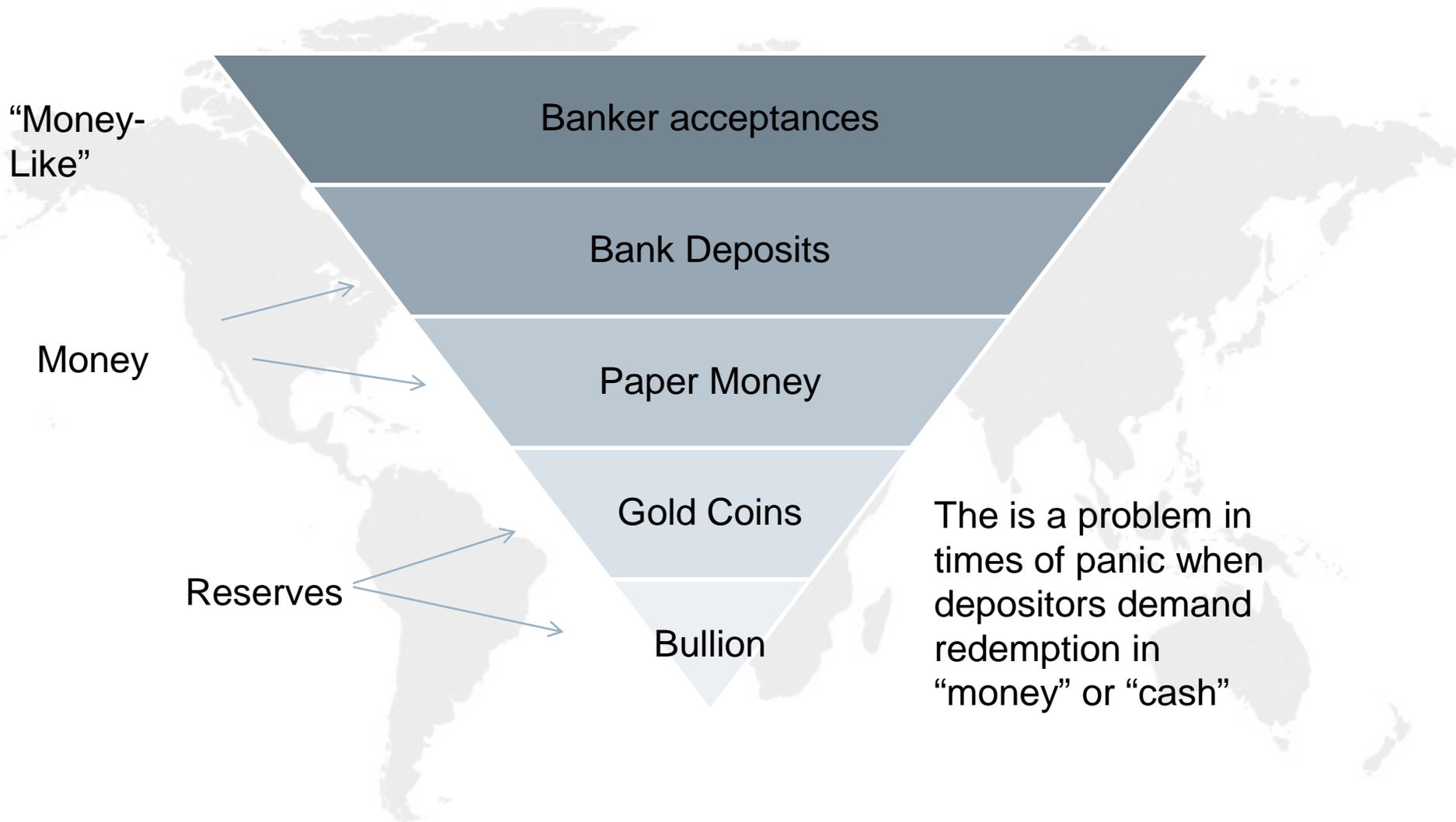
The Cause: The Financial Plumbing Is Clogged

The Plumbing of the Financial System Matters

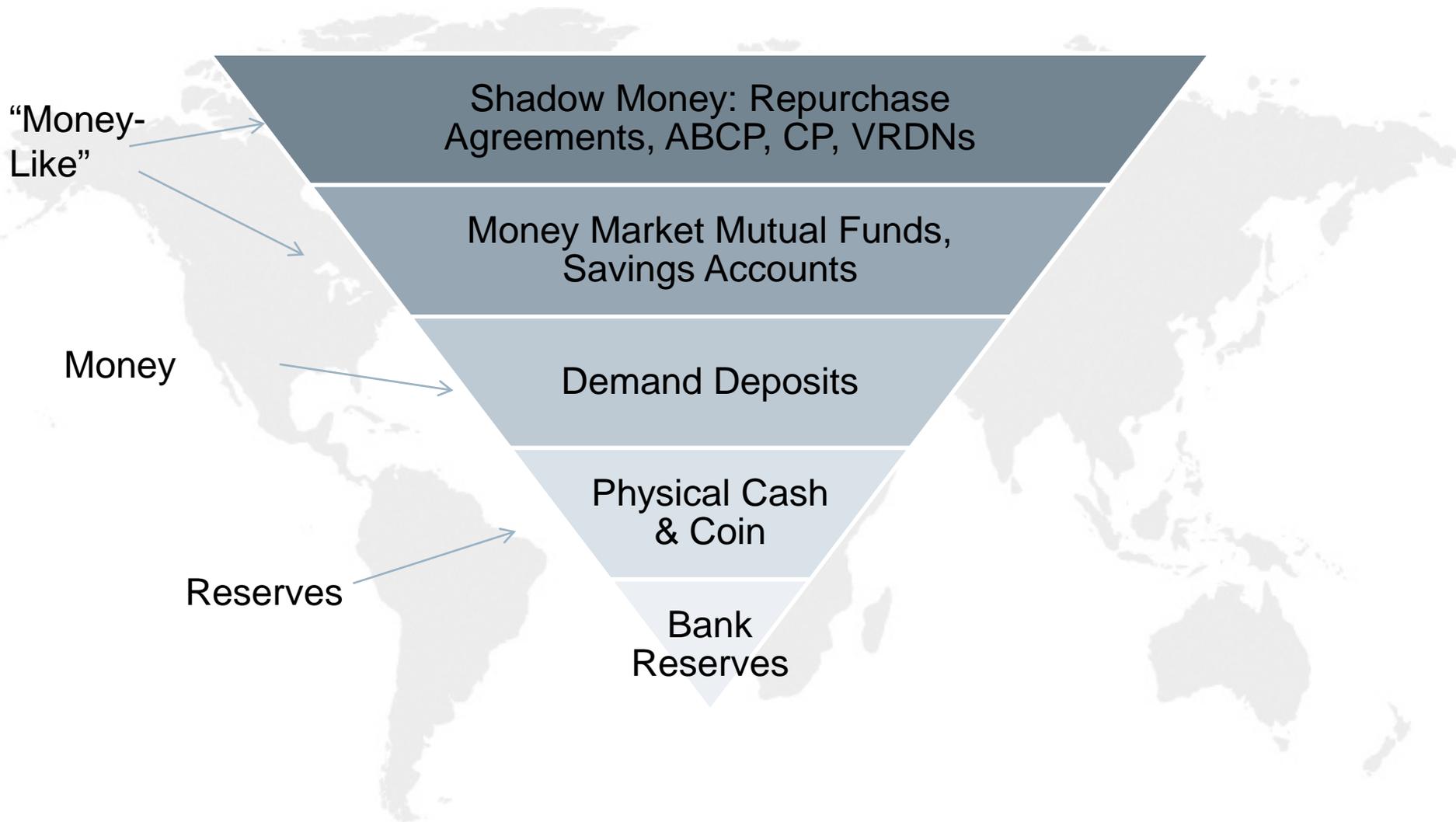


The Importance of Money: “Money – general purchasing power over goods – is surely among the most remarkable products of human civilization. Without it, the incredibly complex division of labor that provides us the highest standard of living in human history would be unthinkable.”
– David Glasner

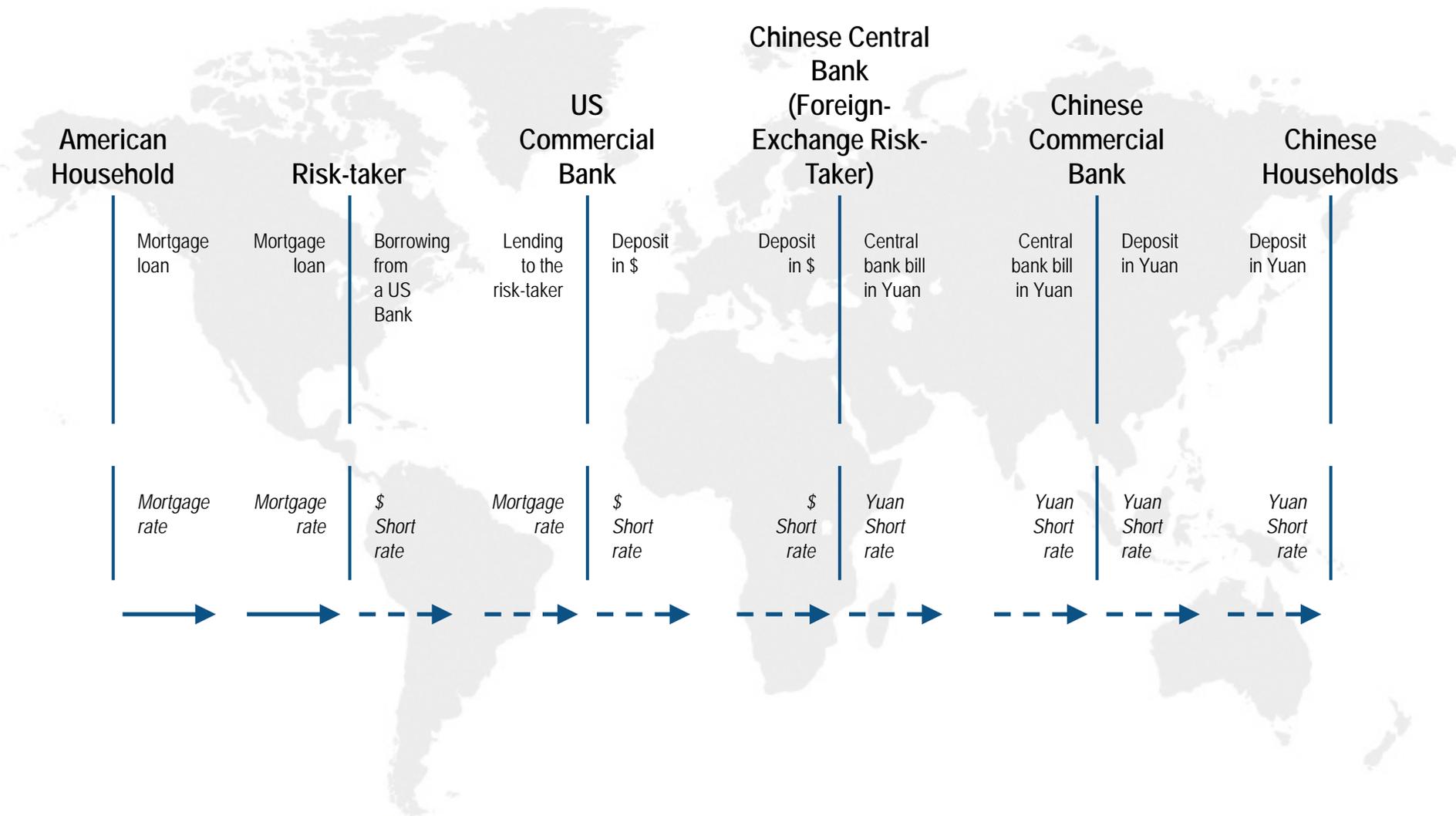
Money and Money-Like Instruments Under the Gold Standard



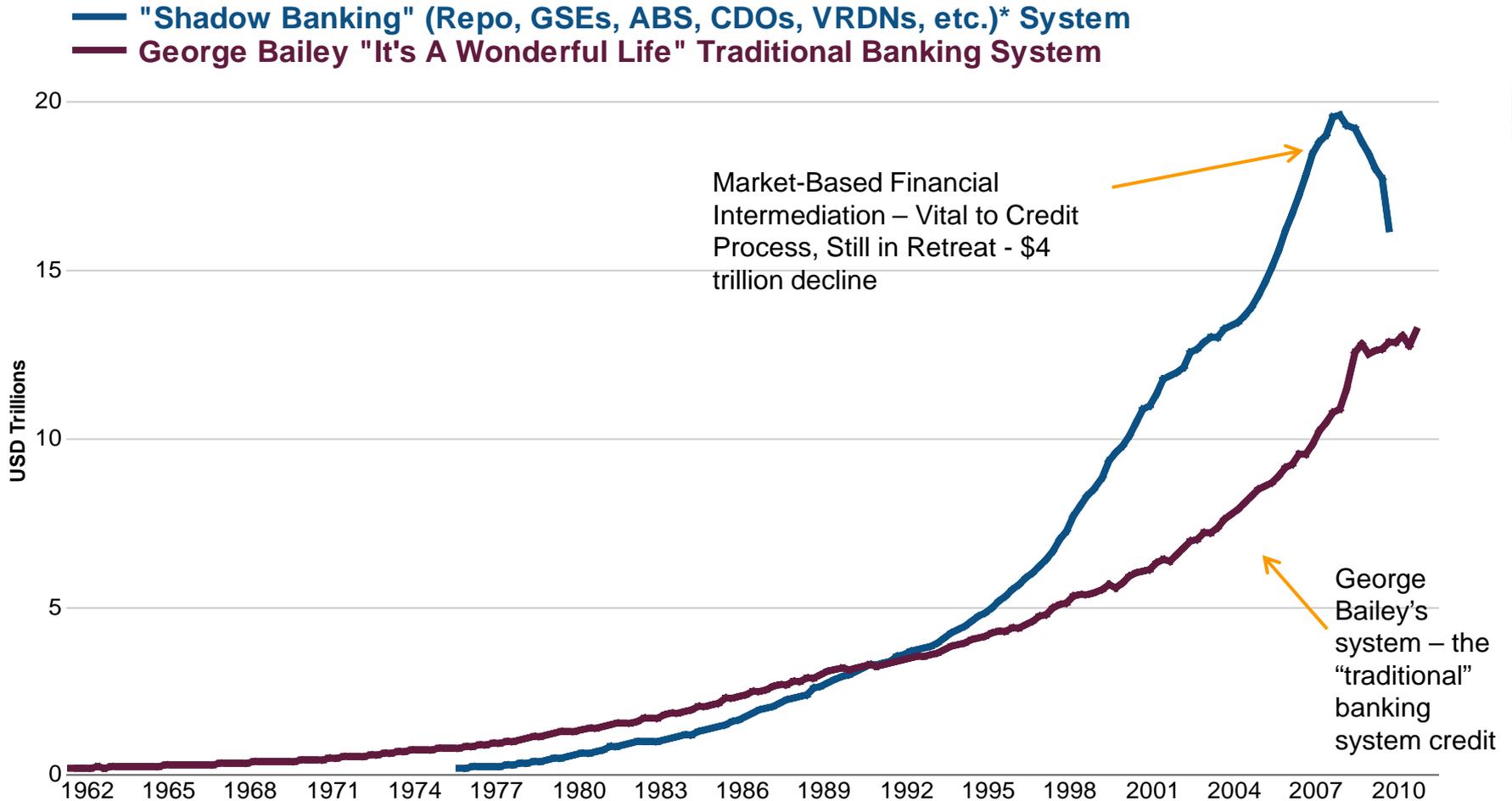
The Modern Version: Money and Money-Like Instruments



A Global “Chain” Connects Savers To Borrowers



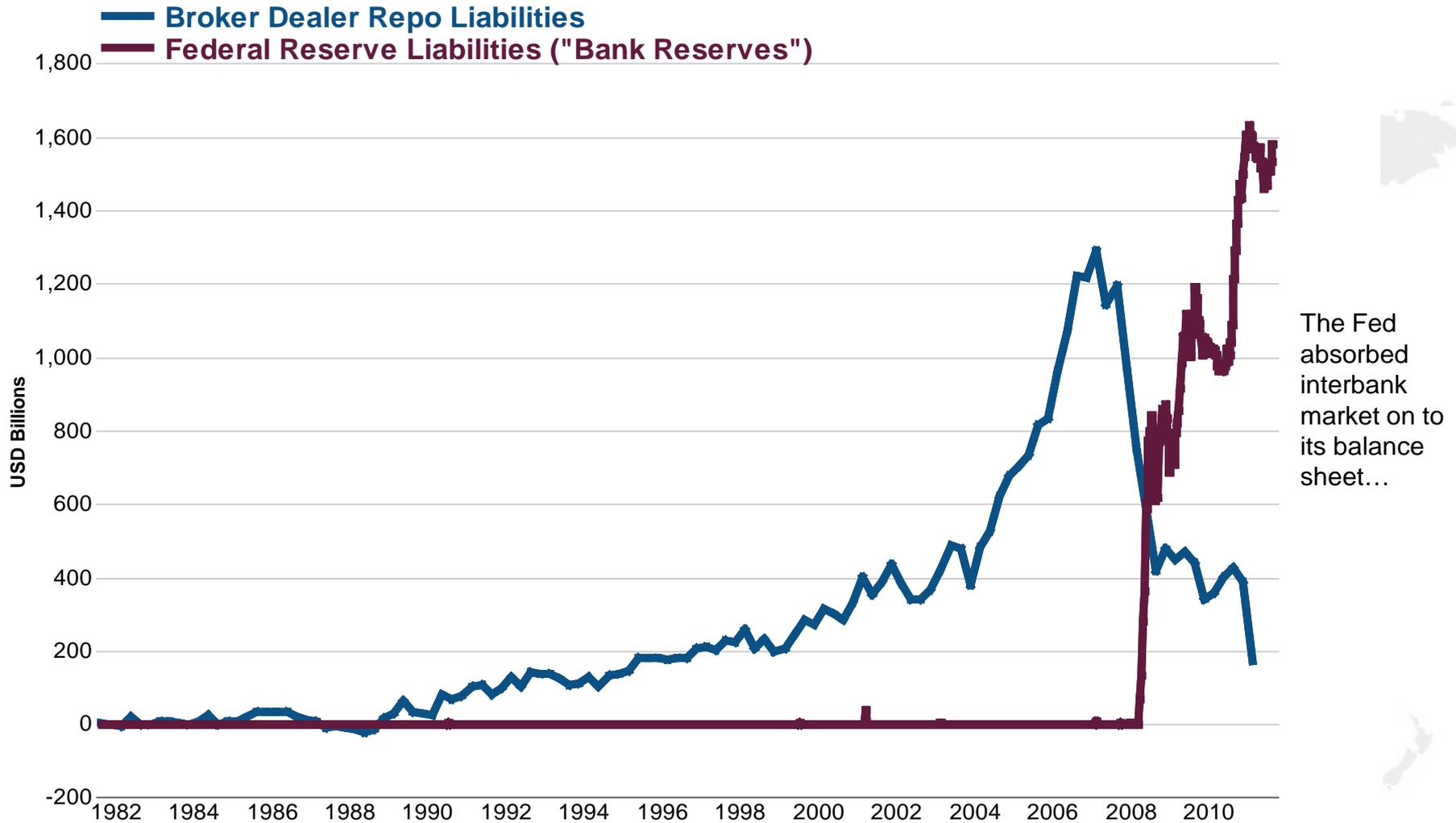
The US Financial Plumbing In One Picture



Source: Federal Reserve, *=Shadow Banks are financial intermediaries without access to central bank liquidity or public sector guarantees (Pozar, Adrian, Ashcraft, Boesky, 2010)

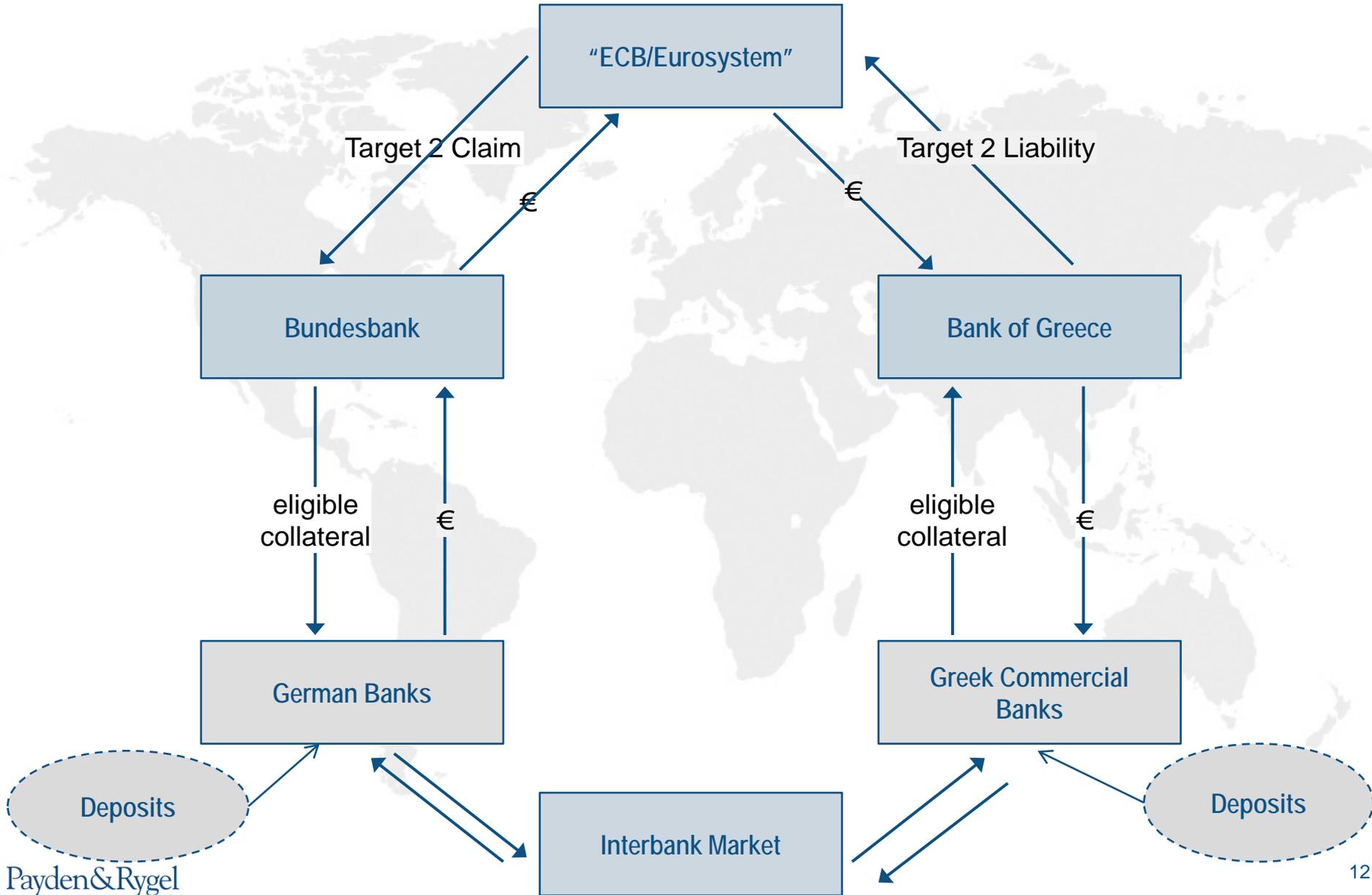
Updated through: Mar-11

The Dealer System Is Vital to Market Liquidity – This Broke Down In 2008 and Fed Stepped in As “Dealer of Last Resort”



Source: Federal Reserve

The Euro Area Financial Plumbing



“Core” Banks Are Exposed to the Peripherals

Exposure to...	French Banks	German Banks	Greek Banks	Irish Banks	Italian Banks	Portuguese Banks	Spanish Bank	UK Banks
France 		\$206.8bn	\$1.7bn	\$16.3bn	\$42.6bn	\$7.4bn	\$29.9bn	\$294.3bn
Germany 	\$265.7bn		\$5.2bn	\$61.2bn	\$272bn	\$4.4bn	\$59.1bn	\$191.9bn
Greece 	\$56.9bn	\$23.8bn		\$0.9bn	\$4.5bn	\$10.2bn	\$1.1bn	\$14.6bn
Ireland 	\$30.1bn	\$116.5bn	\$0.4bn		\$13.4bn	\$5.3bn	\$10.1bn	\$136.6bn
Italy 	\$410.2bn	\$164.9bn	\$0.6bn	\$13.1bn		\$3.1bn	\$35.8bn	\$68.9bn
Portugal 	\$28.3bn	\$38.9bn	\$0.1bn	\$2.5bn	\$4.3bn		\$88.5bn	\$26.6bn
Spain 	\$146.1bn	\$177.9bn	\$0.4bn	\$14.7bn	\$31.8bn	\$26.7bn		\$100.2bn
UK 	\$295.2bn	\$519.9bn	\$13.5bn	\$169.3bn	\$48bn	\$6.0bn	\$430bn	

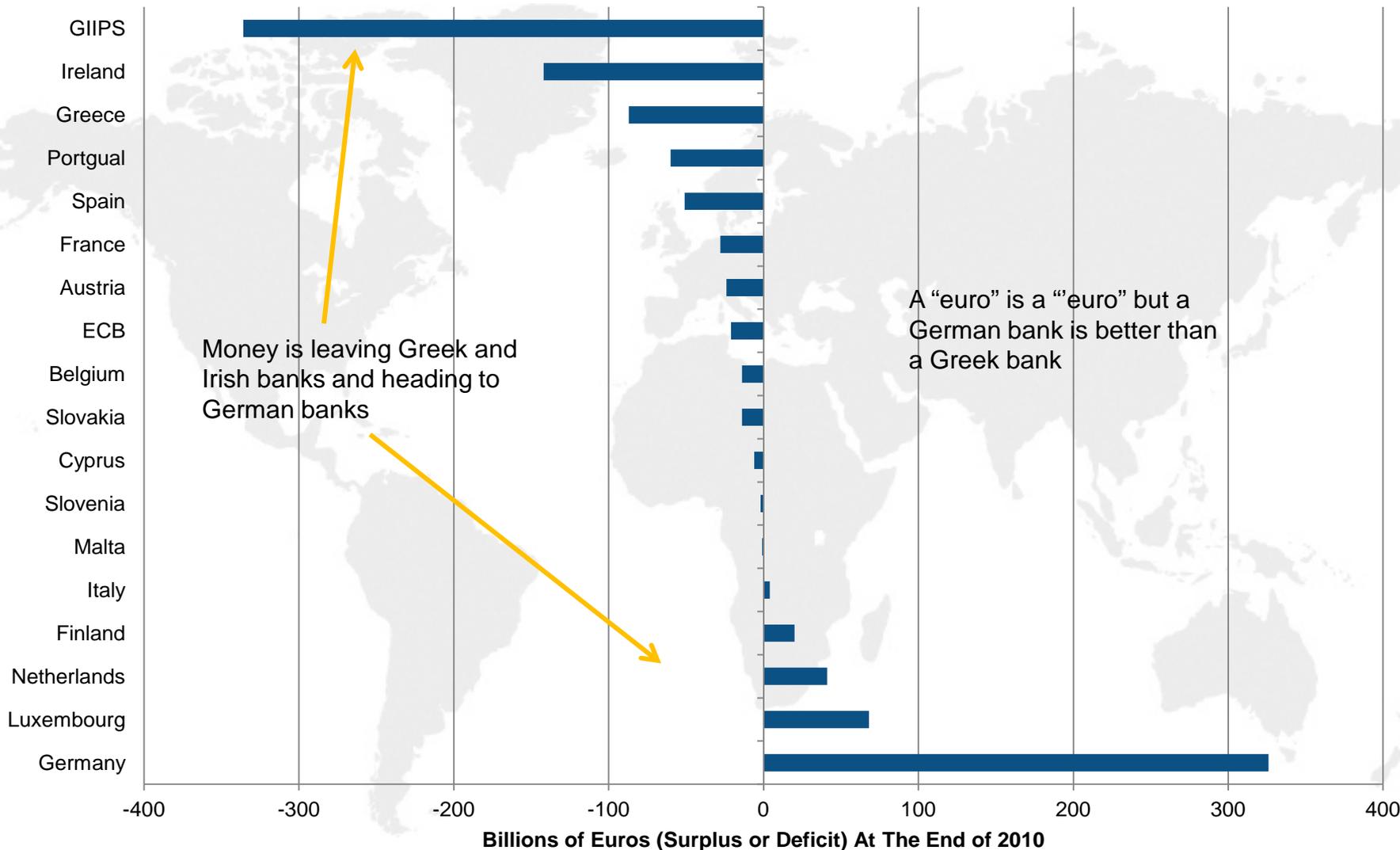
Reason enough for Germany and France to avoid default and debt restructuring



Source: BIS, March 2011

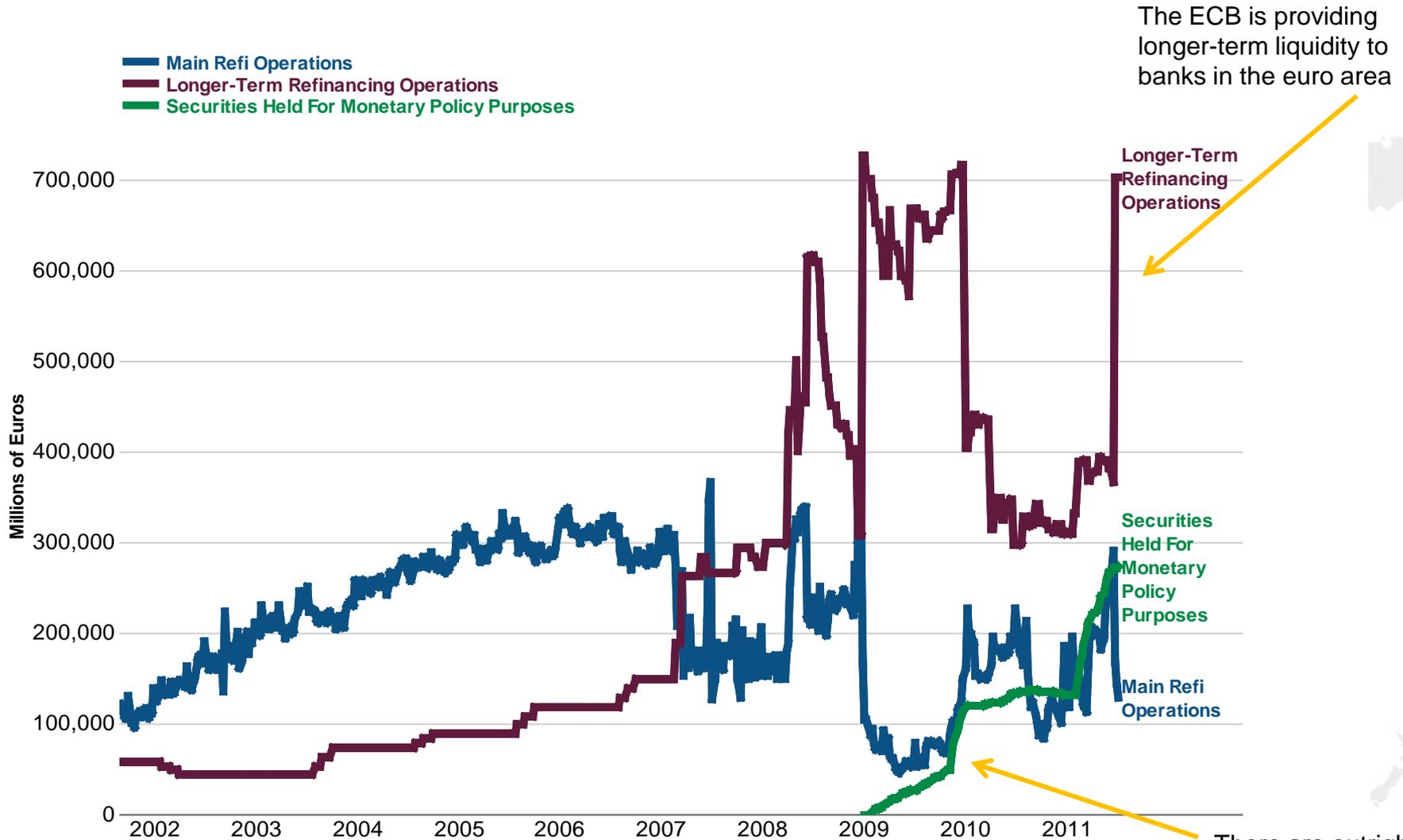
Capital Movements in the Euro System: Money Is Leaving GIIPS Banks (PIIGS) For Safer Regions

Claims of euro area members from netting of Euro System cross-border payments (in billions of euros)



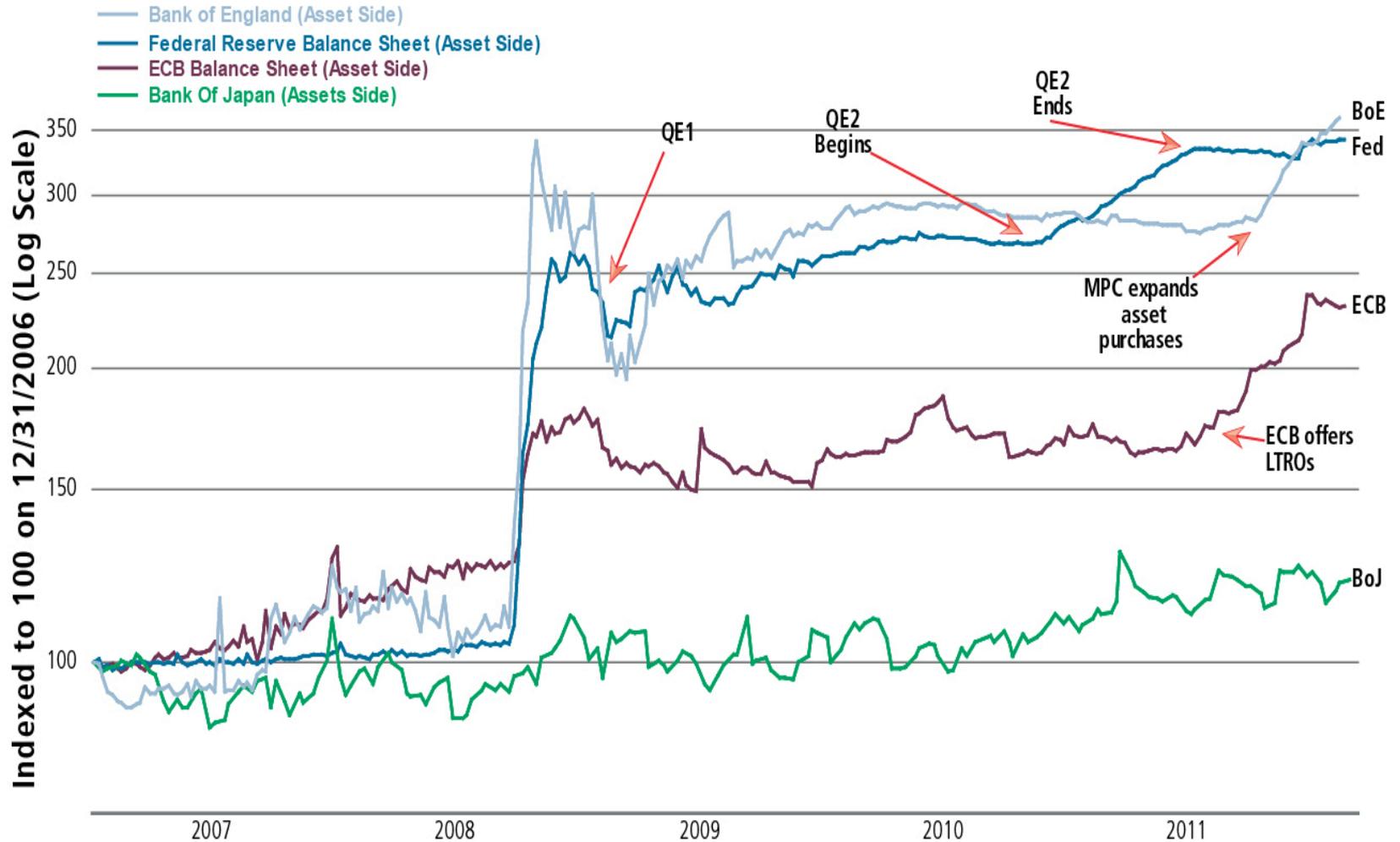
Source: Peter Boone and Simon Johnson, "Europe on the Brink," *Peterson Institute for International Economics*, July 2011.

The ECB Has Also Been Acting As A Dealer of Last Resort To Save Financial System



Source: European Central Bank

Global Monetary Easing Scorecard



Sources: US Federal Reserve, European Central Bank, Bank of England, Bank of Japan

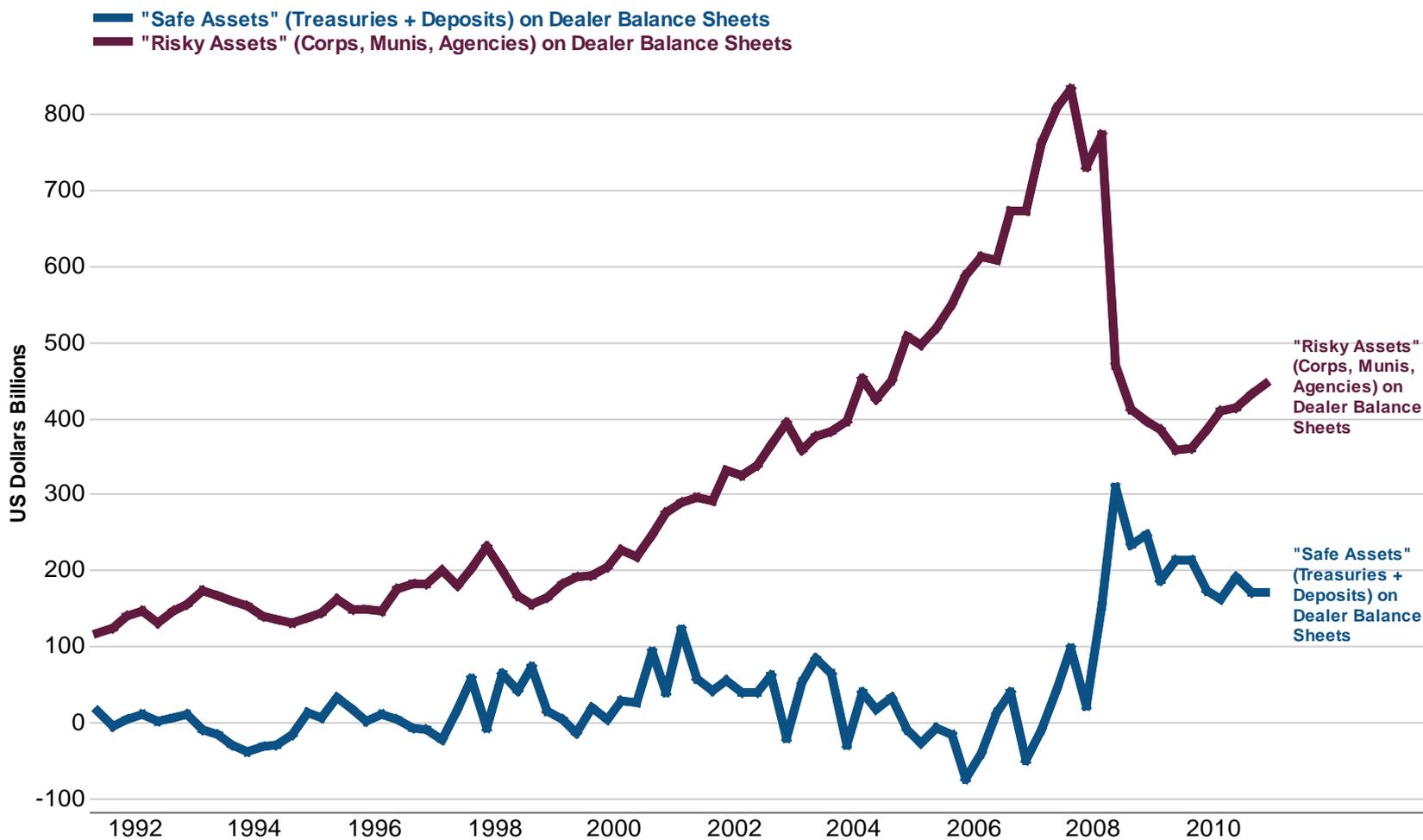
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**Macroeconomic
Implications: Volatility,
Lack of Liquidity, Low
Government Bond Yields
in 2012**

Macro Implication #1: Liquidity Dried Up As Dealer Balance Sheets Changed



Source: Federal Reserve

Macro Implication #2: There Is A Shortage of “Safe” Assets

Categories of Safe Assets	USD billion		% of World GDP	
	2007	2011	2007	2011
US Federal government debt held by the public	5,136	10,692	9.2%	15.8%
Held by the Federal Reserve	736	1,700	1.3%	2.5%
Held by private investors	4,401	8,992	7.9%	13.3%
GSE obligations	2,910	2,023	5.2%	3.0%
Agency-and-GSE-backed mortgage pools	4,464	6,283	8.0%	9.3%
Private-issue ABS	3,901	4,277	7.0%	4.9%
German and French government debt	2,492	3,270	4.5%	4.8%
Italian and Spanish government debt	2,380	3,143	4.3%	4.7%
Total Safe assets	20,548	12,262	36.9%	18.1%

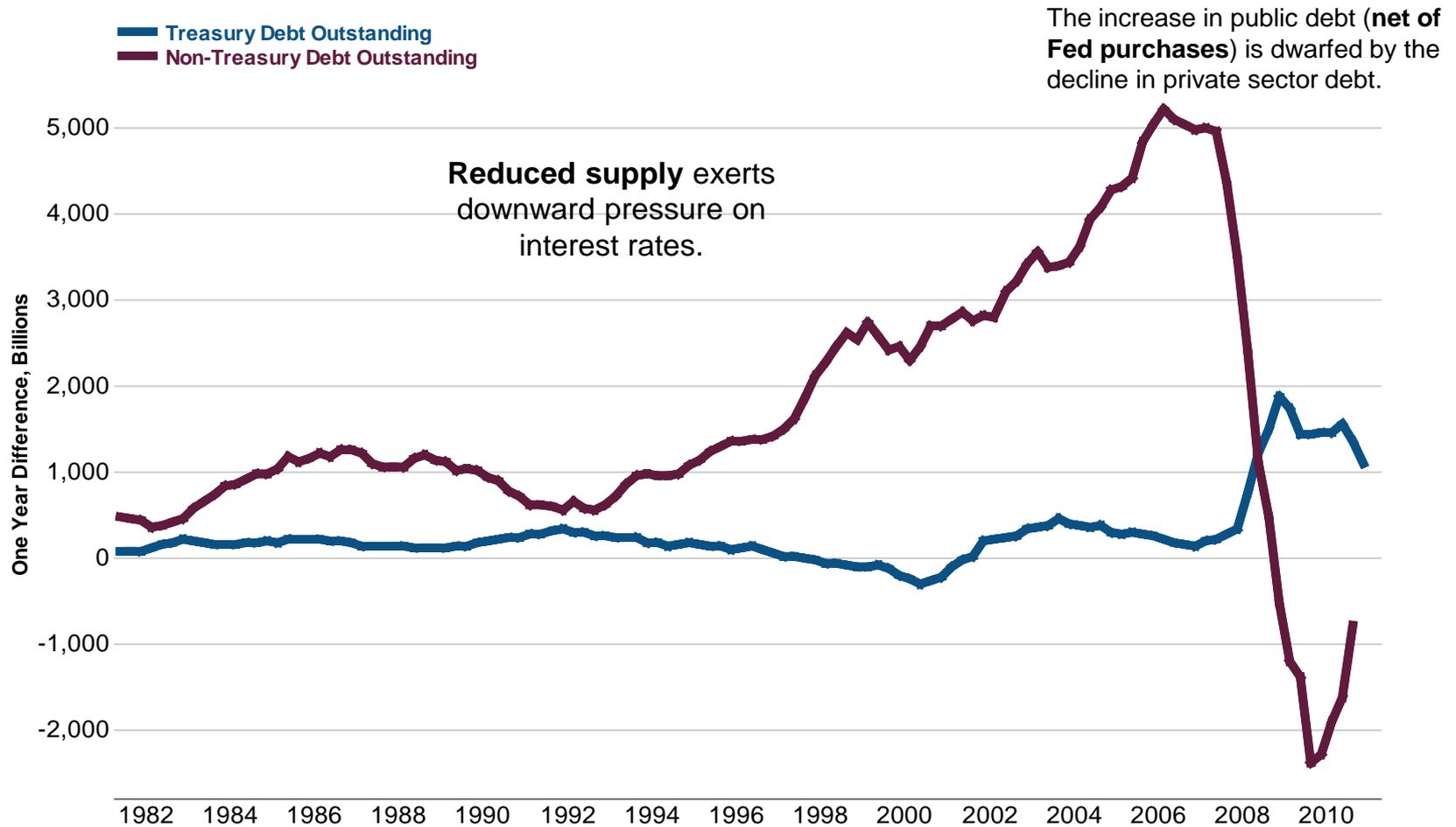
QE reduces supply of safe assets available to public

Source: Barclays Capital

Shrinking supply of safe assets in global financial system

ECB treating peripheral bonds as safe assets in effort to boost liquidity and lower yields

Non-Treasury Debt Contraction versus Treasury Debt Surge



Source: Federal Reserve Flow of Funds

Global Economic Scenarios and Probabilities (December 2011)

Scenario	Global Trends	Probability
Base Case	<p>Base Case: ECB Intervention</p> <ul style="list-style-type: none"> • Europe puts fiscal rules in place which do not require imminent formal treaty changes. ECB activity is significant, but commensurate with progress on austerity measures- unlimited support not likely. IMF involvement helps back compliance. Eurobond is not dead, just not imminent. • Support by ECB of Italy and Spain helps to avert European banking crisis (in addition to ramping up liquidity measures). Major bank failures will be avoided, and bank recapitalization gets underway. • European recession is not avoided (flat to -2%), little growth in the UK, and 1-2% US growth. EM growth forecasts scaled back, but still 3-4% above developed markets. • Spread tightening in credit markets (towards 550 bps. on HY) • Slightly weaker euro on growth concerns, other currencies mixed vs. dollar 	60%
Bad Case	<p>Bad Case: Muddle Through</p> <ul style="list-style-type: none"> • ECB continues to support bonds only sporadically during market volatility and with no clear commitment, but euro break-up is avoided. <ul style="list-style-type: none"> ▪ It is still unclear how the funding for bank recapitalization will be obtained. ▪ European recession is deep (-2 to -5%), slight recession in the UK and no growth in the US. EM growth stalls. ▪ Credit spreads drift wider (towards 800 on HY). Weak euro and weak EM currencies vs. dollar 	25%
Worst Case	<p>Worst Case: Euro Break-Up</p> <ul style="list-style-type: none"> • Euro break-up as peripherals don't deliver on reforms, most likely with Germany (along with Austria, Finland and the Netherlands) leaving and winding up with two-tier euro. <ul style="list-style-type: none"> ▪ European depression (-5 to -10%), US recession (down 1-2%), UK somewhere in between, EM heavy downturn. ▪ Credit spreads reach close to 2008 levels, but unlikely to overshoot those levels given less levered holders. Major dollar rally vs. all currencies 	15%