

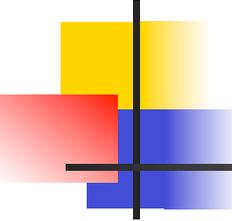
The safe asset meme

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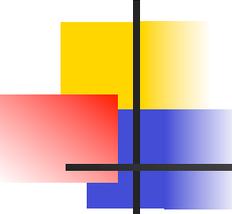
Paris 9 (Dauphine), 10 October 2013

*I am grateful to Li Xinyuan for research assistance.



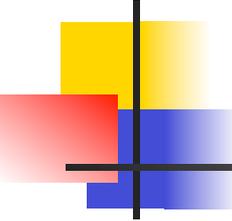
Road map

- Definitions and uses of safe assets
- The claim: a 'shortage of safe assets' – now or in future – with undesirable consequences
- The evidence: prices and quantities – *no shortage*
- Going global: the claim is that 'safe asset shortage' is a contemporary version of the 1960s Triffin Dilemma (TD), but now within economies as well as in the international financial system
- *Again, no TD* – neither then nor now
- Policy implications



Should we be scared?

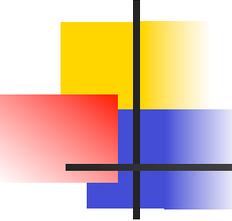
- *FT Alphaville* headline 5 December 2011: 'The decline of "safe" assets', presenting 'the most important chart in the world', titled 'Shrinking universe of "safe" assets in the primary reserve currencies'
- It gets worse – *Financial Times* headline 27 March 2013: 'Global pool of triple A status shrinks 60%'
- Caruana (BIS 2013, pp. xxi-xxii) fears that insufficient safe assets might threaten macroeconomic and financial stability
- Caballero and Farhi (2013) claim the 'Safe Asset Mechanism' is responsible for many macroeconomic dysfunctions



The meme

- "an idea, behavior, or style that spreads from person to person within a culture...memes [are] cultural analogues to genes in that they self-replicate, mutate, and respond to selective pressures.
- coined by Richard Dawkins in *The Selfish Gene* (1976) as a concept for discussion of evolutionary principles in explaining the spread of ideas and cultural phenomena. Examples...included melodies, catch-phrases, fashion...
- ...memes may evolve by natural selection...Memes spread through the behavior that they generate in their hosts. [Some]...may become extinct, while others may survive, spread, and (for better or for worse) mutate... some may replicate effectively even when they prove to be detrimental to the welfare of their hosts."

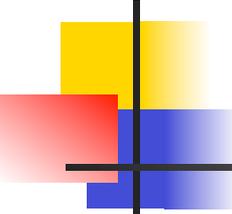
Wikipedia



Propagation and mutation...

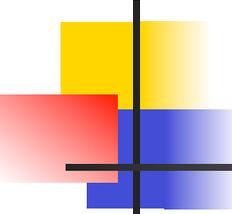
Different claims:

- 'The world has a shortage of financial assets' – and it will get worse (Caballero 2006)
- Demand for safe assets rose with the crisis (precautionary motive) and supply fell, because greater counterparty risk transformed 'information-insensitive' into information-sensitive debt (DeLong 2012)
- 'In the future, there will be rising demand for safe assets, but fewer of them will be available...' (IMF *Global Financial Stability Report* April 2012)



...to a wide range of definitions

- 'cash (including insured deposits) plus any debt that is tradeable, liquid, and enjoying a top credit rating' ... 'liquid debt claim with negligible default risk' (Gourinchas and Jeanne 2012)
- '(1) low credit and market risks, (2) high market liquidity, (3) limited inflation risks, (4) low exchange rate risks, and (5) limited idiosyncratic risks.' (*GFSR* 2012)
- '...assets that are ... used in an information-insensitive fashion... bank deposits, money market mutual fund shares, commercial paper, federal funds and repurchase agreements ("repo"), short-term interbank loans, Treasuries, agency debt, municipal bonds, securitized debt, and high-grade financial-sector corporate debt.' (Gorton *et al.* 2012)

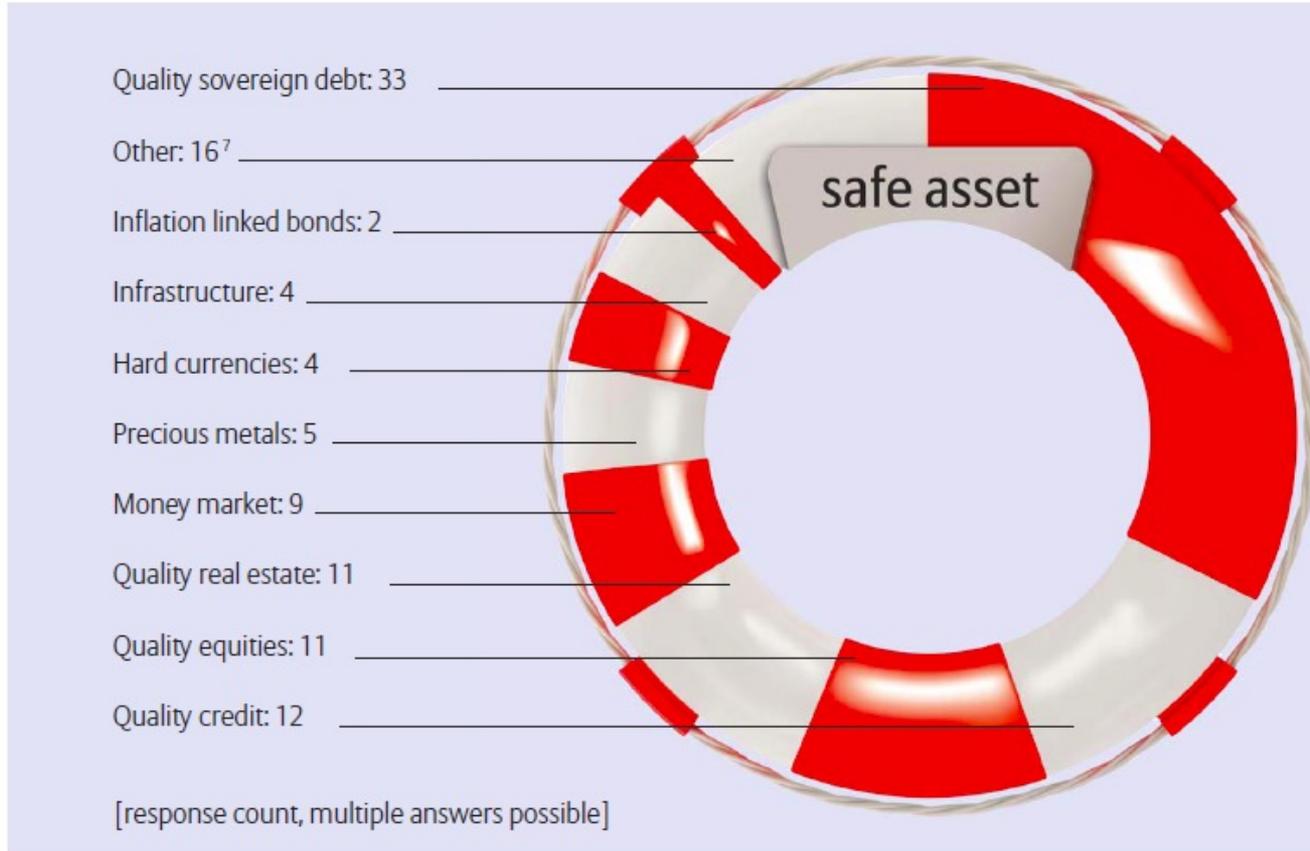


What do these definitions mean?

- *No asset is truly safe*, not even US Treasuries
- Credit rating: no longer 'top' (but downgrade → yield fell!)
- Default risk: CDS spread on US Treasuries 5-yr at 1.1.09 was 67 bps, long before August 2011 debt-limit scare
- Liquidity risk: 3-month US Treasuries stopped trading for 30 minutes at peak of post-LTCM turmoil, on 5.10.98
- Inflation risk: US inflation exceeded 10% in 1979-80
- Exchange-rate risk: the dollar depreciated 50% against the DM from February 1985 to October 1987
- Duration (maturity) risk
- 'Safety' is relative: it lies on a *continuum* mapped by judgment or reference to the markets

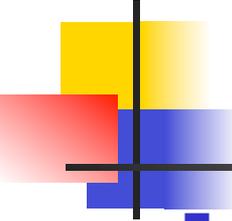
What is safe? market views are diverse, says a survey of institutional portfolio managers (AllianzGI *Risk Monitor* 2012)

Which assets do you consider as safe in the current environment?



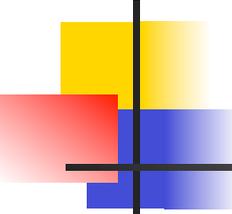
⁷ Other: Covered bonds /agencies, Diversification, Renewables, Insurance policies, Lifecycle product, Arrow-Debreu securities, Long short event driven, Commodities, Swaps, Global businesses, Art.

'13 respondents said there is no such thing as a safe asset.'



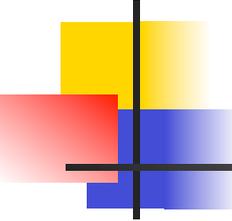
Why worry?

- Shortage of safe assets → macroeconomic disequilibrium
- No safe assets → no risk-free interest rate
- Collateral shortages → constraint on lending
- Safe asset shortage → low real interest rates → 'search for yield', financial instability
- In international finance, safe asset shortage → TD
- Won't discuss
 - safe assets as metric in prudential regulation
 - store of value role



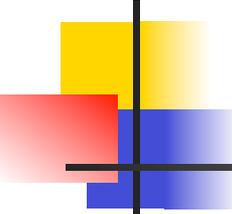
Mill/Walras and macroeconomic disequilibrium

- Lehman → excess demand for money and hence, by Walras's Law (DeLong gives Mill precedence), *excess supply of goods* → the Great Recession
- Caballero (2006) had warned that 'forcing a reduction in the value of safe assets [*e.g.*, deflating bubbles] may lead to large excess demand for them with excess supply of goods'
- But policy-makers didn't force it: counterparty risk rose dramatically, and private and inside liquidity evaporated
- This interpretation of the slump follows the 'general disequilibrium' (or 'temporary equilibrium') macroeconomics of the 1970s (*e.g.*, Muellbauer and Portes 1978)
- But we are past that stage of the crisis, although this approach to macro is reappearing (Michaillat and Saez 2013)



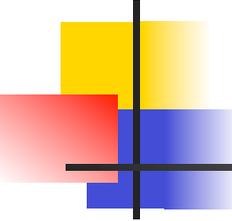
No risk-free asset → no risk-free rate

- 'The idea of risk-free sovereign bonds is...an oxymoron...an anomaly of recent history. It is not a useful, necessary or an enduring feature of the financial landscape.' (P. Fisher in BIS 2013, p. 65)
- In finance, we use the concept of the 'risk-free rate' in the CAPM model and portfolio theory.
- In macroeconomics and monetary theory too, we have the base asset or reserve asset of the banking system. Typically this is the short-term sovereign bond.
- But what we need is not a true 'risk-free' rate, but a *benchmark*, and there are alternative ways of defining and identifying a benchmark rate (Dunne *et al.* 2007).
- We should therefore not be concerned that in practice, there is no observable extreme point on the continuum of 'safe assets'.



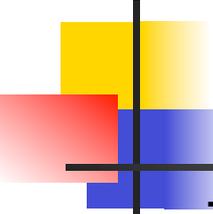
Collateral – a shortage (or ‘scarcity’)?

- Even with a shortage, a scarcity may be alleviated by rise in velocity of collateral (Singh 2013)
- *FT Alphaville* 5 December 2011 drew analogy with TD
- The claim: safe assets are essential as collateral, and collateral is essential for financial intermediation
- Hence a fall in safe assets available as collateral, *or* a fall in the velocity (re-use) of collateral, *or* both, *might reduce lending*
- But no empirical work supports this story
- Krishnamurthy and Vissing-Jorgensen 2012 do provide evidence that an increase in Treasury debt reduces the probability of financial crisis; Gorton and Ordonez 2013 assert this is because Treasuries are superior substitutes for private collateral



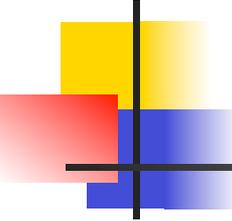
In fact, no collateral shortage

- Recent temporary collateral squeeze in euro area was not a 'safe asset shortage' (Allen and Moessner 2013)
- 'Neither price nor quantity indicators currently indicate any signs of a broad-based collateral shortage...no evidence of any lasting current or prospective scarcity...' (Fender and Lewrick 2013)
- 'Regulatory reforms and the shift towards central clearing of derivatives transactions will also add to the demand for collateral assets. But there is no evidence or expectation of any lasting or widespread scarcity of such assets in global financial markets.' (BIS Committee on the Global Financial System 2013)



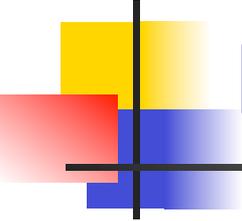
Safe asset shortage, search for yield, and financial instability

- The claim: shortage of safe assets pushed real interest rates down to 'historically low' levels, hence investors needing yield went into excessively risky assets (and it's happening again!)
- Caballero (2006): shortage of safe assets → global imbalances and asset price bubbles
- Caballero-Farhi-Gourinchas 2008 model global imbalances, stressing the inability of emerging market economies to create safe assets and the superiority of US safe assets
- An explanation of the crisis: shortage of safe assets led private sector to create 'private label' safe assets that weren't really safe but were certified by the ratings agencies and easily marketed
- Bernanke (2013), Kocherlakota (2013), Gourinchas and Jeanne (2012), and the IMF in *GFSR* 2012 share concern that safe asset shortages → financial instability (volatility jumps, herding,...)



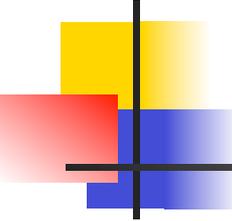
But is there really a global shortage of safe assets?

- We see no global liquidity shortage, no deflationary bias (both important in TD) – inadequate liquidity during crisis was only short-run lack of dollars to finance dollar positions, met by short-duration currency swaps
- Not only US supplies safe assets – Germany, UK, Norway, Switzerland, *even emerging markets* (McCauley 2012) – and ‘U.S. financial assets have not been demonstrably more attractive than those of other industrial economies’ (Gruber and Kamin 2008)
- So are quantities of safe assets really falling?



Evidence: prices and quantities

- Asset price bubbles – really? is there agreement on identifying asset price bubbles before they burst?
- Interest rates and spreads
- Volumes of 'safe' assets



Effects on interest rates?

- Real interest rates did fall from 1980s and early 1990s to levels that *seemed* historically low in 00s, but *weren't*: they were similar in 1960s and lower in 1970s.
- Hard to argue there was a shortage of safe assets 1960-80
- Alternative stories for that period
 - petrodollars – but no oil money in 1960s, and in 1970s, banks just funneled petrodollars to Latin America and Eastern Europe in syndicated loans. How could this push down real yields on 10-yr Treasuries and gilts?
 - 'financial repression' (Reinhart and Sbrancia 2012) – doubtful: that would block cross-border transmission, but there was high comovement of advanced economy and emerging market spreads 1960-1980.

Rates are 'historically low' from the early 2000s

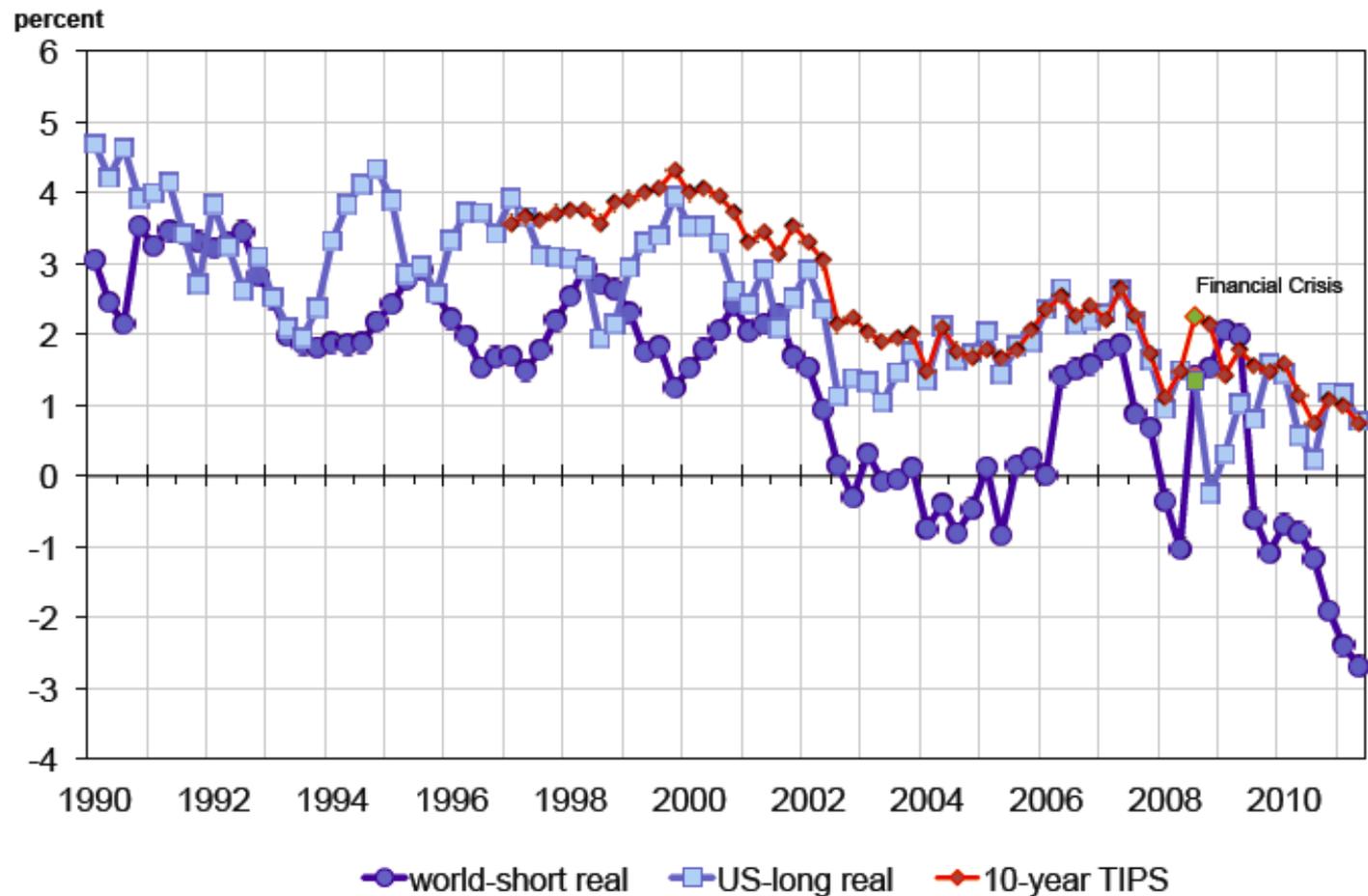
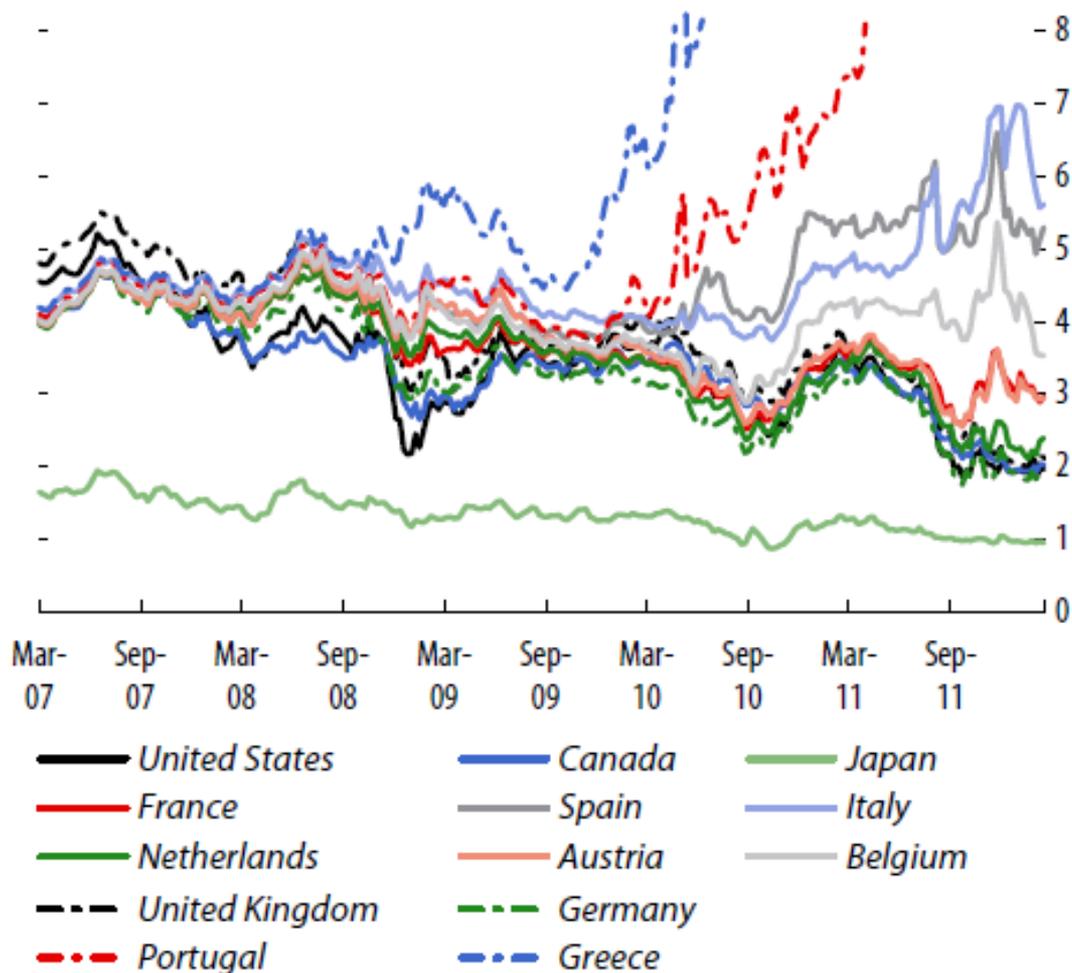


Figure 1: World Real Interest Rates, 1990Q1-2011Q3. Source: Global Financial Database, OECD, International Financial Statistics, Survey of Professional Forecasters.

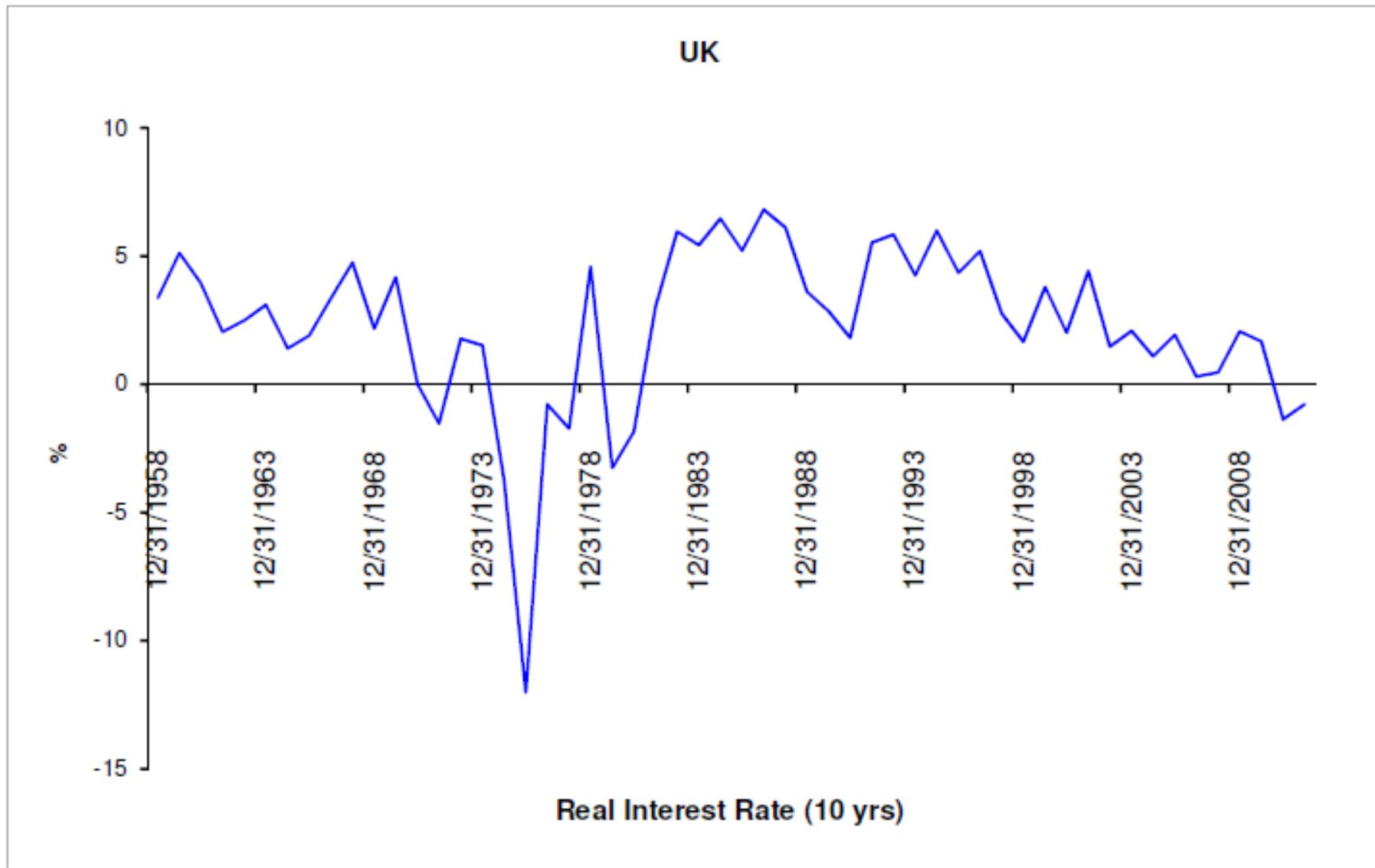
Gourinchas and Jeanne (2012)

GFSR 2012, 'yields on bonds viewed as safe havens have declined to historical lows' – their 'history' is even shorter

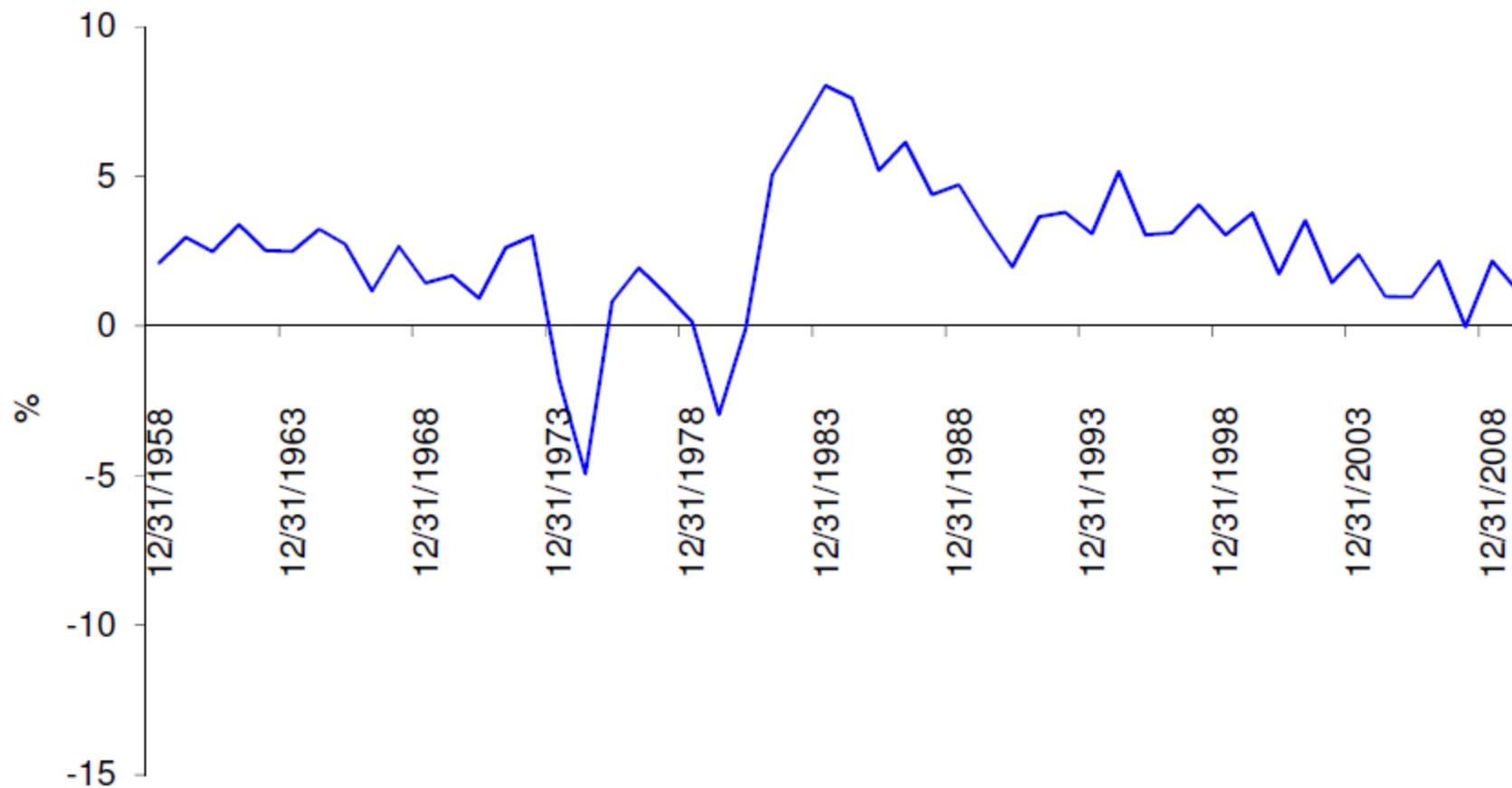
Figure 3.1. Ten-Year Government Bond Yields in Selected Advanced Economies
(In percent)



The picture changes in a longer historical perspective



USA



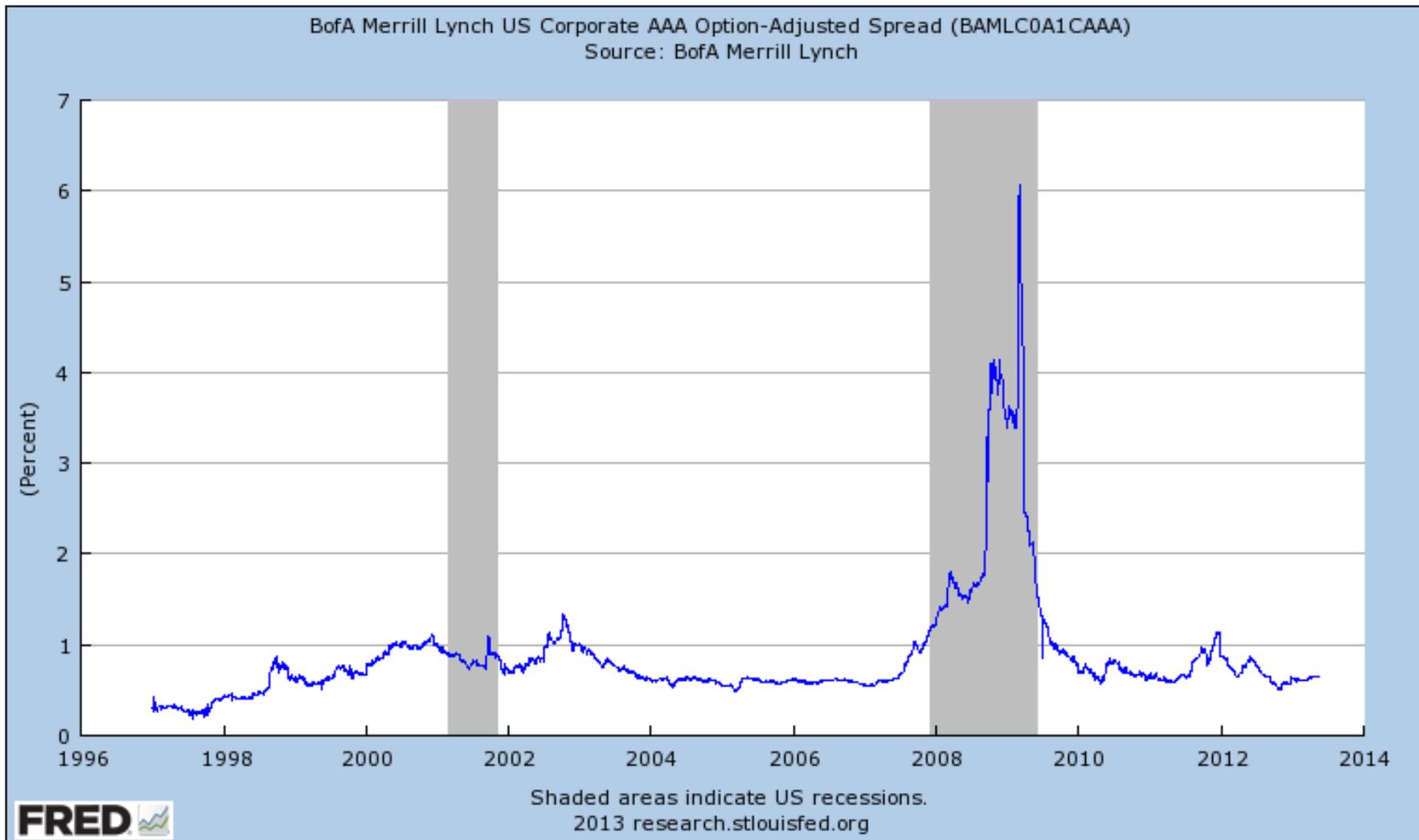
Real Interest Rate (10 yrs)

Exhibit 6: US Long-Term Real Interest Rates

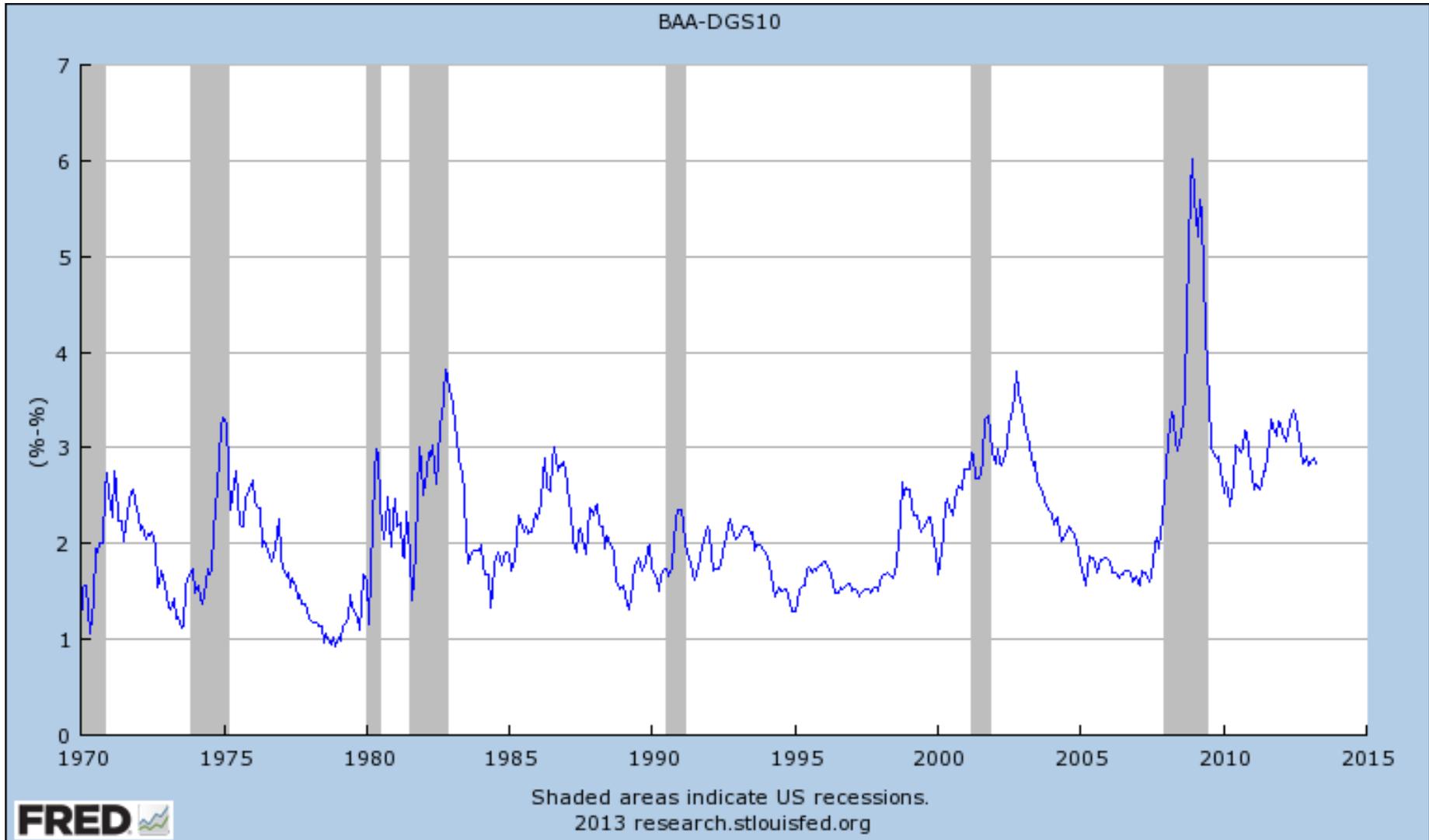


Source: Credit Suisse, *Market Focus*, 'When collateral is king', 15 March 2012

Did search for yield drive spreads especially low in 2000s? Not AAA



Nor BAA

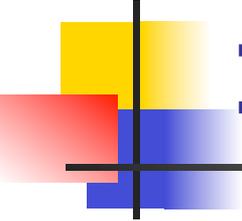


Apparently there was a search for (high) yield – in 1998

BofA Merrill Lynch US High Yield Master II Option-Adjusted Spread (BAMLH0A0HYM2)
Source: BofA Merrill Lynch



Shaded areas indicate US recessions.
2013 research.stlouisfed.org

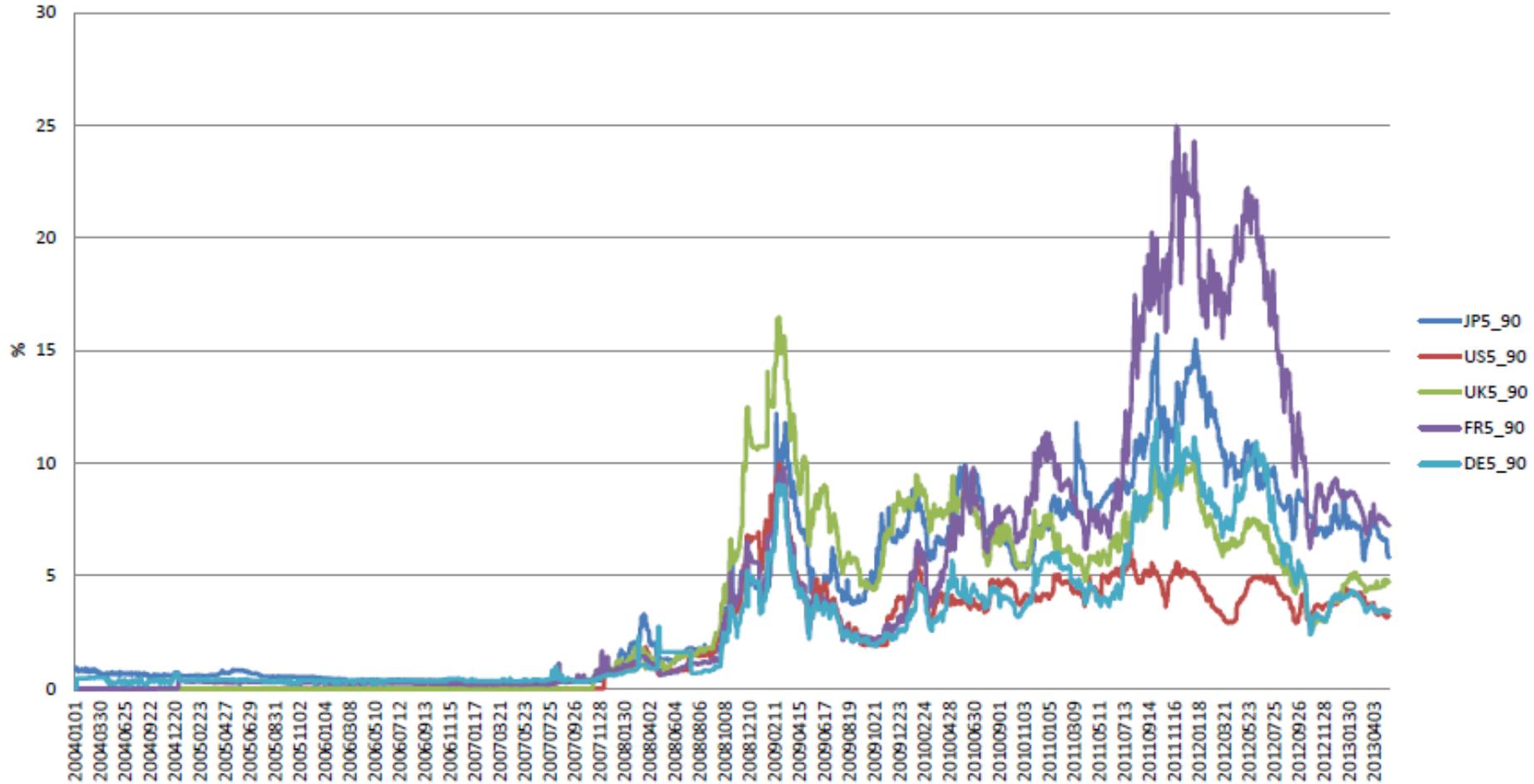


Interest rates and safe assets

- Low real rates of 2000s pre-crisis and now don't show 'safe asset shortage'
- They just reflect low policy rates and expectations
- Currently, we have weak demand for funds from private sector plus extended expectations of ZIRP – that suffices to explain low long rates, no need to invoke excess demand for safe assets

Are safe assets disappearing? CDS spreads say *nothing* is safe...

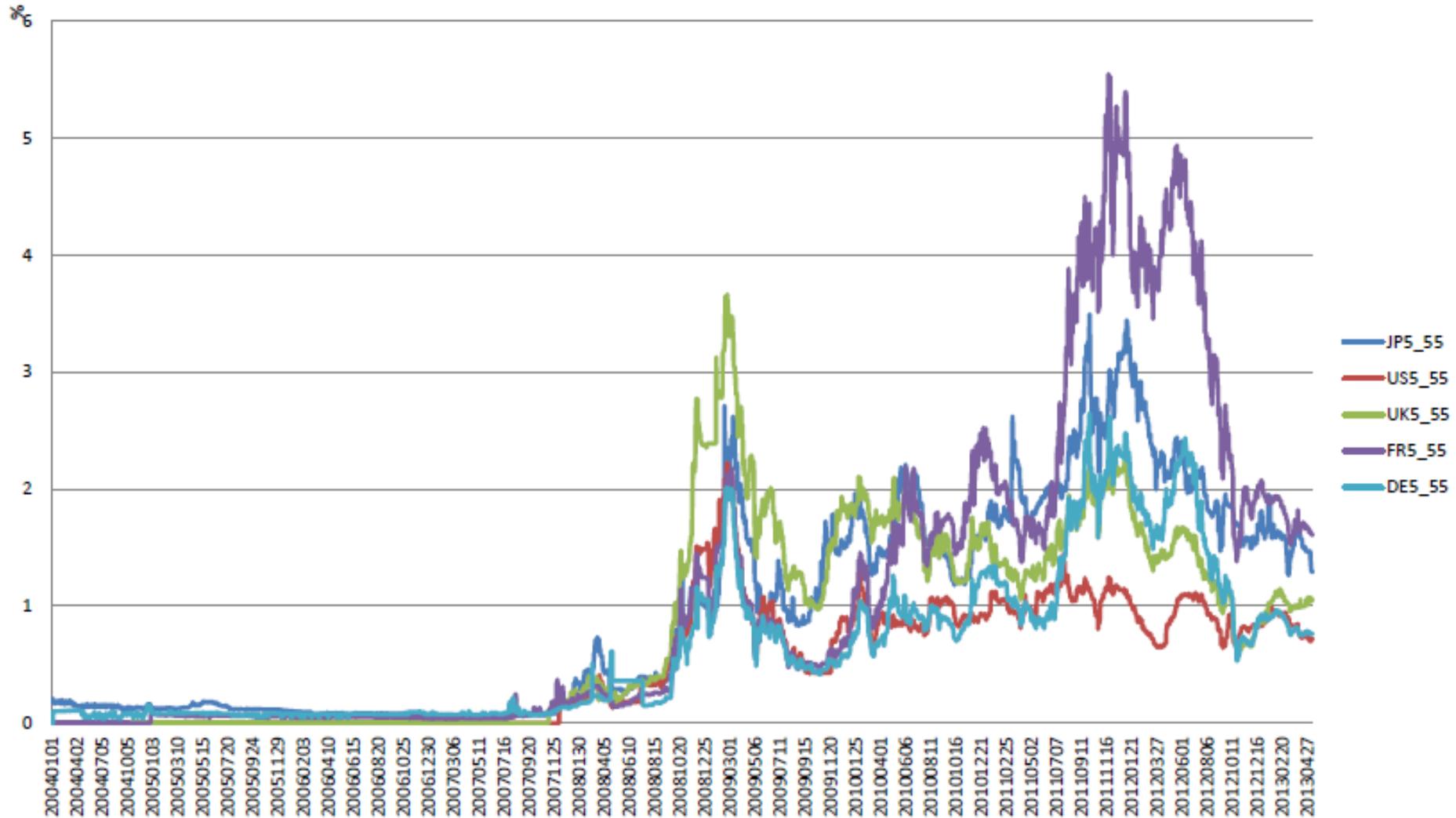
Implied Probability of Default (5yr, recovery rate=90%)



Data from CMA, author's calculations

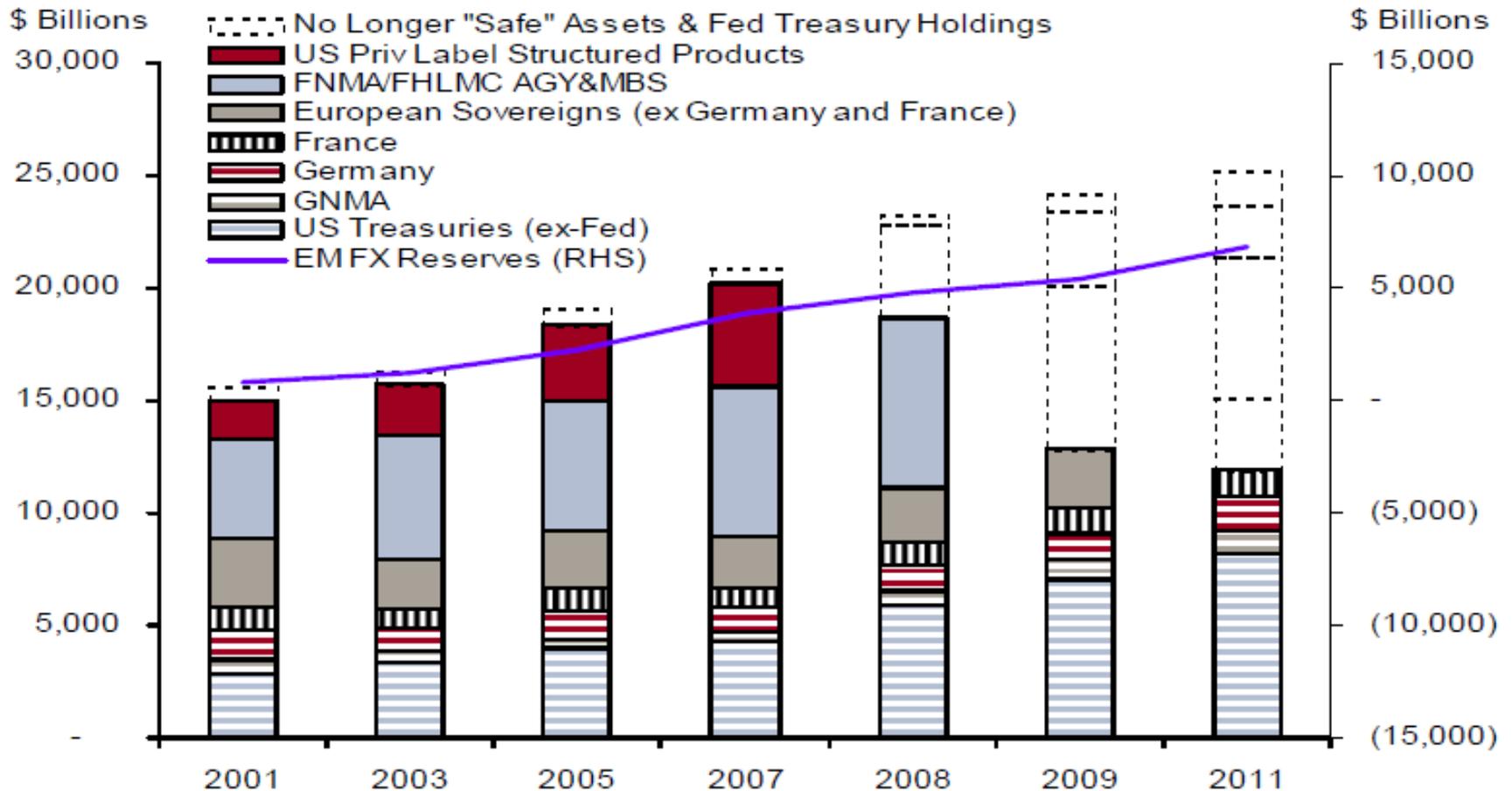
Assuming a lower recovery rate, sovereigns look safer, but is PD of 4-5% 'negligible'?

Implied Probability of Default (5yr, recovery rate=55%)



If we judge 'safe' by ratings, we get 'The most important chart in the world...'

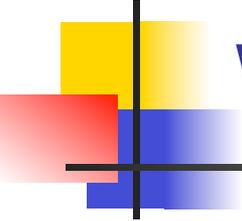
Exhibit 174: Shrinking universe of "safe" assets in the primary reserve currencies (USD and EUR)



...unless it's this one – the OECD's definition of 'safe' gives a very different message



Impossible d'afficher l'image. Votre ordinateur manque peut-être de mémoire pour ouvrir l'image ou l'image est endommagée. Redémarrez l'ordinateur, puis ouvrez à nouveau le fichier. Si le x rouge est toujours affiché, vous devrez peut-être supprimer l'image avant de la réinsérer.

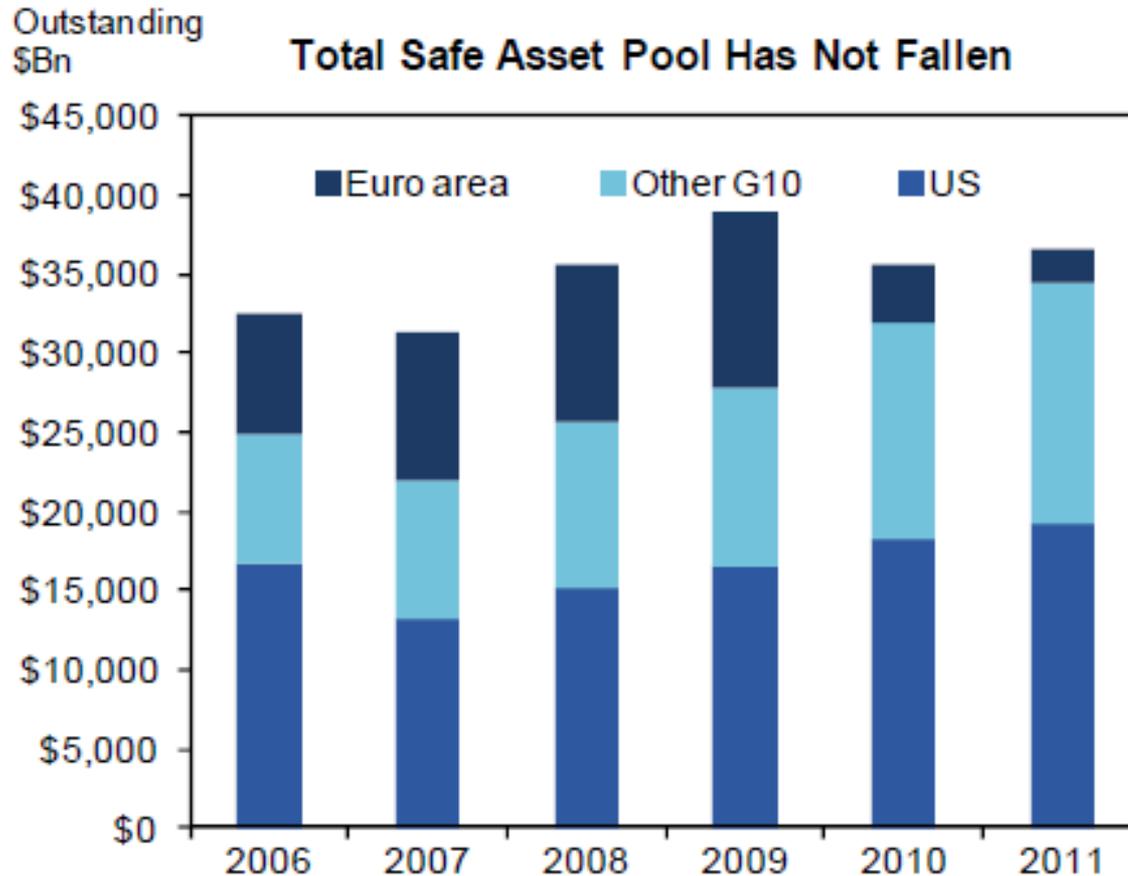


Why use ratings anyway?

- *GFSR* bravely says 'asset safety should not be viewed as being directly linked to credit rating' (fn. 49, p. 105) but does it all the same, like everyone else
- Yet downgrading of US, UK, France had no effect on 10-year yields
- We should have learned not to take sovereign ratings seriously...

Goldman Sachs, with an alternative definition, sees no 'shrinkage'...

*Global
Economics
Weekly*
27 June 2012

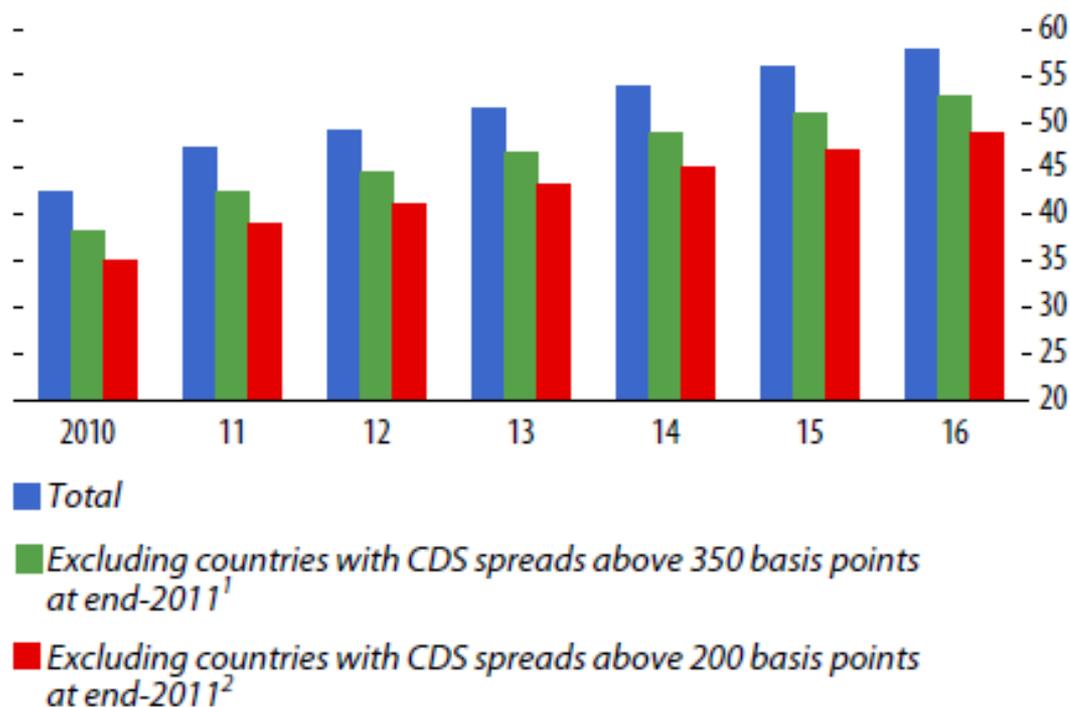


Source: GS Global ECS Research, SIFMA and Haver Analytics.
Safe Assets include qualifying sovereign and private assets in each year.

Define 'safe assets' by *positive yield correlation with risk appetite*.
Then US Treasuries, non-Euro area G10, German, Dutch, Finnish, US agencies and AAA-rated covered bonds are 'safe'.

Even GFSR, relying on CDS spreads, actually makes optimistic projections

Figure 3.13. OECD Countries: General Government Gross Debt, 2010–16
(In trillions of U.S. dollars)

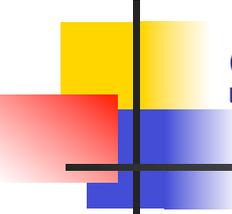


Sources: Bloomberg L.P.; and IMF, World Economic Outlook database.

Note: For 2012–16, the data are projections.

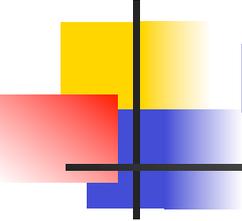
¹Greece, Hungary, Ireland, Italy, Portugal, Slovenia, and Spain.

²Belgium, France, Greece, Hungary, Iceland, Ireland, Italy, Poland, Portugal, Slovak Republic, Slovenia, Spain, and Turkey.



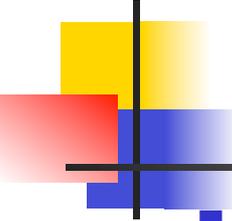
So where is the 'safe asset shortage'?

- We don't see excess demand for safe assets in interest rates
- We don't see falling supply, unless we believe probabilities of default implied by CDS spreads, in which case *nothing* is 'safe'
- Projected increases in demand due to new regulatory requirements are not that large
- As for collateral, the overall *supply of safe assets is endogenous* (e.g., Gorton *et al.* 2012)



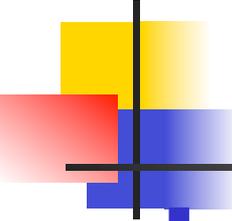
Let's go global: is there a Triffin Dilemma?

- Definition: increasing demand for reserve assets strains ability of issuer to supply sufficient amounts while still credibly guaranteeing or stabilising the asset's value in terms of an acceptable numeraire (Obstfeld 2011, based on Farhi-Gourinchas-Rey 2011)
- So TD postulates global excess demand for safe assets



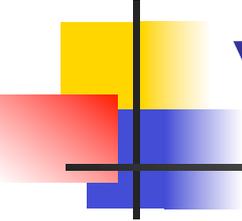
TD then (1960s)

- *Either* US wouldn't provide more dollars, so trade stagnates, deflationary bias in global economy – a global liquidity shortage
- *Or* it would, and accumulation of dollar holdings undermines confidence in international reserve currency
- Some identify the second with current account deficits, but US CA in slight surplus throughout 1960s
- Growth of dollar reserves from 1955 onwards came from capital flows and was partly driven by *foreign demand for money* (recall 'dollar shortage' of late 1940s - early 1950s)



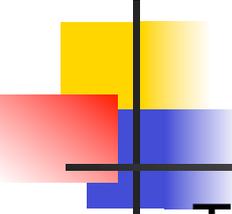
Despres-Kindleberger-Salant (1966)

- US 'deficit' arose from *world banker* role, borrowing short (riskless assets) and lending long (risky assets) (see also Gourinchas-Rey 2007)
 - Source of dollar balances accumulated abroad was net *capital outflows*, not CA deficits
- 'CAs tell us little about the role a country plays in international borrowing, lending, and financial intermediation' (Borio-Disyatat 2011)
- *External* liquidity not the key issue, rather *internal* (in Europe) – US was supplying financial intermediation that Europe couldn't provide
 - Lack of 'confidence' reflects failure to understand this necessary and beneficial intermediary role
 - Correct policy: integrate/develop foreign capital markets, moderate foreign asset holders' insistence on liquidity



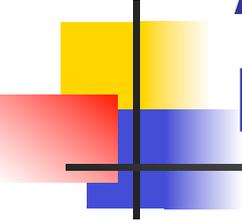
'TD then' reassessed

- Dollar problem of 1960s *wasn't* founded on TD – rather, it was a result of US inability to convince dollar holders that US would maintain a stable value of the dollar with appropriate monetary and fiscal policies
- If US had done that, sustaining 'confidence', foreigners would have had no incentive to demand gold (Obstfeld 1993)...
- ...except perhaps to destroy the 'exorbitant privilege' (which may indeed have been France's main objective)



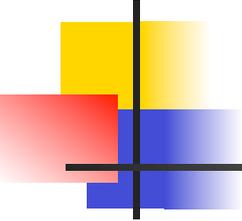
TD now: where are the 'safe' assets?

- The claim: a severe shortage of reserve ('safe') assets; the evidence: persistently low real interest rates (Caballero 2006, Farhi-Gourinchas-Rey 2011)
- But as we saw, that evidence is not convincing



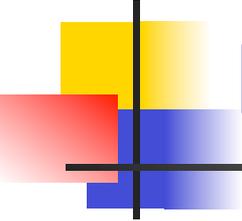
Alternative formulations of the problem (FGR)

1. Excess demand for 'safe' assets is an incentive to create more → falling creditworthiness of safe asset pool
2. Supply of safe dollar assets (USTs) rests on backing of US 'fiscal capacity'. That grows along with US GDP, slower than world GDP, which determines growth of demand for those assets, hence rising excess demand.



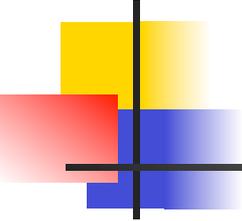
3. 'Ability to provide liquidity in times of global economic stress defines issuer of reserve currency' (FGR 2011) – and that ability rests on fiscal capacity

4. Global reserve growth requires ongoing issuance of gross (US) government debt, so either fiscal deficits or issuing debt to buy riskier assets – the growing government debt will eventually outrun fiscal capacity (see also Caballero and Farhi 2013)



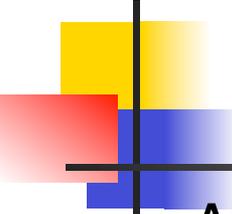
But what is 'fiscal capacity'?

- FGR appear to mean sustainability of government domestic debt or 'solvency' of a government
- But the 'sustainable' government debt level is always controversial, whether it applies to domestic or international debt (*e.g.*, Ostry and Mendoza 2008, Alogoskoufis *et al.* 1991) – not easy to make intertemporal budget constraint operational
- Sovereign debt and default literature has long debated 'can't pay' vs. 'won't pay', illiquidity vs. insolvency – there are no clear dividing lines (Eichengreen and Portes 1995)



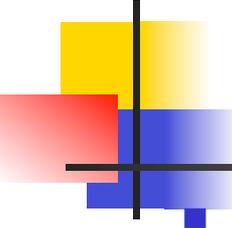
An illuminating counterfactual

- Suppose US had maintained fiscal balance of 2000: net supply of USTs stable or falling, but private ($S - I$) still negative, so CA deficit, rising foreign demand for reserves – what would foreigners have bought?
- The constraint on supply of reserve assets would not have been US fiscal capacity, but rather US fiscal rectitude. No TD, in that case.
- And no TD now – US ‘fiscal capacity constraint’ has not created global safe asset shortage, nor will it.



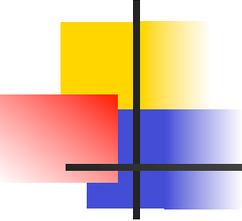
GSG and GI

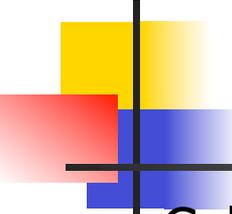
- All this is related to the 'global savings glut' (Bernanke 2005) hypothesis and the 'global imbalances' controversies – see Portes (2009), Obstfeld-Rogoff (2010), Bernanke *et al.* (2011), Shin (2011), Obstfeld (2012)
- Can't go into that here, but might ask whether there's a 'savings glut', a 'banking glut' (Shin 2011), or alternatively high global risk aversion and a failure of intermediation to deal with it
- Note: US CA deficits are not a necessary consequence of rest of world's demand for additional reserves (created by 'glut') – that could be met by net US private capital outflows (with net private savings balancing any government deficits, so zero CA – as in 1960s).



The outcome...

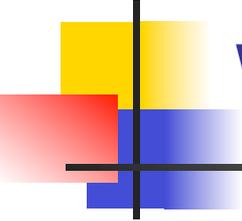
- There will be a multipolar reserve system, but *not because of TD and shortage of safe assets*, but because official reserve holders want to diversify their portfolios (Papaioannou *et al.* 2006), especially in light of trend dollar depreciation
- Perhaps convince surplus countries that reserve assets aren't as safe as they think, so they will reduce demand for them [recall DKS]
- So do the *opposite* of creating more safe assets, deal with asymmetry between surplus and deficit countries by *raising* risk premium (Goodhart 2011)
- And surplus countries switch towards non-dollar assets or riskier assets (sovereign wealth funds)

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- EM growth will slow
 - EM will develop domestic financial markets, have less need for foreign intermediation (DKS again!)
 - Some EM become ACs and reserve suppliers, the euro becomes more important as a reserve currency (Portes and Rey 1998)
 - Policy: reduce demand for self-insurance reserves with various international facilities, most centred on IMF (Farhi-Gourinchas-Rey 2011)
 - All but the last can happen *without major changes in the governance of the IMS*. And this is just as well, because such changes are unlikely...



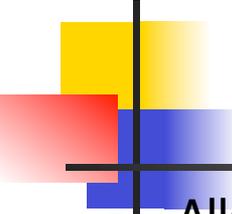
Believers in the safe asset meme draw further policy implications – but as above, beware...

- Caballero says don't try to eliminate the (supposed) shortage, the global imbalances, the bubbles, low real rates. They are equilibrium phenomena – so just control the risks.
- That's fine as a justification for macroprudential policies – but there are other good reasons for macropru
- Also other reasons for trying to limit GI and bubbles, if they aren't 'equilibrium phenomena' generated by safe assets shortage
- Caballero also against higher collateral requirements – but collateral scarcity not a problem, and many uncollateralised transactions are dangerous.
- Gourinchas and Jeanne (2012): private-label safe assets won't help, because 'claims on the private sector are inherently risky and one should say so to limit moral hazard' – of course, many central bankers think that holds for sovereigns too!



We conclude

- No asset is truly safe. That is not new.
- There is no current or prospective safe assets shortage, and we can expect both supply and demand to respond endogenously if imbalances arise.
- This issue should not occupy theorists or concern policymakers.
- There is an optimal policy: ***control replication of the meme...***



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