Financial Catastrophe Risk Workshop
Cambridge Judge Business School 9th April 2013

A Critical View of the Ongoing Crisis

M A H Dempster

Centre for Financial Research
Statistical Laboratory
University of Cambridge
&
Cambridge Systems Associates Limited
mahd2@cam.ac.uk www.cfr.statslab.cam.ac.uk

Outline

- Crisis Phase 1   US & UK
- Crisis Phase 2   EMU
- Crisis Phase 3   China
- Moving Forward?

Crisis Phase 1 US & UK

Financial Crises 1980-2007

- **Crises** caused by
  - **Inflation**
    - Russian default August 1998
  - **Currency crashes**
    - Mexican peso crisis 1995. After NAFTA (Canada, Mexico, US)
  - **Currency debasement**
    - Argentine default 2001. Failed US$ peg with horrifying domestic consequences
  - **Asset price bubbles**
    - South American debt crisis in the 1980s. Recycling 'petrodollars' in the 1970s
    - Black Monday October 1987.
    - Asian crisis 1997. Corporate debt burden financed by property bubbles
    - Internet bubble 2000. Irrational exuberance ?
    - US subprime crisis 2007 - … (Self) deception


BROOKLYN
BATTERY
TUNNEL
LOCAL

This Time It's Different

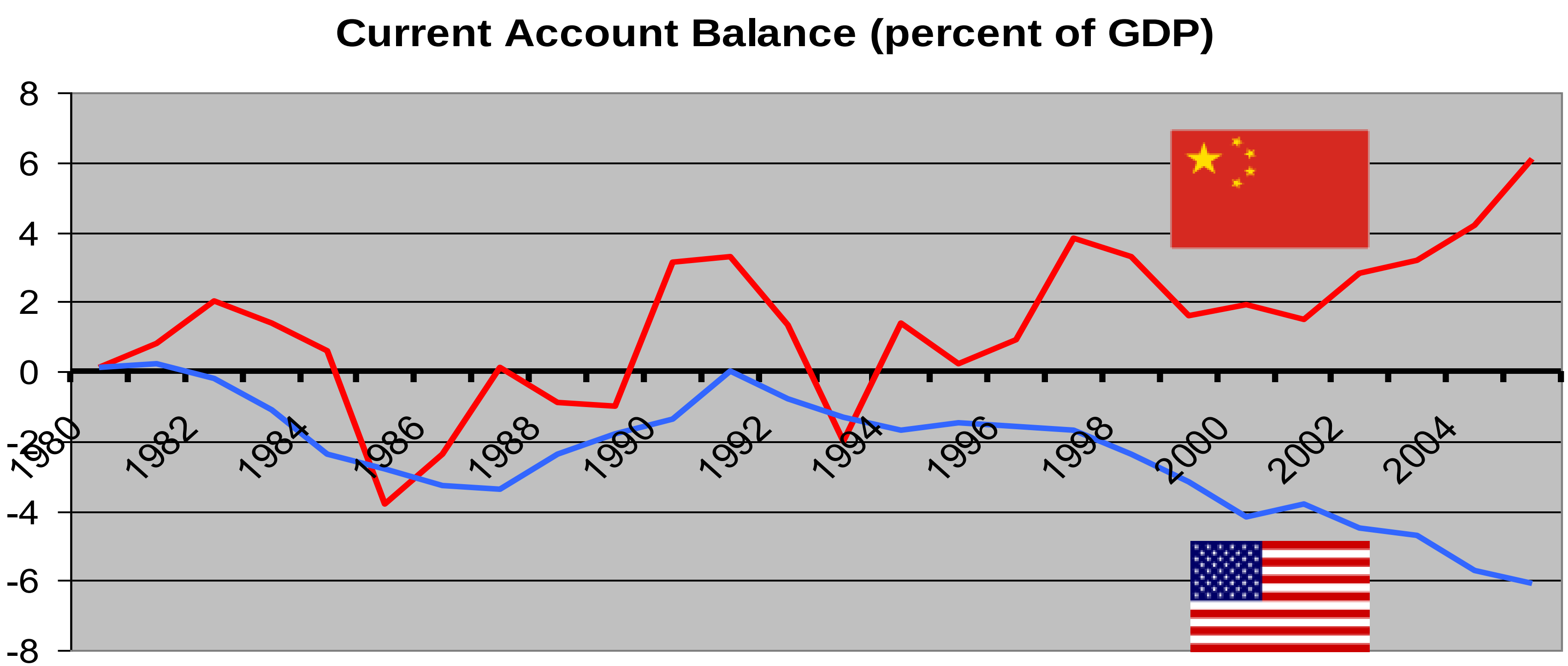
- Financial crises have marked the development of capitalism since the Renaissance
- These have historically been connected with sovereign credit over the past 800 years Reinhart & Rogoff (2010)
- In his famous book Kindleberger (1989) gives a detailed account of financial crises in Europe and North America from 1618

The Minsky-Kindleberger Crisis Model

- **Instability of the credit system has been studied by Smith, Marx, Mill, Marshall, Wicksell, Fisher, Keynes, Minsky, Kindleberger**

- **Crisis model**
  1. Macroeconomic displacement
  2. Credit expansion
  3. Overtrading
  4. Crisis
  5. Resolution ?

China Produces While the US Consumes



Source: IMF WEO

US Subprime Lending

- "They lent me 240 grand when I wouldn't lend myself 10 bucks and I have criminal friends who wouldn't even lend me a dollar and they're the kind of guys who break knee caps" Los Angeles Resident

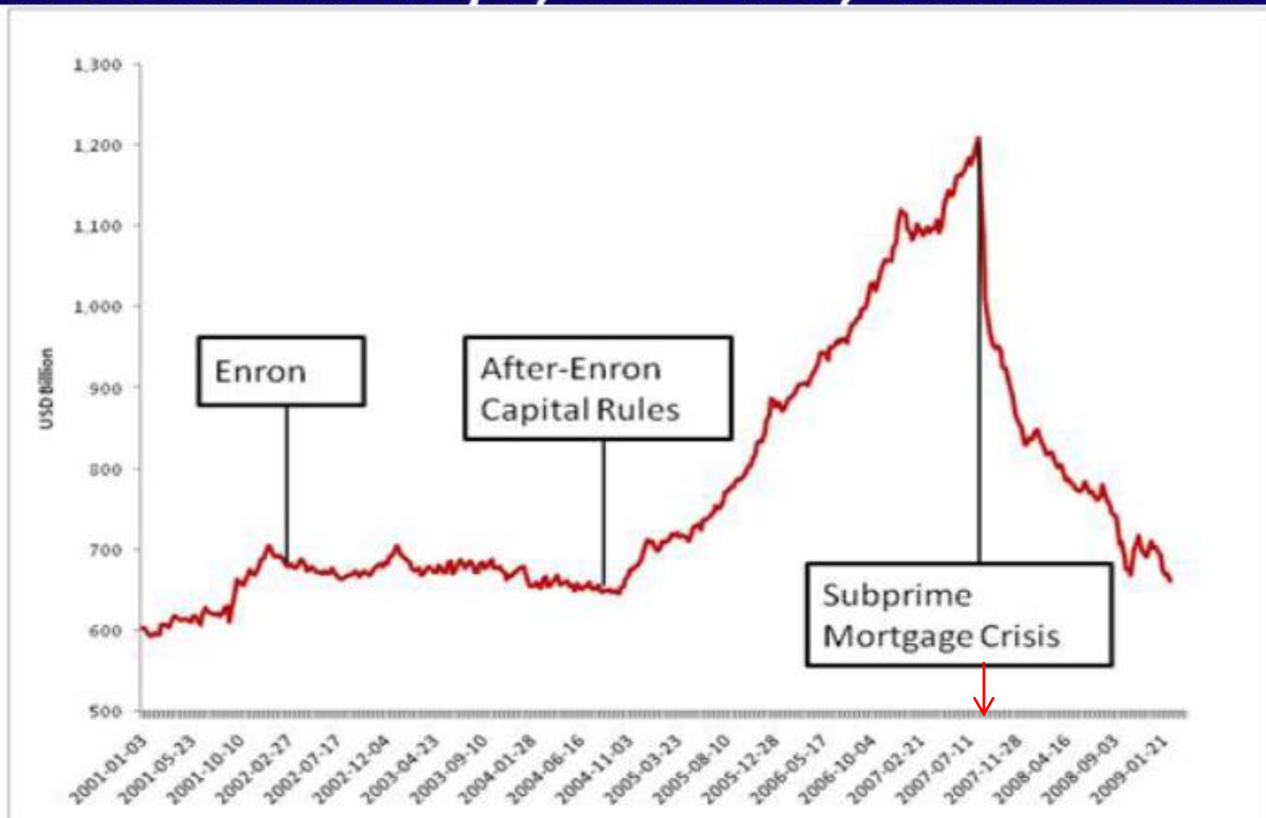
- US subprime losses were originally estimated in mid 2007 at about $100 billion

- But this neglected the international nature of the asset backed collateralized debt obligation (CDO) securities boom driven by buy-side demand from institutional investors for higher yields with minimal risk and the sell-side demand for growing leveraged balance sheets generating over the counter (OTC) trading profits

- Small towns in Wisconsin bought CDO's structured in Canada (RBC)with money lent by a bank (Hypo Real) in Germany recommended by their boutique investment banker from St Louis as a "sure thing"

US Asset Based Commercial Paper Market Collapse

ABCP Growth: Jan 2001 - Feb 2009 (Source: Acharya, Schnabl, Suarez 2009)



The Role of Derivatives

- Guns don't kill people. People kill people! — National Rifle Association

- Derivatives are weapons of mass destruction — Warren Buffet

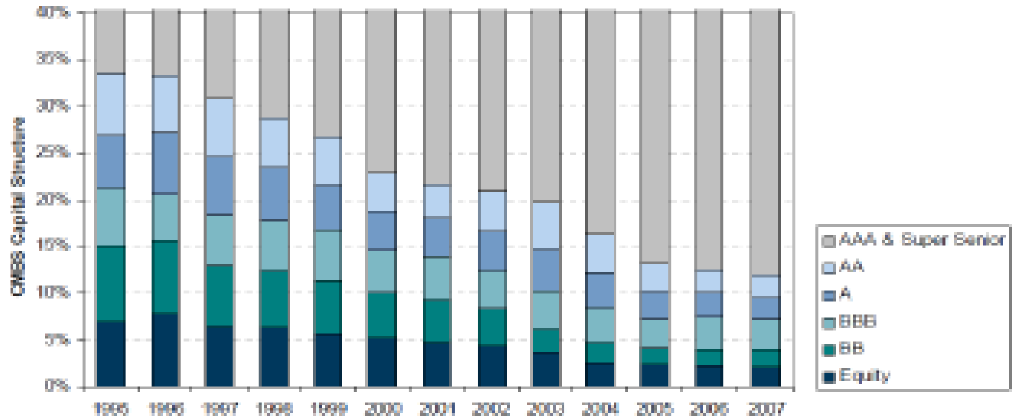
- There are two types of derivatives – "bought" and "sold" – in proportion 30% to 70% — City MD

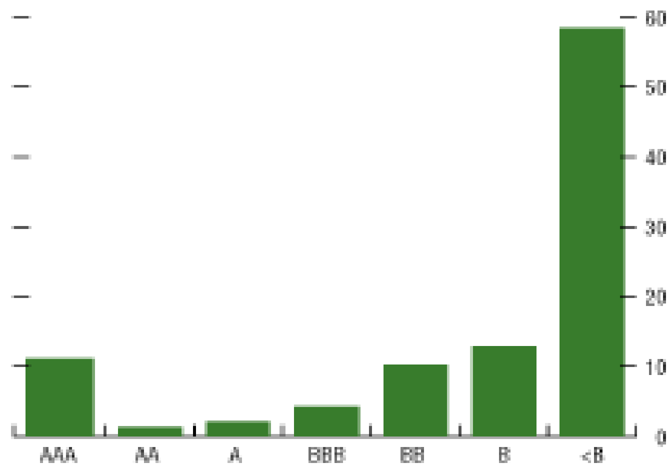
- Banking is the last industry to go "high tech" after aerospace, oil, manufacturing, airlines, logistics, film making, etc

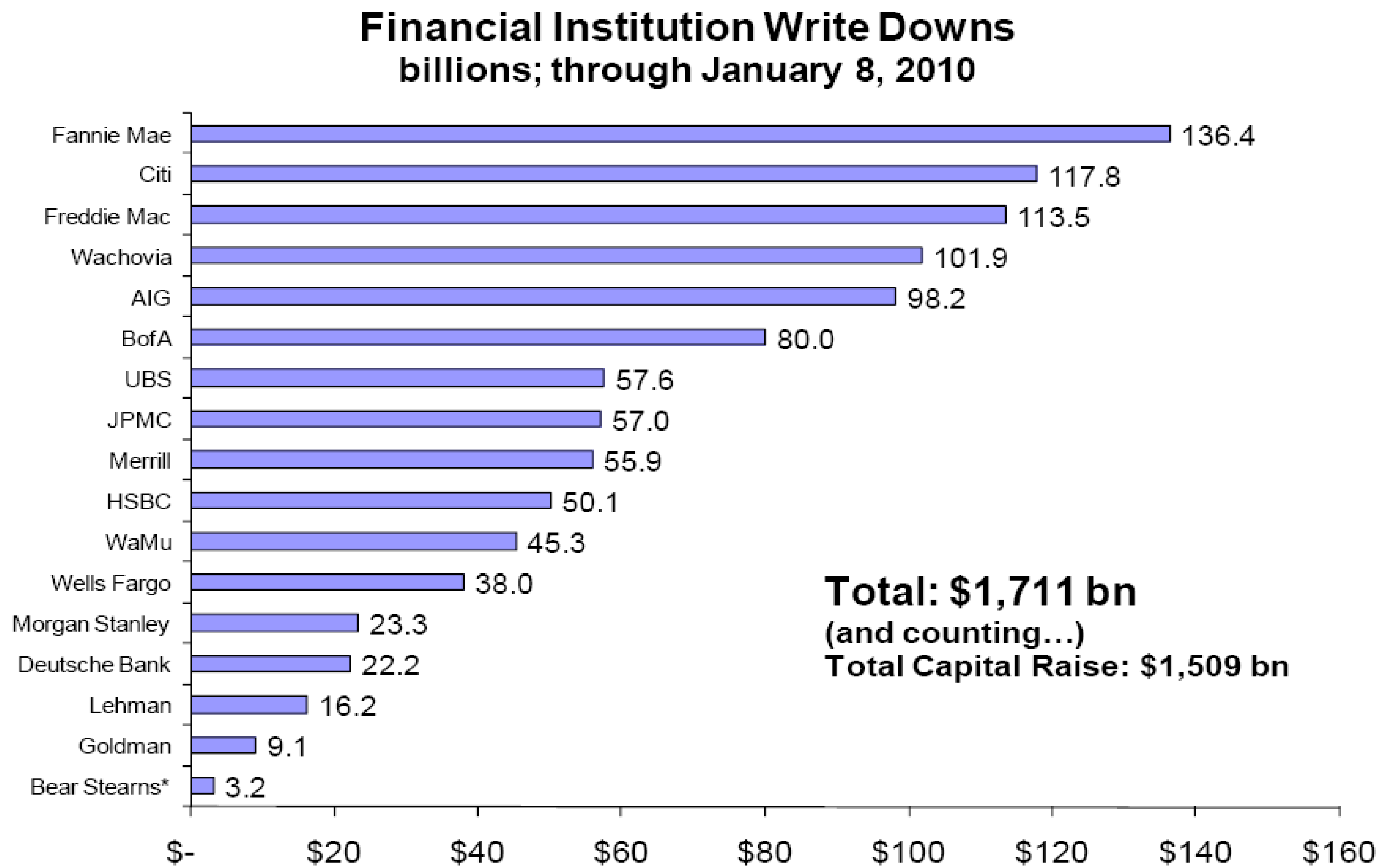
AAA Entities in 2008

- Number of AAA US Corporations 11
- Number of AAA Sovereigns 12
- Number of AAA CDOs **64,000 !**

Rating Migration: What Happened to the Classes of 2005-07?

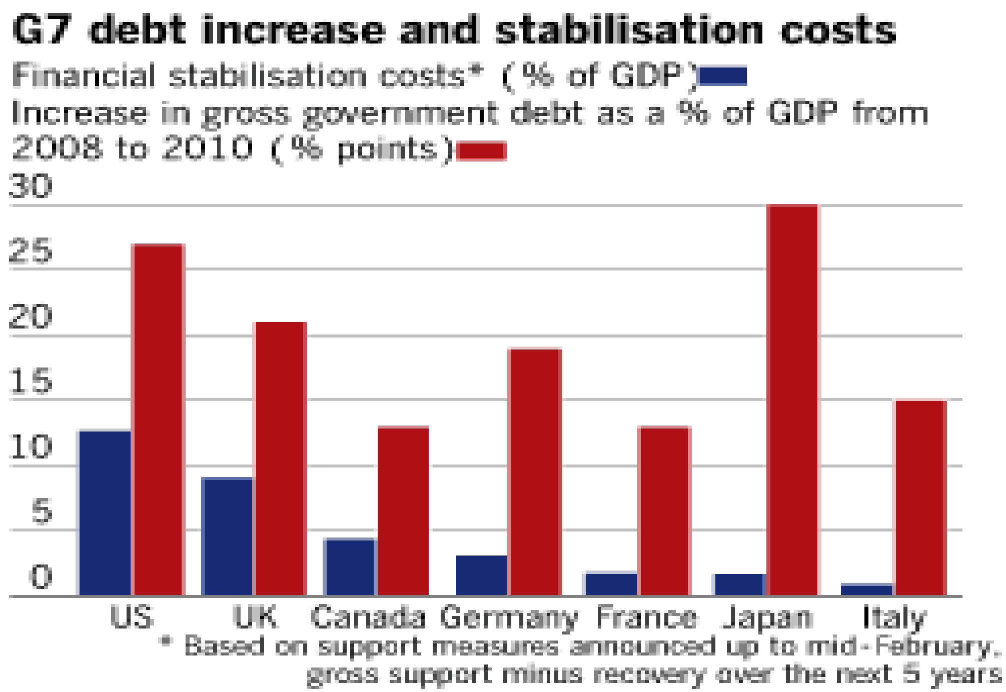






Source: Bloomberg

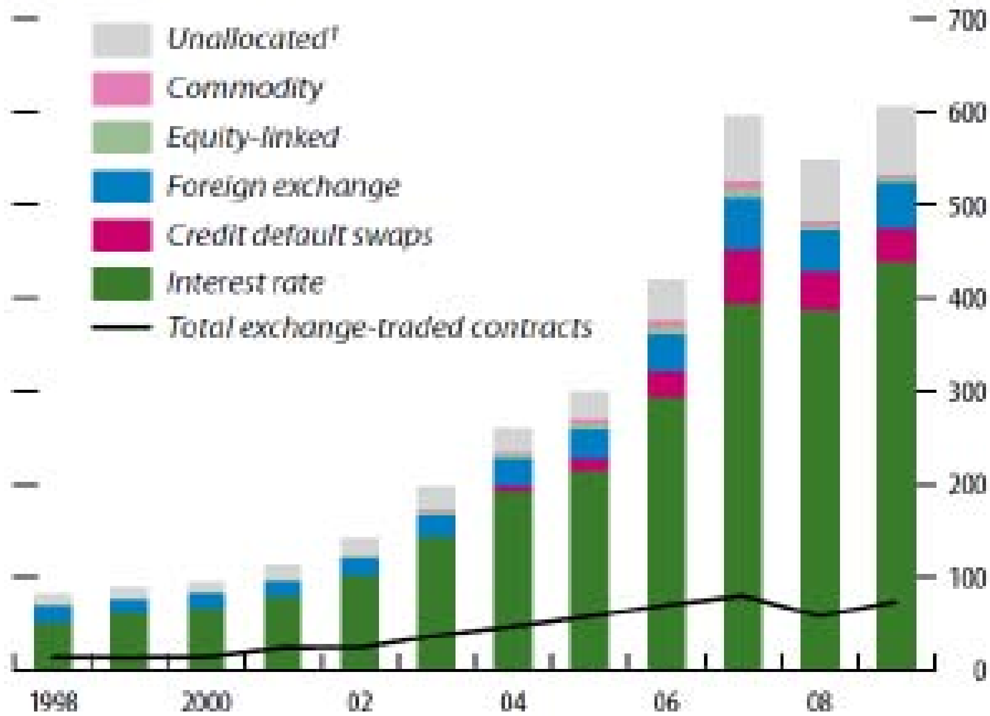
Where Did the Money Come From?



Source: Financial Times 29.4.10

Global OTC Derivatives Markets

(In trillions of U.S. dollars; notional amounts of contracts outstanding)



Source: Bank for International Settlements.

Note: Over-the-counter data through June 2009; exchange-traded data through December 2009.

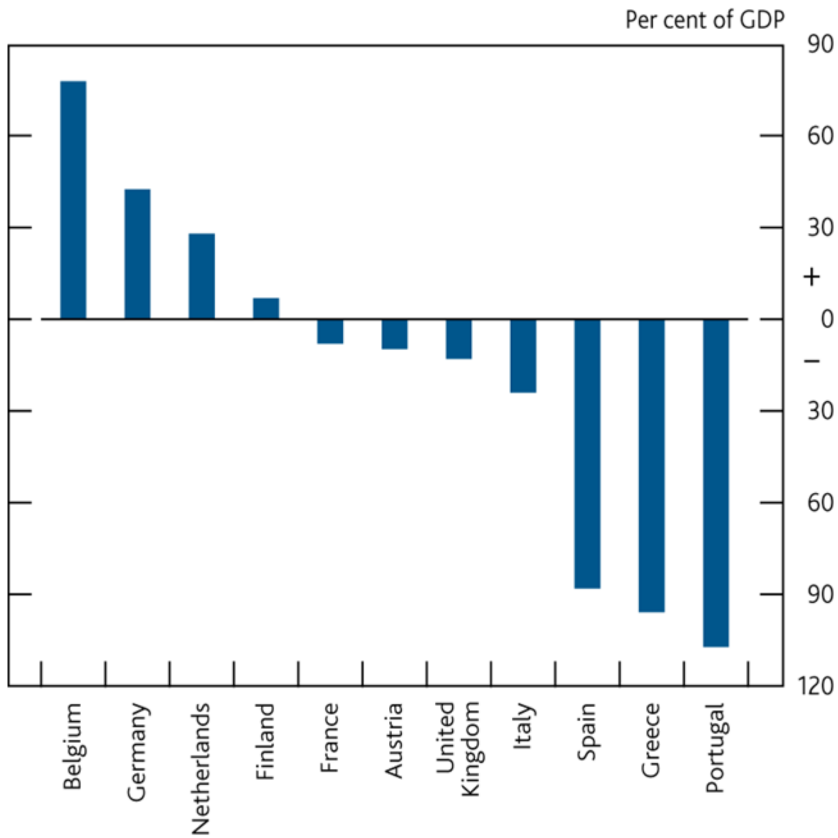
[1]Includes foreign exchange, interest rate, equity, commodity, and credit derivatives of nonreporting institutions.

Crisis Phase 2   EMU

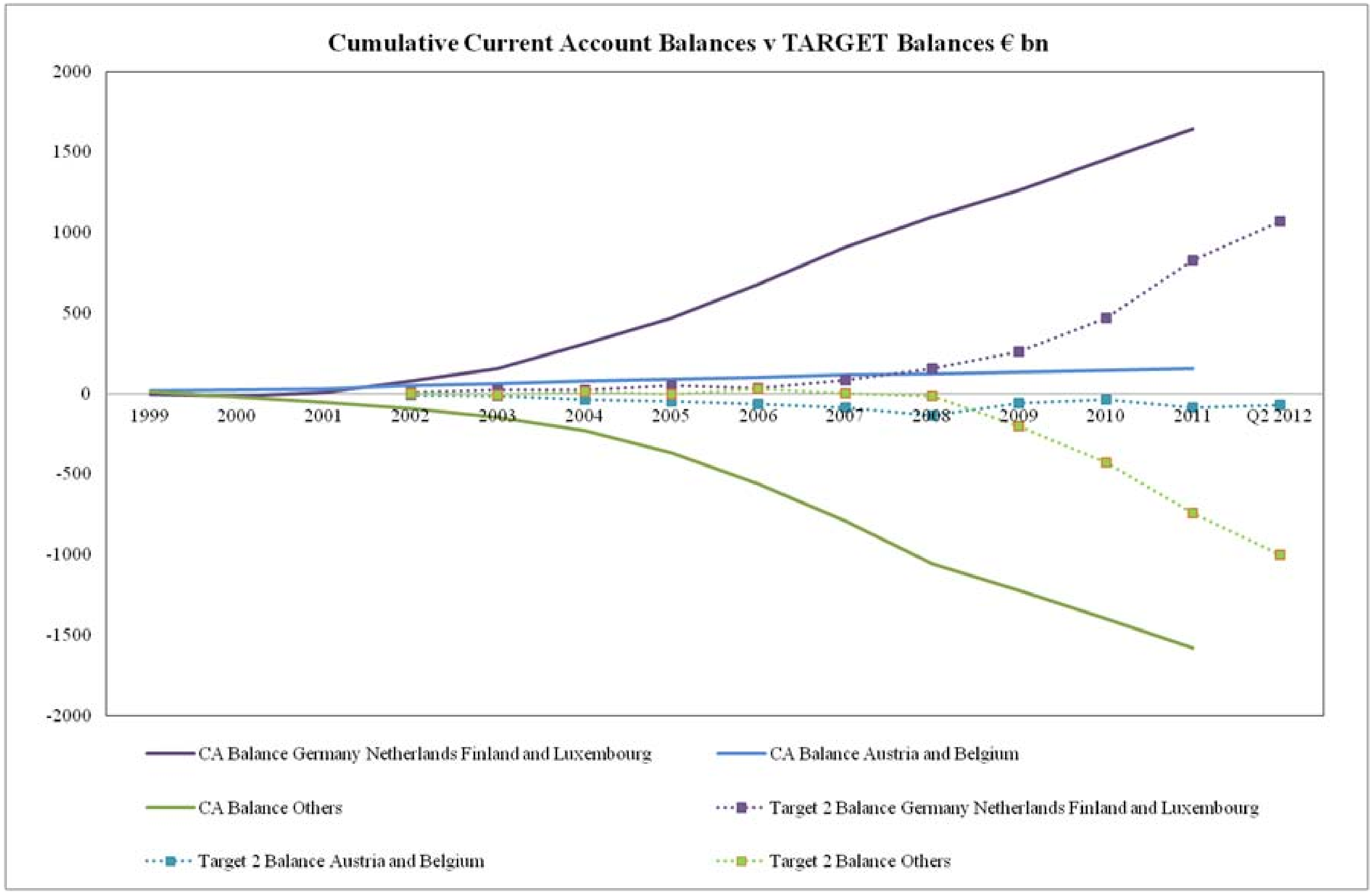
Current EU Sovereign Debt Crisis

- The peripheral Eurozone countries of Portugal, Ireland, Greece & Spain (the PIGS) and now Cyprus – although all with different economic circumstances – have been badly affected by the crisis and market and political attention has widened to Italy and France
- National internationally imposed official austerity programmes have led to high Eurozone unemployment rates and political instability in these countries
- EU officials never mention that the true underlying cause of concern is that the virtually the entire European banking system – while currently worrying only about funding liquidity drying up, e.g. from the US – is insolvent
- Only the IMF appears serious about a Eurozone banking union
- The US and UK met the crisis head on with difficult and costly measures instead of with the Eurozone's denial and procrastination
- The UK leads the US in the effectively restoring the Glass – Steagall Act with the Vickers reforms which separate retail and commercial banking from investment banking by "ring fencing" the former

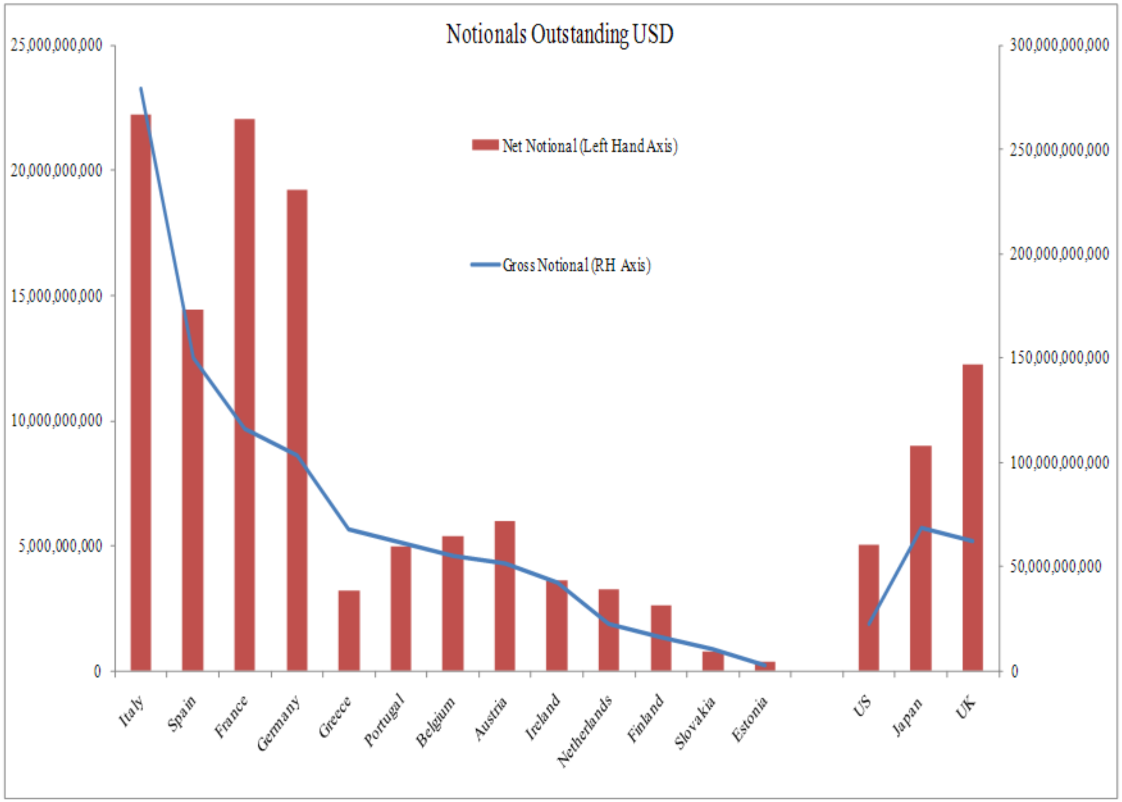
EU Balance of Payments



EMU Regional Cumulated Current Account and Target2 Clearing System Balances



Outstanding Notional and Net CDS Positions on Euro Sovereign Debt

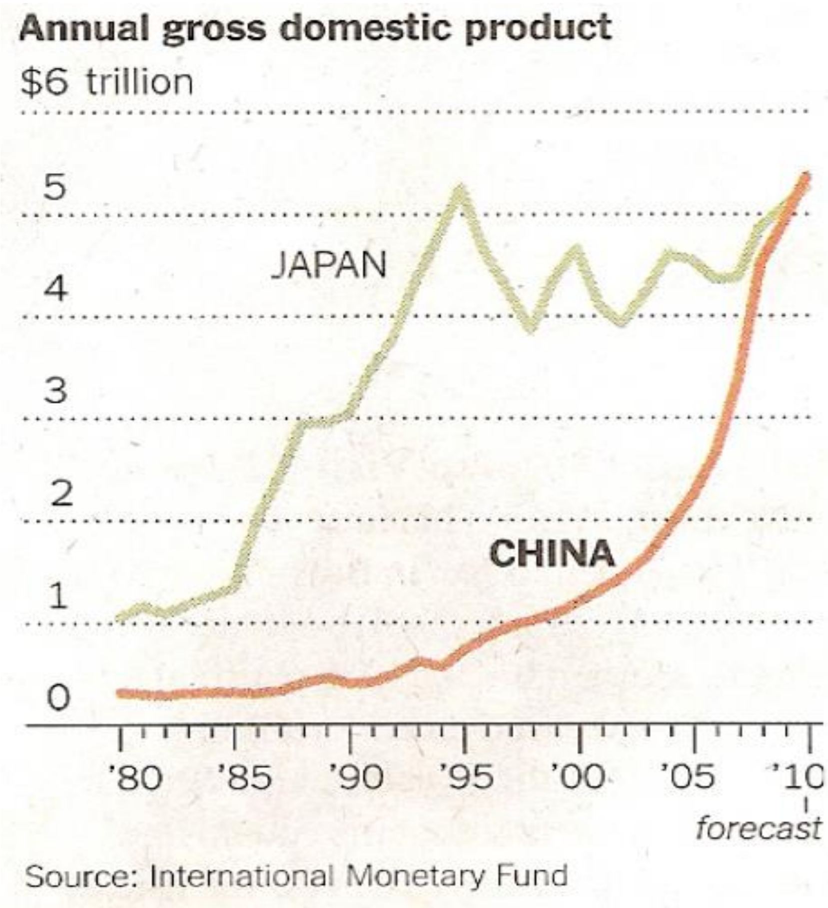


Nothing Left to Lose?

- 6 bulge bracket US banks *gross* CDS exposure on Italian debt alone has been estimated to be about $200 B of about $275 B total
- All US banks account for about two thirds of the *net* total of about $145 B CDS outstanding on euro-debt
- Many troubled European banks have sold significant amounts of CDS protection on their own government's debt
- BNP Paribas has sold $4 B on French government debt (12%)
- Banca Monte dei Paschi di Sienna has sold $3 B on Italian government debt (14%)
- The two tranche 3 year 1% LTRO facility is currently estimated to total over 1 T euros ($1.3 T) – much apparently invested in euro-debt paying banks much higher rates – against nation-specific collateral!

Crisis Phase 3 China

China's Rôle in Global Recovery



- China's – and Japan's smaller – economy is still less than half that of the US or the EU – its biggest trade partner whose future is currently highly uncertain
- Since 2008 China has conducted at over $3 T the largest fiscal and monetary stimulus the world has ever seen
- While leading Chinese companies are still highly profitable they have oligopolistic market power and bank profits depend on artificially low deposit rates and a credit bubble when bank loans in March 2011 expanded 33% over the previous year
- As a result an urban property bubble has lead to an estimated 3M currently unoccupied city flats
- Basic food prices in major cities have doubled or tripled over the past two years and consumer prices have risen dramatically
- The CBRC raised in 2011 target (non-risk-weighted) capital ratios for the big banks to over 12% but still short of the 14.9% average of world's 100 largest banks

The Chinese Political Economic Dynamic

- Since the end of the Cultural Revolution the struggle to control economic policy has been between generalist regional factions favouring decentralization and centralist Beijing technocratic factions have given rise to **four** inflationary cycles dampened by the technocrats – 1978-1982, 1983-1986, 1987-1996 and 1997-2007
- Both factions exploit the state owned banking sector to fund their political aims resulting in a persistent failure to properly commercialize the fiscalized banking system in China
- See Victor C Shih's book , *Factions and Finance in China: Elite Conflict and Inflation*, Cambridge University Press (2008)
- The current fifth cycle starting in 2008 has for the first time found the two factions agreeing on a massive credit expansion as a global crisis response which has led to the "Mother of all Property Bubbles" *Sunday Times* of 29th July 2012
- The underlying cause is trade intervention involving the suppression of consumption as a percentage of GDP which has fallen to **34%** but targeted for increase by Xi and Li
- See Michael Pettis's book, *The Great Rebalancing: Trade, Conflict, and the Perilous Road Ahead for the World Economy*, Princeton University Press (2013)

Current Nature of Chinese Financial Markets

- **Equity markets** are not markets for corporate control but rather are more than usually a play on investor sentiment and the growth of the Chinese economy – particularly for the large cap "national champions"
- Both the Shanghai large cap and Shenzen small and mid cap markets have been trending down for the past 2 years to date
- **Bond and interbank swap markets** are mainly at sovereign discretion with most investors pursuing a buy and hold to maturity "investment" strategy
- **Credit** for local authorities and private enterprises therefore remains **largely** at the **discretion of the sovereign through** the **banking** sector of the economy
- **Foreign exchange transactions** are also the province of the big **banks** and **equity derivatives** such as warrants are currently **prohibited**

Five Significant Facts About China in 2013

- Western foreign direct investment in China is running at about 5% of GDP or **$ 300 B**
- Private lending to developers at usurious rates is estimated to be running at 10% of GDP or **$ 600 B**
- Total expenditure on development and infrastructure is running at 70% of GDP or **$ 4.2 T** (at the peak of Japan's property bubble in 1990 this figure was 35%)
- In February 2012 the CBRC stated that 53% of **$ 1.7 T** local authority bank loans mature in 2011 ($425 B), 2012 ($289 B) and 2013 ($187 B) – a "big cash shortfall problem"! (Zhu)
- Yesterday it was revealed that total local authority debt is currently **$ 3.2 T** – nearly double the previous estimate above!

An Historian's View of Contemporary China

China in the third millennium possesses (as it did in the nineteenth century) about as many reasons to fall apart as it does to stick together: banks riddled with bad loans, the challenges of finding employment and pensions for a massive, rapidly ageing workforce, severe social inequality (which, according to Chinese estimates, reached potentially destabilizing levels as early as 1994), government corruption (at the end of 2009, a Chinese newspaper directly blamed the country's rash of mass incidents on [regional] officials 'blindly pursuing profit' through 'expropriating land and demolishing houses') [and] environmental degradation.

Julia Lovell, Birkbeck College, London in her recent book *The Opium War: Drugs, Dreams and the Making of China*, Picador, London (2011), p. 359

Moving Forward?

US Dodd-Frank and Consumer Protection Acts

- Much media attention has been focussed on the **Volker rule** which **partially restores the Glass-Steagall Act** of 1933 separating commercial and investment banking (broker-dealers) and **moving OTC derivative trading to cleared exchanges**
- Specifically **investment banks** must **cease proprietary trading** (i.e. on their own account) and **divest** themselves of **solely-owned hedge and private equity funds**
- The SEC and CFTC were to detail *implementation* of these acts by end June 2011 but much must still be done today and it remains to be seen how much teeth they will eventually have
- However clear rules enforcing **duty of care** and **separating advice and trading with clients** specifically for ***all*** *governmental entities*, *pension funds* (Erisa entities) and *foundations* have been overlooked or played down by banks and the media – especially possible retroactive application
- In essence this is the motivation behind the **US government's law suits** of **18 global derivative issuers over CDO's**

Basel III

- The Basel Committee recommends imposing a 4.5% of risk weighted assets core Tier 1 (equity and retained earnings) capital ratio on banks with a further 2.5% cushion which when not met would preclude dividends and executive pay increases
- However these proposed reforms were ratified by the G20 in 2011 and will be enacted into law by the 27 national governments of the Basel agreement only from January 2013 through January 2019
- The Committee also endorsed a further 2.5% requirement in boom years to the basic capital charge and a possible 1.5% systemic risk charge to global institutions to cushion loss at a downturn although such losses through the 2007-09 crisis actually amounted to 7% globally on average
- Although many leading global banks currently have core Tier 1 capital ratios of over 10% a number of well known institutions need to raise capital to meet Basel III requirements including Barclays, Lloyds and RBS in the UK, Société Générale and Crédit Agricole in France, Deutsche Bank, Commerz, Hypo Real and *all* the Landesbanken in Germany and UniCredit, Intesa IMI and Monte dei Paschi di Sienna in Italy

Ongoing Possible Derivative Solutions

- Some OTC structured products being moved to *cleared exchanges mainly addresses interbank derivative trading* to which most current regulation is targeted – *estimated* to be about 1/3 of interest rate product notional (IMF) – but perhaps only 20% to 30% in total notional
- **Client problems** could be **alleviated** by *regulation* to require the *visual display* by banks of the *asymmetric risks* involved in remaining OTC structured products for swaps, bonds and FX contracts – unfortunately unlikely to be in the Dodd-Frank implementation
- This would result in *fairer products* and encourage the widespread **proper** *use of derivatives by clients* for *hedging* various *risks*
- The concomitant will be a **smaller margin for banks!** as the 2011BIS global estimate of **$17 T** mark-to-market assets on balance sheets shrinks

Open Capital Market Problems

Quantitative Finance, 2013
Vol. 13, No. 3, 325–346, http://dx.doi.org/10.1080/14697688.2012.757636

Routledge
Taylor & Francis Group

An ecological perspective on the future of computer trading

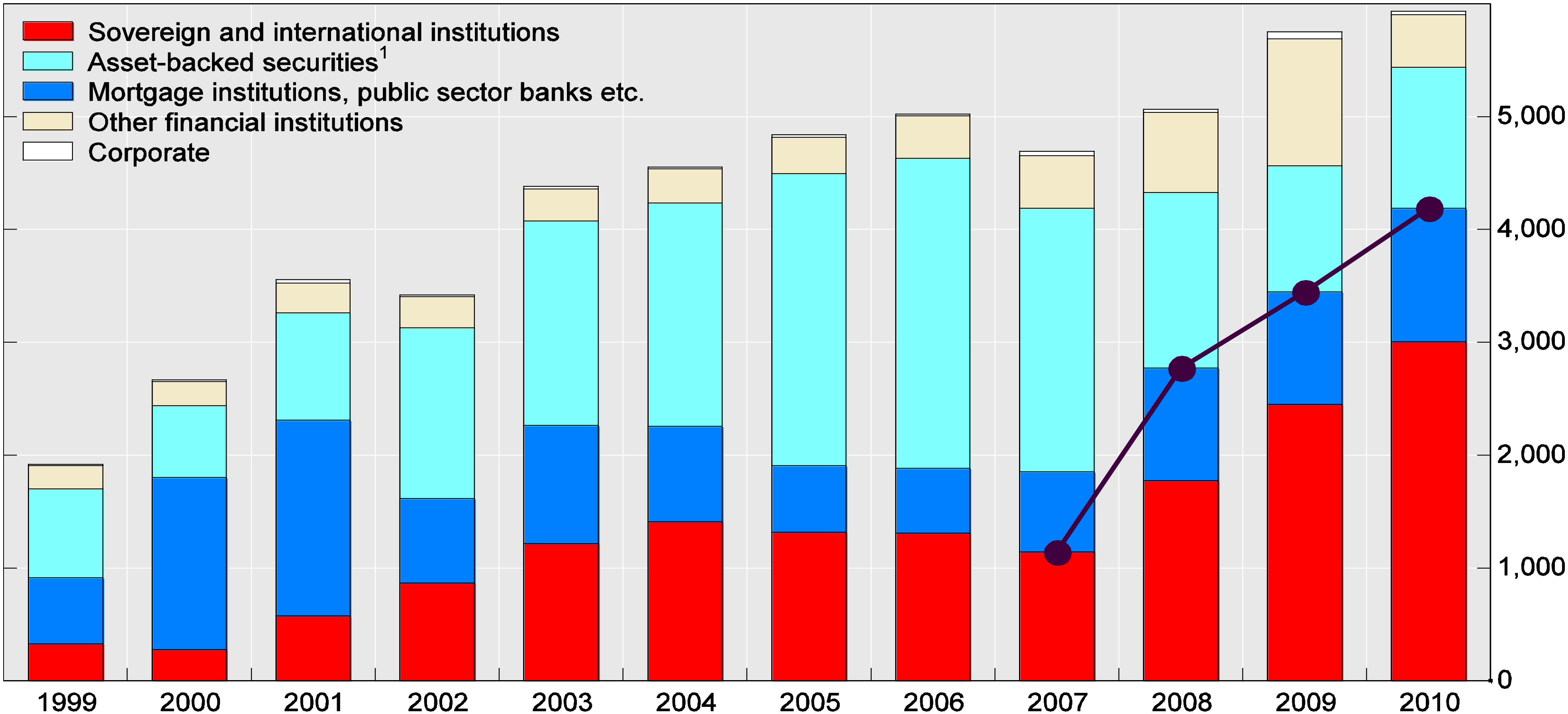
J. DOYNE FARMER*†‡ and SPYROS SKOURAS§

CENTRE for FINANCIAL RESEARCH

Graph 9

ISSUANCE OF AAA-rated SECURITIES

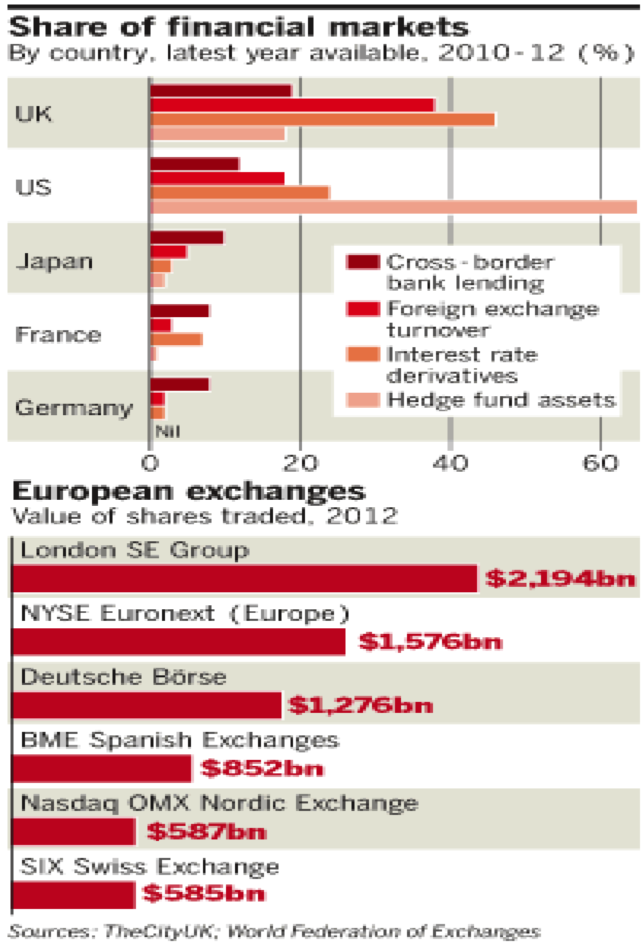
In billions of US dollars



[1] ABS, MBS and covered bonds.

Sources: Dealogic; BIS calculations.

Who Has the Most to Lose?



Source: FT 2.4.13

Some Open Economic Policy Problems

- Does austerity with quantitative easing lead to growth?
- Do excessive government debt levels lead to inflation?
- How do we understand the right balance of fiscal and monetary policy? Of public and private expenditure?
- See Dempster & Wildavsky (1982), Modelling the US Federal spending process. *In*: R C O Matthews & G B Stafford,eds., *The Grants Economy and the Financing of Collective Consumption*, International Economic Association Proceedings, Macmillan, 269-309 (with discussion)
- Hicks' IS-LM diagram and the Swann diagram speak to the analysis respectively of national internal and external balance through monetary and foreign trade policy
- See the book of Peter Temin and Andrew Vines, *The Leaderless Economy: Why the World Economic System Fell Apart and How to Fix It*, Princeton University Press (2013)