THERE MONEY DEBT, FINANCIAL SYSTEM STABILITY AND WIDER ECONOMIC IMPACTS

16th Annual Chicago Federal Reserve Bank International Banking Conference: *Shadow Banking Within and Across National Borders*

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Two Recent Lectures:

• *Credit, Money and Leverage: What Wicksell, Hayek and Fisher Knew and Modern Macro-Economics Forgot*
  Stockholm School of Economics, September 2013

• *Securitisation, Shadow Banking and the Value of Financial Innovation*. The Rostov Lecture on International Affairs
  School of Advanced International Studies (SAIS), John Hopkins University, Washington DC, April 2012
Measures of increasing financial intensity

- US debt as a % of GDP by borrower type
- Growth of interest rate derivatives values, 1987-2009
- Global issuance of asset-backed securities
- FX Trading values & world GDP

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New Economic Thinking
Household deposits and loans: 1964 – 2009

Source: Bank of England, Tables A4.3, A4.1
Measures of increasing financial intensity

US debt as a % of GDP by borrower type

- Corporate
- Household
- Financial
US financial sector assets
NASDAQ index 1990 – 2003

Source: Datastream
Categories of credit

Loans to businesses / “entrepreneurs” ... to finance real investment projects

Loans to businesses / speculators / investors ... to finance purchase of existing assets

Mortgage loans to households ... to finance residential houses

Loans to “impatient” / temporarily cash limited / poorer households ... to bring forward consumption
Categories of debt: UK, 2009

- **Primarily productive investment**: £232bn
- **Some productive investment and some leveraged asset play**: £243bn
- **Mainly purchase of existing assets**: £1235bn
- **Pure life-cycle consumption smoothing**: £227bn

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Credit and asset price cycles

- Increased credit extended
- Increased asset prices
- Expectation of future asset price increases
- Low credit losses: high bank profits
  - Confidence reinforced
  - Increased capital base
- Favourable assessments of credit risk
- Increased borrower demand for credit
- Increased lender supply of credit

Credit and asset price cycles
Lending to UK households

Percentage changes on a year earlier

Source: Bank of England “Trends in Lending”
Sectoral financial surpluses/deficits as % of GDP: Japan 1990 – 2012

Source: IMF, Bank of Japan Flow of Funds Accounts
Japanese government and corporate debt: 1990 – 2010

Source: BoJ Flow of Funds Accounts, IMF WEO database (April 2011), FSA calculations
Shifting leverage: private and public debt-to-GDP

**UK**

Source: ONS  
Note: PNFC = private, non-financial corporates; Public = central and local government

**US**

Source: BEA  
Note: PNFC = private, non-financial businesses; Public = federal, state and local government

**Spain**

Source: ECB  
Note: PNFC = private, non-financial corporates; Public = central and local government
Private credit to GDP and growth

Source: S. Cecchetti and E. Kharroubi, BIS Working Paper No. 381
"Reassessing the impact of finance and growth"
Dimensions of increasing complexity

- Securitisation
  - Liquidity
  - Market based pricing
  - M-to-M accounting

- Improved’ risk management
  - Secured finance
  - VAR models
  - M-to-M accounting

- Multi-step intermediation and maturity transformation

- Derivatives
  - Interest rates
  - Fx
  - Credit

- Credit structuring and tranching

- Increased role for short-term wholesale funding

- Increased trading activity
Increasing complexity – not just a parallel shadow system

- Increasing integration of commercial and investment banking
- Multiple bank to shadow bank links (SIVs, repo markets)
- Large expansion of banking trading books
- Increase in wholesale funding – secured and unsecured
- Treasuries become profit centres
- Intra-financial system assets grow rapidly
Credit derivatives “enhance the transparency of the markets collective view of credit risks... [and thus]... provide valuable information about broad credit constraints and increasingly set the marginal price of credit”.

IMF Global Financial Stability Report, April 2006
“Securitisation is a good thing. If everything was on bank balance sheets, there would not be enough credit.”

“Senior American Regulator”, quoted in the *Economist Special Report on Financial Innovation*, February 2012
Credit and asset prices: with securitised credit and mark-to-market accounting

- Increased credit extended
- Increased trading
- Decreased margin calls
- Decreased VAR
- Increased short-term liquidity
- Increased price of credit securities
- Increased asset prices – fewer defaults

Mark-to-market accounting and VAR based risk management
- Bank profit and capital
- Required bank capital
- Bonuses and animal spirits
Irrational exuberance in equity and debt markets

Financial firm CDS and share prices

Source: Moody's KMV, FSA Calculations
Private and public leverage cycles: US

Public and Private debt as a % of NGDP

Source: McCulley and Pozsar
China: total social finance to GDP
Non-financial private sector* credit outstanding, % GDP

Source: BIS, Citi Research

*Households + corporates
Leaning against credit cycles: monetary or macro-prudential levers?

**Pros**
- Monetary policy – interest raises
  - Gets into all the cracks
- Elasticity of response variable by category of credit

**Cons**
- Elasticity of response variable by category of credit

**Macro-Prudential levers**
- Can address specific credit categories
- Will stimulate innovation to avoid