MONETARY POLICY AND FINANCIAL STABILITY IN THE MODERN ECONOMY

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Private domestic credit as a % of GDP: Advanced economies 1950 – 2011

“I am unable to take seriously people who complain about crisis but [do not] talk about debts, whereby ‘debts’ I mean any obligation whose amount remains fixed or changes little when prices change”

Luigi Einaudi
“Debiti”, 1934
Debt contracts:
The finance theory perspective

- Non-state contingent contracts overcome “costly state verification” advantages over equity contracts in business finance

- Essential to mobilisation of capital

- Empirical evidence of benefits of financial deepening, i.e. bank credit ÷ GDP
Pre-crisis orthodoxy: monetary policy

We assumed that we could ignore much of the details of the financial system

Olivier Blanchard
Chief Economist of the IMF, October 2012

The dominant new Keynesian model of monetary economics lacks an account of financial intermediation, so that money, credit and banks play no meaningful role

Mervyn King
Twenty Years of Inflation Targeting, The Stamp Memorial Lecture, 2012
Textbook descriptions of banks and bank lending

Banks take deposits of money from savers and lend it to borrowers.

Banks lend money to ‘entrepreneurs/businesses’, thus allocating funds between alternative investment projects.
Wicksell’s logic: I

Credit extended to entrepreneurs/businesses to fund capital investment

Marginal productivity of capital = Natural rate of interest

If Policy/Market rate < Natural rate → Mal-investment and inflation

If Policy/Market rate = Natural rate → Optimal investment and price stability
Wicksell’s logic: II

Natural rate is unobservable

But if Policy rate varied to ensure price stability

Then Policy/Market rate \approx \text{Natural rate}

Inflation targeting objective
Credit creation and leverage optimal if price stability achieved
Three conceptually distinct functions of lending

Finance of new capital investment
• Non-real estate
• Commercial real estate
• Residential real estate
• Human capital

Finance of increased consumption
• Enabling inter-temporal shift of consumption within life time income

Finance of purchase of existing assets
• Real estate
• Collectibles
• Existing business assets – e.g. Leveraged Buy Outs
Categories of bank lending: UK, 2009

- **Residential mortgage (including securitizations and loan transfers)**
  - £1,235
  - Mainly purchase of existing assets
  - But also achieves life-cycle consumption smoothing

- **Commercial real estate**
  - £243
  - Some productive investment and some leveraged asset play

- **Other corporate**
  - £232
  - Primarily productive investment

- **Unsecured personal**
  - £227
  - Pure life-cycle consumption smoothing
Share of real estate lending in total bank lending

Source: *The Great Mortgaging*, Professor Alan Taylor, University of California, Davis
“With very few exceptions, the banks’ primary business consisted of non-mortgage lending to companies in 1928 and 1970. By 2007 banks in most countries had turned primarily into real estate lenders. The intermediation of household savings for productive investment in the business sector – the standard textbook role of the financial sector – constitutes only a minor share of the business of banking today.”

Oscar Jordá, Moritz Schularick and Alan Taylor,

“The Great Mortgaging”, 2014
Credit and asset price cycles: upswing

Increased credit extended

Increased lender supply of credit

Increased borrower demand for credit

Favourable assessments of credit risk

Expectation of future asset price increases

Low credit losses: high bank profits
- Confidence reinforced
- Increased capital base

Increased asset prices
Credit and asset price cycles: downswing

- High credit losses: low bank profits
  - Confidence dented
  - Reduced capital base
- Expectation of future asset price falls
- Cautious assessments of credit risk
- Restricted lender supply of credit
- Falling asset prices
- Reduced borrower demand for credit
- Less credit extended
- Expectation of future asset price falls

Credit and asset price cycles: downswing
Capital in Britain 1700 – 2010

Source: *Capital in the Twenty First Century*, T. Piketty (2013)
Desirable urban land: a market without equilibrium?

- Indeterminate price – is there an equilibrium?
- Potentially infinite supply of credit and private money
- Inelastic supply of locationally specific land
- Highly income elastic demand
- Capital gains motivation
- Expectations → prices → expectations
- Potentially infinite supply of credit and private money
The Orthodoxy

As long as price stability is achieved, the level and mix of private sector leverage can be ignored.

Underlying assumption

Policy rate = natural rate → optimal credit creation and allocation.

Problems

With inefficient markets, self-fulfilling expectations and lending against irreproducible assets:

- Policy rate ≠ Market rate because of endogenous variation in spreads
- Expected private returns are heterogeneous by sector and unstable over time
Two questions:

Why does the growth in leverage matter?

How is it possible without stimulating inflation?
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
Developed economies – Debt to GDP

Global debt excluding financials

Traditional policy levers blocked

- First round stimulative effect
- But concerns about long-term debt sustainability
- Asset prices → inequality
- Stimulates financial speculation before real economy
- Currency devaluation channel is zero sum game
- Only works by re-stimulating growth of private credit

Funded fiscal deficits

Ultra loose monetary policy
- Interest rate at zero bound
- QE
Debt overhang: the unavoidable choice?

- Sustained low growth and low inflation – debt burdens never decline
- Debt erosion via ultra low interest rates
- But leads to new debt creation
- Debt write-off, default and restructuring
- But has disruptive / depressive effect

Institute For New Economic Thinking
Two questions:

Why does the growth in leverage matter?

How is it possible without stimulating inflation?
Categories of credit creation and nominal demand

Finance of investment
Stimulates nominal demand

Finance of consumption
Stimulates nominal demand → but required just to offset impact of inequality?

Finance of existing asset purchase
- No direct stimulus to nominal demand
- Could just increase credit, money balances and asset pricing
- May stimulate demand via wealth effects and Tobin’s Q effects
- But not certainly proportional to credit created
Credit, Money and Prices: UK 2000-07

- Mortgage credit: 97%
- Household deposits in banks: 79%
- Gross Housing wealth: 105%
- Nominal GDP: 44%
Bank lending to real estate sector and prices: Japan 1981 – 1999

Source: Japan Real Estate Institute; Bank of Japan; Profit Research Center Ltd; calculations by Prof. Richard Werner, Southampton University (see Princes of the Yen, Richard Werner, 2003)
Credit creation for GDP transactions and nominal GDP in Japan, 1983 – 1999

Source: Princes of the Yen, Richard Werner, 2003
Quantity theory of disaggregated credit*

NOT \[ \Delta M = \Delta P \cdot \Delta Y \] Velocity of circulation stable

But: \[ \Delta C_R = \Delta P_R \] ... where \( C_R \) = credit to finance real estate purchase+

And: \[ \Delta C_{NR} = \Delta P \cdot \Delta Y \] ... \( C_R \) = credit to finance GDP transactions

So that: \[ \Delta M = \Delta C_R + \Delta C_{NR} > \Delta P \cdot \Delta Y \] Velocity of circulation falls

* See Richard Werner, *New Paradigm in Macroeconomics*
+ Or more generally to finance existing assets
Velocity of money circulation

Velocity of Money
(Nominal GDP/M2)

Velocity of Money
(Nominal GDP/M4)

Source: BoE, BoJ, Datastream
Monetary aggregates matter

- But not because excessive money growth is a robust forward indicator of inflation

- But because excessive credit growth and level are forward indicators of crises, debt overhang, post crisis depression and deflation

The mix of debt by category matters

Finance for investment
- Real estate
- Other

Finance for consumption

Finance of purchase of existing scarce supply assets
Not one objective, one instrument

Low and stable inflation insufficient

Credit and asset price cycle and rising leverage can produce macroeconomic instability while never producing excess inflation

Interest rate tool insufficient

- Interest rate elasticity of demand for credit varies by category
- Contrary to Wicksell, there is no one natural rate
Other policy objectives and tools

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<th>Objectives</th>
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<td>• Constrain both pace of growth and level of private sector leverage</td>
<td>• Much higher bank capital requirements</td>
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<td>• Much higher counter-cyclical capital requirements</td>
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<td>• Offset bias in system toward real state lending</td>
<td>• Increase capital risk weights for real estate lending above IRB levels</td>
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<td>• Loan to income constraints on borrowers</td>
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<td>• Banks with dedicated focus on non real estate</td>
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“If we’re going to fix the financial system – if we are to avoid the painful boom and bust episodes that are becoming all too frequent – we must address the key problem: the inflexibility of debt contracts. The contract must be made contingent on economic outcomes... It must resemble equity more than debt”

Atif Mian and Amir Sufi
“House of Debt”, 2014
“What if the contract for loans, personal and material capital did not exist; if it were impossible to invest capital at a fixed rate of interest, and everyone instead collected variable dividends depending on the net income of the firm; if it were impossible to hire labour at a fixed salary or wage, but all intellectual and manual workers were paid instead with a share of the firm’s output? In this case, why should there be crisis? All would share in the result of production and, whether prices were high or low, each would receive his slice of the cake”

Luigi Einaudi
“Debiti”, 1934
“It would be absolutely impossible for the economic mechanism to function if everything were as mobile as depicted above. Profit-sharing for workers, capitalist and worker shareholding, cooperative systems are properly called ‘ideal’ schemes for a small minority of savers and workers who possess the rare qualities needed to run risks. But they are called ‘nonsense’ for the great majority of savers, who do not know how to select even a halfway decent investment, and [for most] workers. The economic categories of the interest rate, wages, rent and taxes therefore are not inventions of economists but necessities rooted in human nature.”

Luigi Einaudi
“Debiti”, 1934