Debt, Money and Mephistopheles: How do we get out of this mess?

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Monetary policy and macro-demand: Two issues

- **Targets:**
  - Inflation rates or price levels
  - Nominal GDP growth rates or levels

- **Tools to achieve targets:**
  - Fiscal or monetary or macro-prudential
  - Interest rates or QE or credit easing
  - Helicopter money

Devilish money creation: *Faust Part II*

"All this activity degenerates into inflation, destroying the monetary system because the money rapidly loses its value"

Jens Weidman, *Money Creation and Responsibility*, September 2011

Money finance as normal procedure: Friedman and Simons

'Under the proposal, government expenditures would be financed entirely by tax revenues or the creation of money, that is, the issue of non-interest bearing securities… The chief function of the monetary authority [would be] *the creation of money to meet government deficits and the retirement of money when the government has a surplus"*

Milton Friedman, *A Monetary and Fiscal Framework for Economic Stability*, America Economic Review, Vol 38, June 1948

"*The powers of the government to inject purchasing power through expenditure and to withdraw it through taxation, i.e. the powers of expanding and contracting issues of actual money and other obligations more or less serviceable is money – are surely adequate to price level control.*

… in other words, the monetary rules should be implemented entirely by, and in turn should largely determine, fiscal policy."

Henry Simons, *Rules and Authorities in Monetary Policy*, The Journal of Political Economy, Vol 44, No. 1, February 1936

Helicopters and old bottles: Friedman and Keynes

"*Let us suppose that one day a helicopter flies over this community and drops an additional $1000 in bills from the sky, which is, of course, hastily collected by members of the community*"

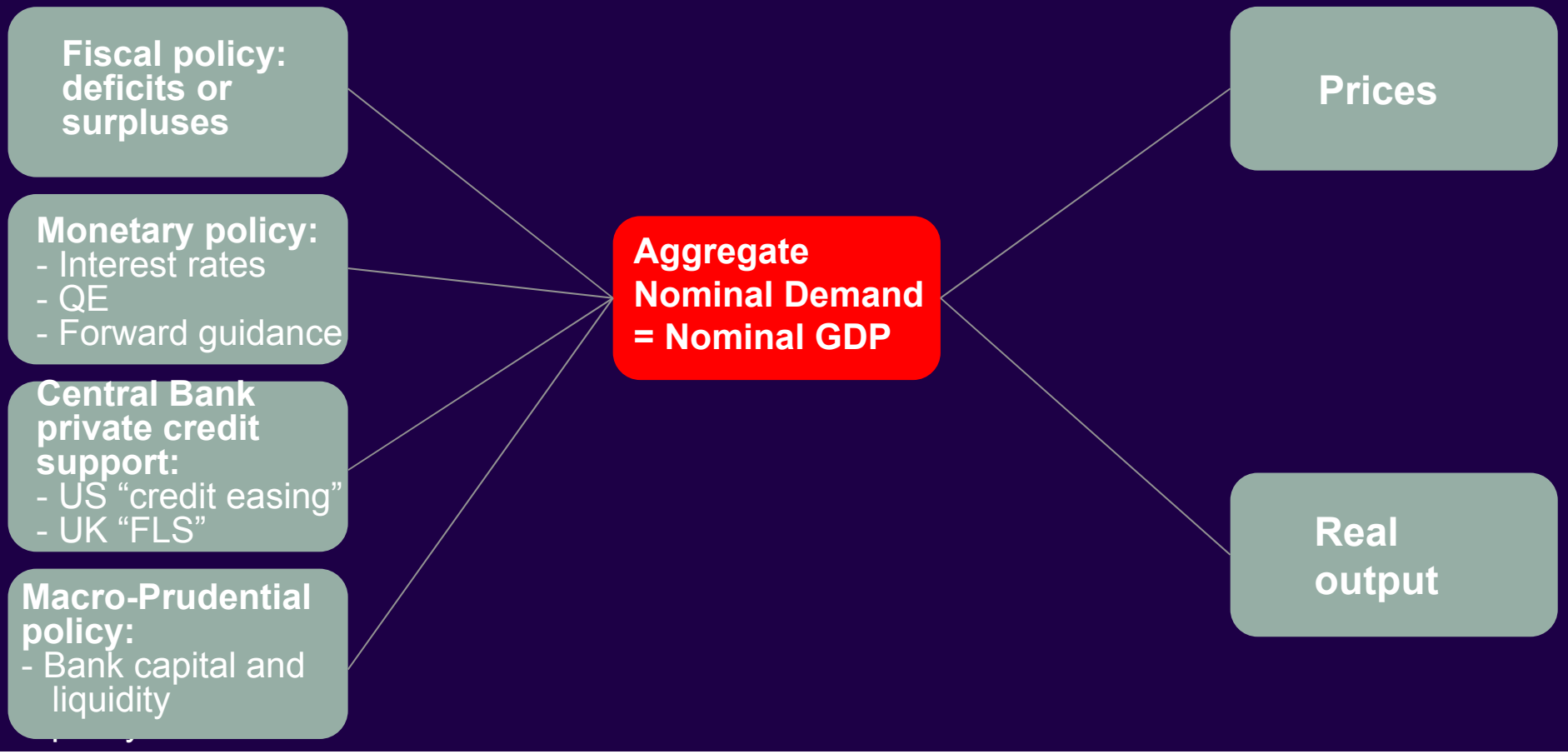
Milton Friedman, *The Optimum Quantity of Money,* Chapter 1, (1969)

"*If the Treasury were to fill old bottles with bank notes, bury them at suitable depths in disused coal mines… and leave it to private enterprise on tried principles of laissez faire to dig the notes up again… there need be no more unemployment… and the real income of the country… would then become a good deal greater than it actually is.*"

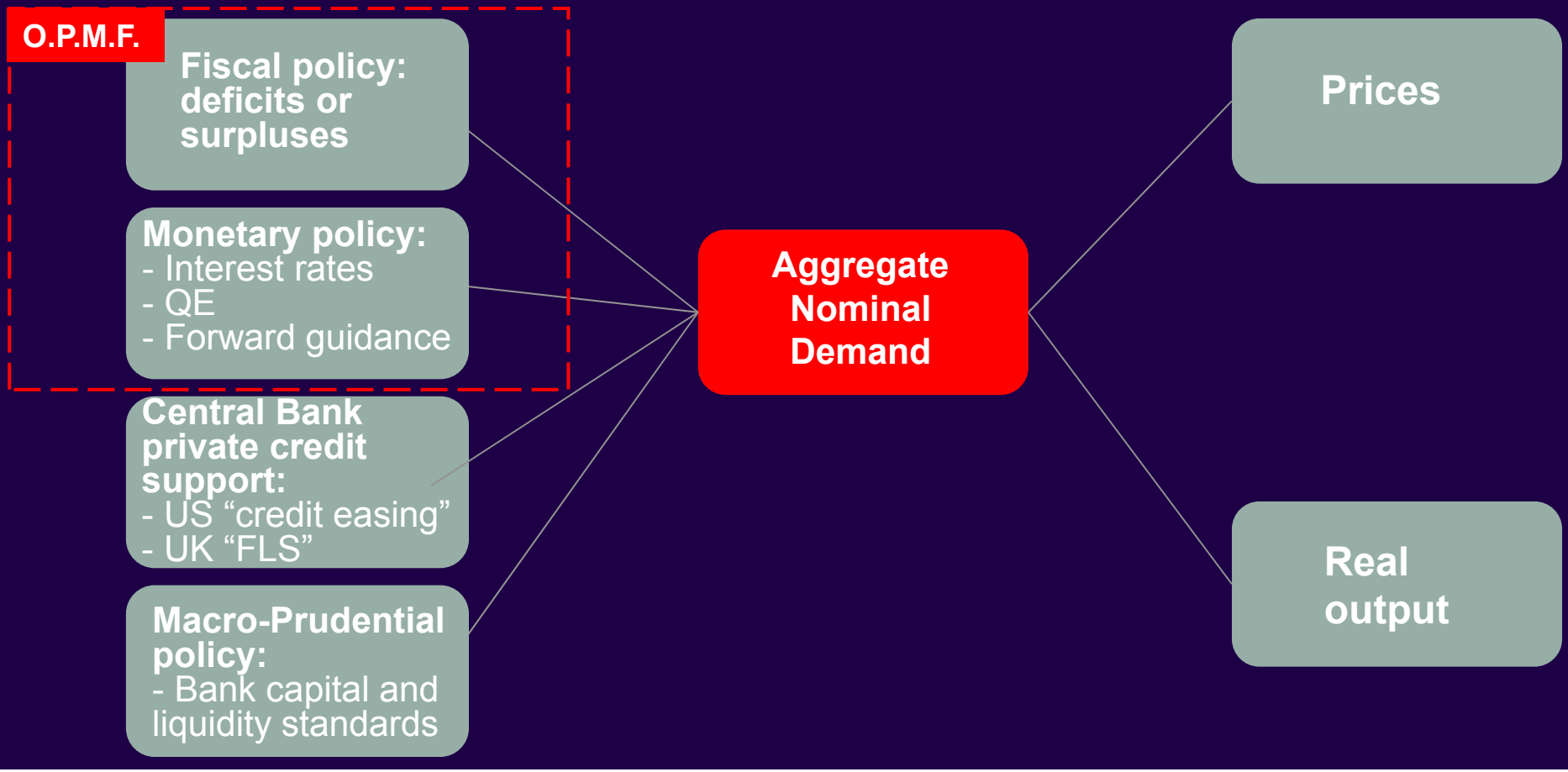
John Maynard Keynes, *The General Theory,* Chapter 10, Section 6 (1936)

1. Macro demand levers and effects
2. Friedman 1948: monetary policy and the structure of banking
3. Financial stability and macro-demand management: the crucial role of leverage
4. Appropriate targets: prices or nominal GDP? Rates or levels?
5. Conventional and unconventional monetary policy: limits to effectiveness and potential adverse effects
6. Pure fiscal policy: limitations and risks
7. Overt money finance: Definition and advantages
   Dangers and constraints
   Central bank independence
8. Possible implications today: Japan, US, Eurozone and UK
9. Conclusions
10. Mephistopheles, Money and Debt

Levers and effects



Levers and effects



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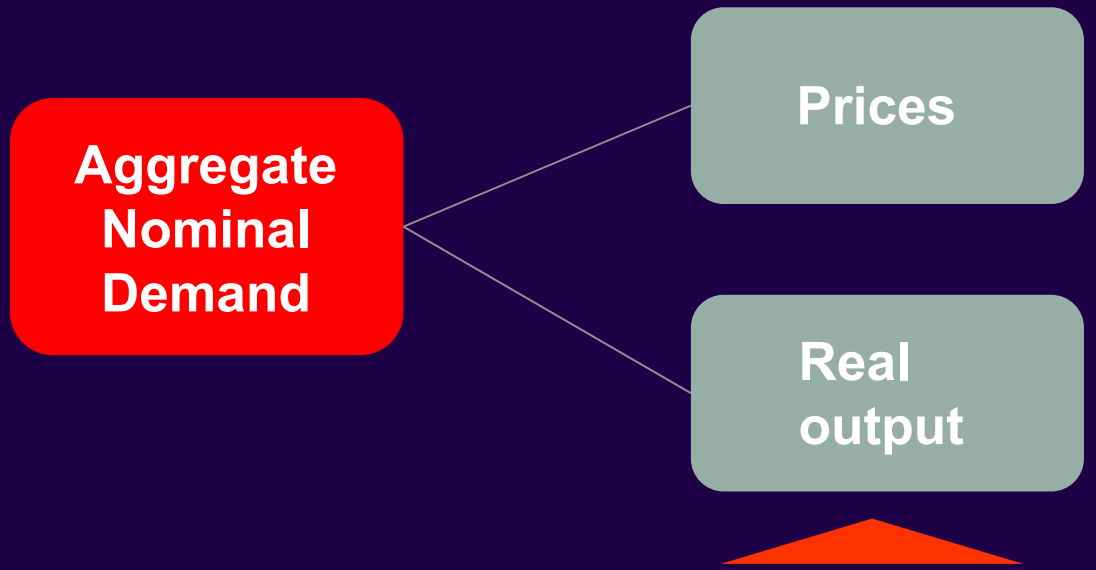
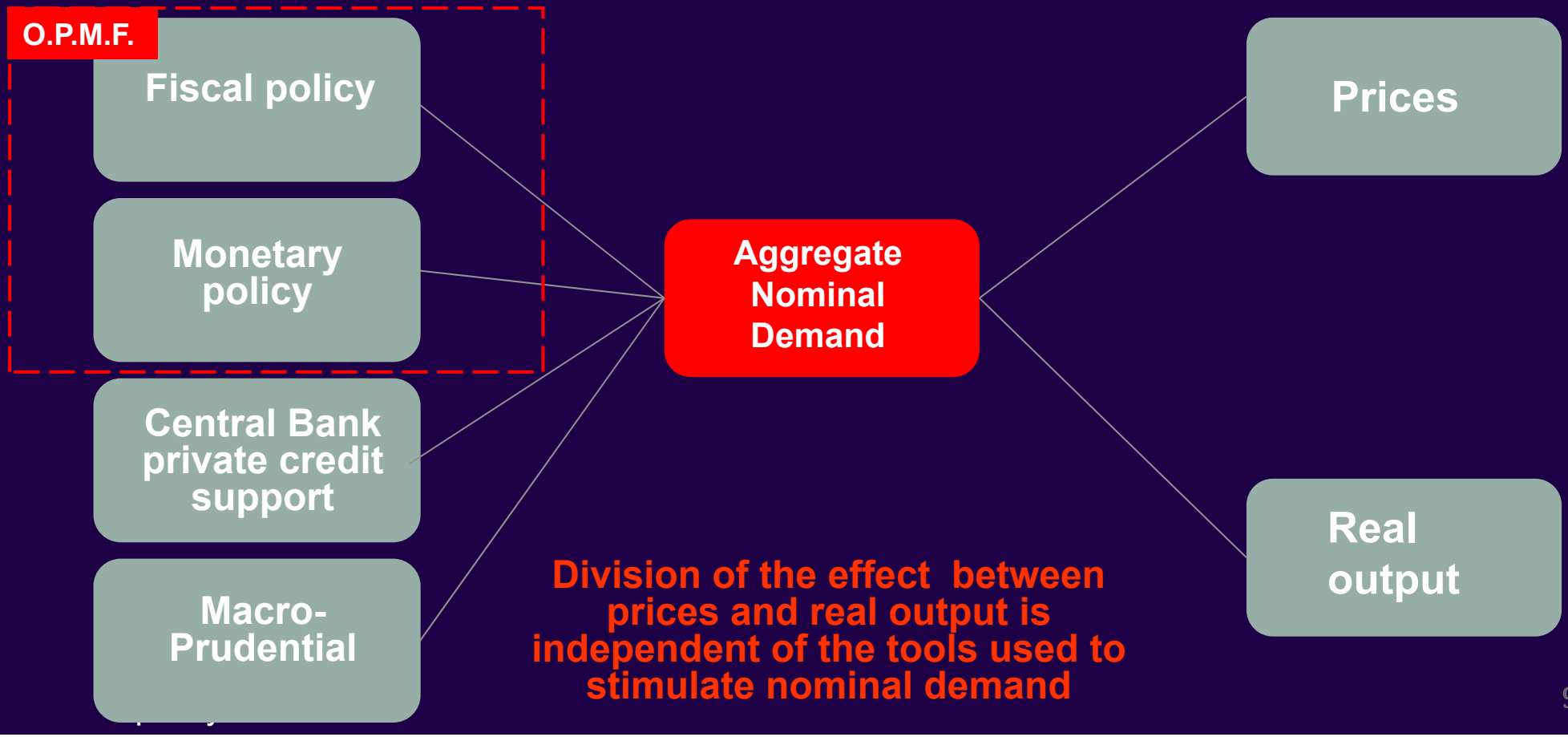


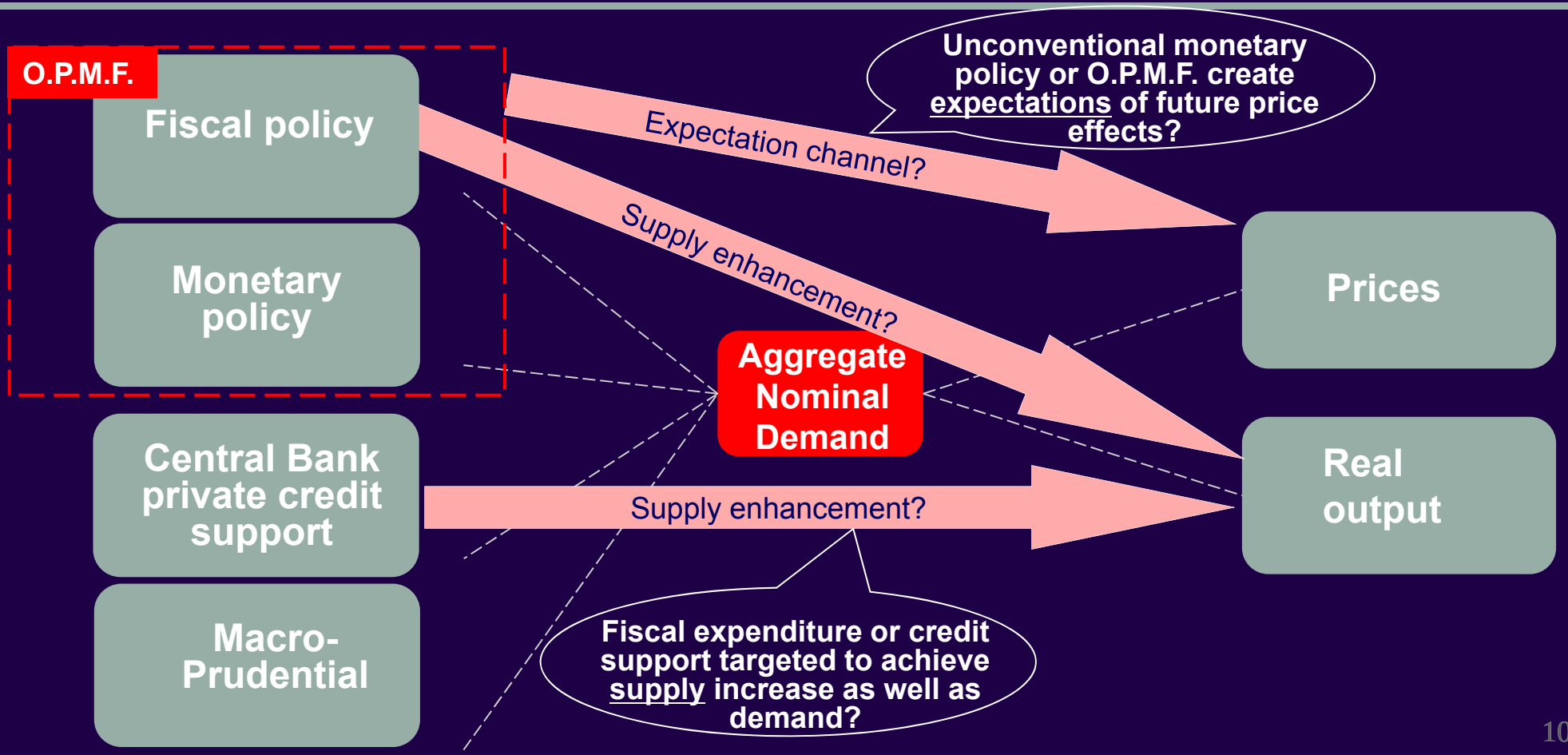
Division determined by

- Spare capacity in labour or physical capital
- Flexibility of price setting processes in labour or product markets

The “independence” assumption



Possible contraventions of “independence”



"*The essence of* [the] *proposal is that it uses automatic adaptations to the current income stream to offset, at least in part, changes in other segments of aggregate demand and to change appropriately the supply of money. Under the proposal, government expenditures would be financed entirely by tax revenues or the creation of money, that is, the issue of non-interest bearing securities… The chief function of the monetary authority* [would be] *the creation of money to meet government deficits and the retirement of money when the government has a surplus*"

Milton Friedman, *A Monetary and Fiscal Framework for Economic Stability*, America Economic Review, Vol 38, June 1948

Friedman's 1948 proposal: a simple illustration

Suppose:

- Nominal GDP = 100 and money supply = 50
- Sensible aim is to grow nominal GDP at 4% per annum, allowing for 2% real growth and 2% inflation

Then:

- Equilibrium money supply growth might be around 4%
- Appropriate increase in money supply is achieved by running fiscal deficit of 2% of GDP, financed entirely by money
- Money supply grows by 2 (=4% for 50)

Two simplifying assumptions

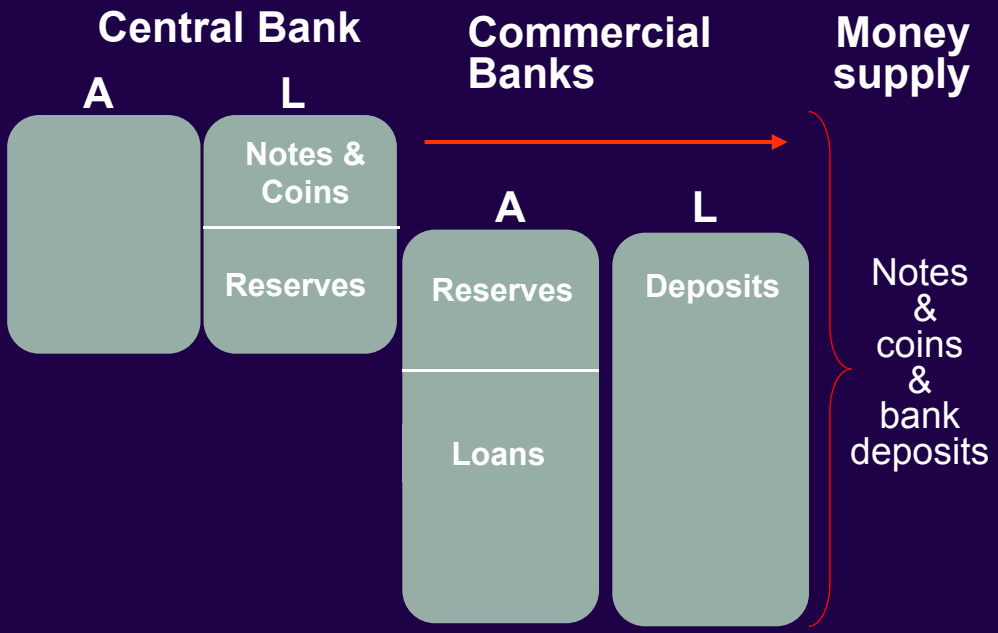
- Stable relationship between money supply and money GDP (constant velocity)

- All money is base money: no fractional reserve banks; no private money creation

> *"A reform of the monetary and banking system to eliminate both the private creation or destruction of money and discretionary control of the growth of money by the central bank authority"*
>
> (Friedman, 1948)

From fractional reserve to 100% reserve banking

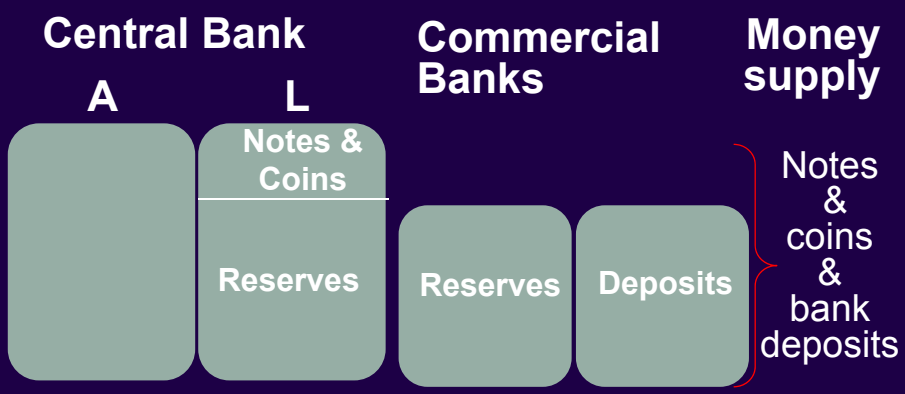
Fractional Reserve Banking



Deposit money = Multiple of reserves at central bank

Total money supply = Multiple of base money

100% Reserve Banking



Deposit money = Reserves at central bank

Total money supply = Base money

Laissez faire economics and the banking exception

"*in the very nature of the system, banks will flood the economy with money substitutes during booms and precipitate futile effects at general liquidation afterward*"

"*private initiative has been allowed too much freedom in determining the character of our financial structure and in directing changes in the quantity of money and money substitutes.*"

Henry Simons, *Rules versus Authority in Monetary Policy*, Journal of Political Economy, Vol 44, February 1936.

Arguments for fractional reserve banks: Up to a point

Some private credit and money creation, may:

- Be essential to optimal mobilisation of savings
- Facilitate welfare enhancing smoothing of consumption across life cycle

- Abolishing fractional reserve banks almost certainly not optimal
- But good argument for dramatically increasing
  - The fraction of liquid reserves and/or
  - The fraction of capital resources

See Adair Turner *"Monetary and Financial Stability: Lessons from the Crisis and from some old Economics Texts"*, South Africa Reserve Bank, November 2012.

Two (lost) insights of early laissez faire writers

- Banking is special: arguments for laissez faire in other sectors of the economy are not applicable
- Monetary and financial stability are closely interlinked

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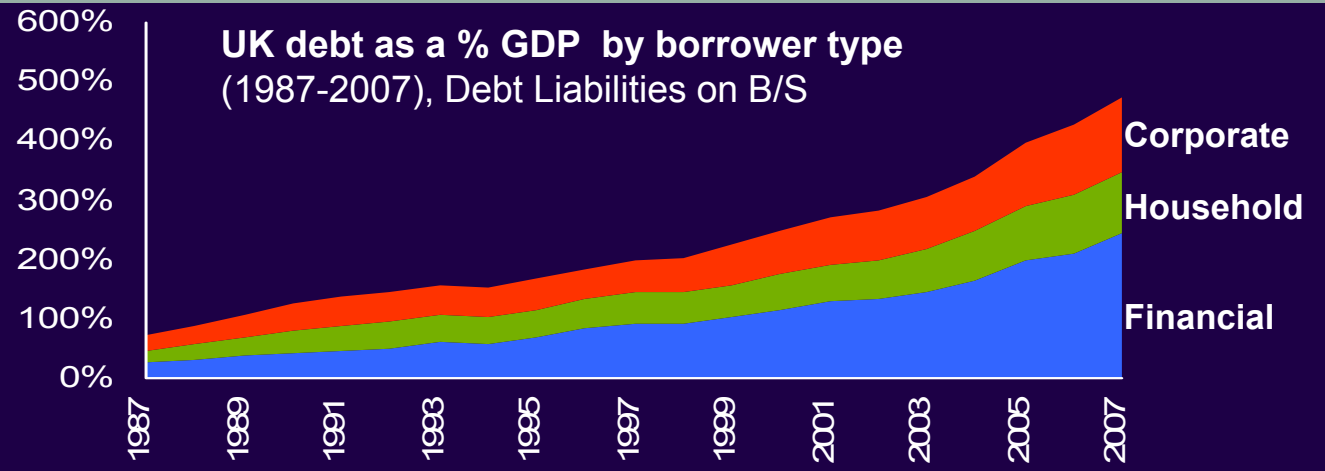
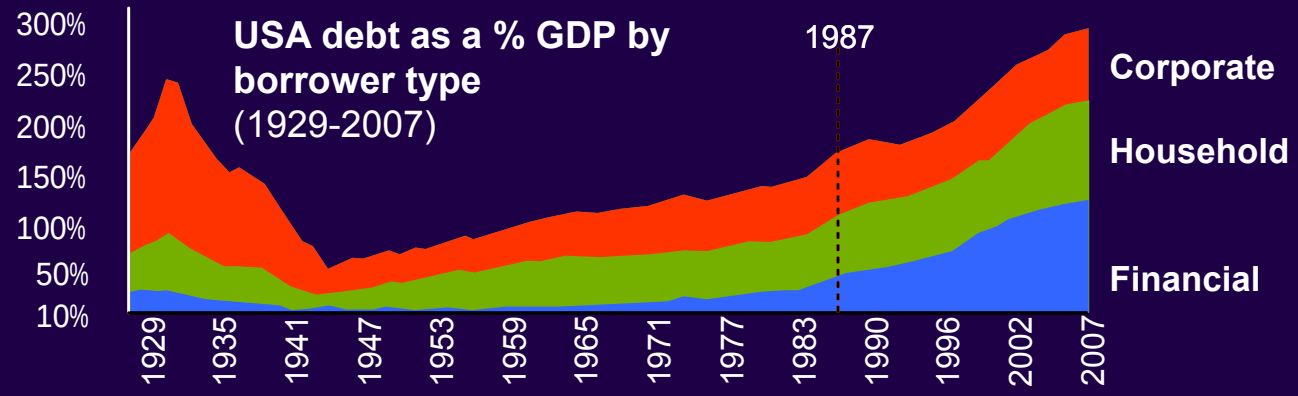
Three drivers of financial instability

- Debt contracts create specific risks
- Unregulated bank credit and private money creation is inherently unstable
- Lending secured against real assets can be strongly pro-cyclical

Real economy leverage, credit creation dynamics, and credit/asset price cycles are crucial macro-economic variables, and phenomena

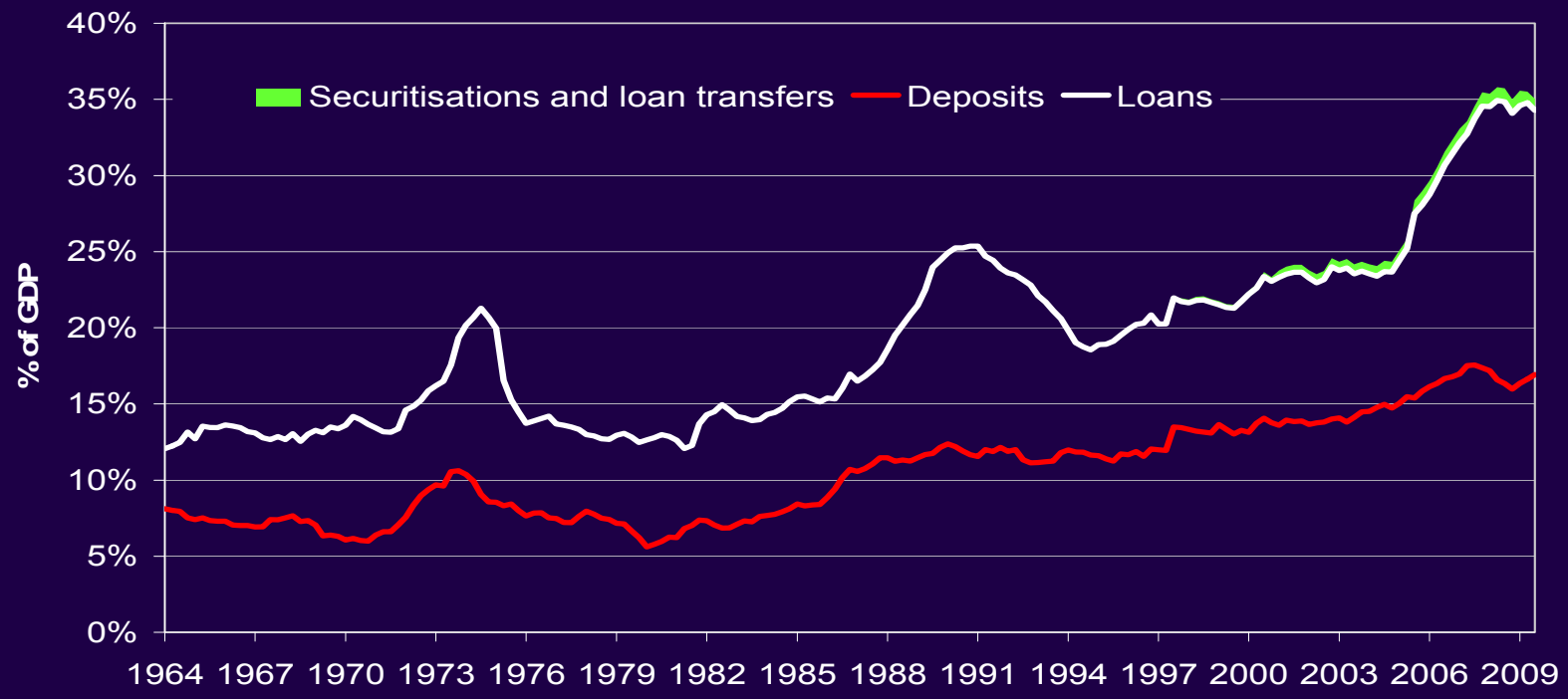
Leverage in the real and financial sectors





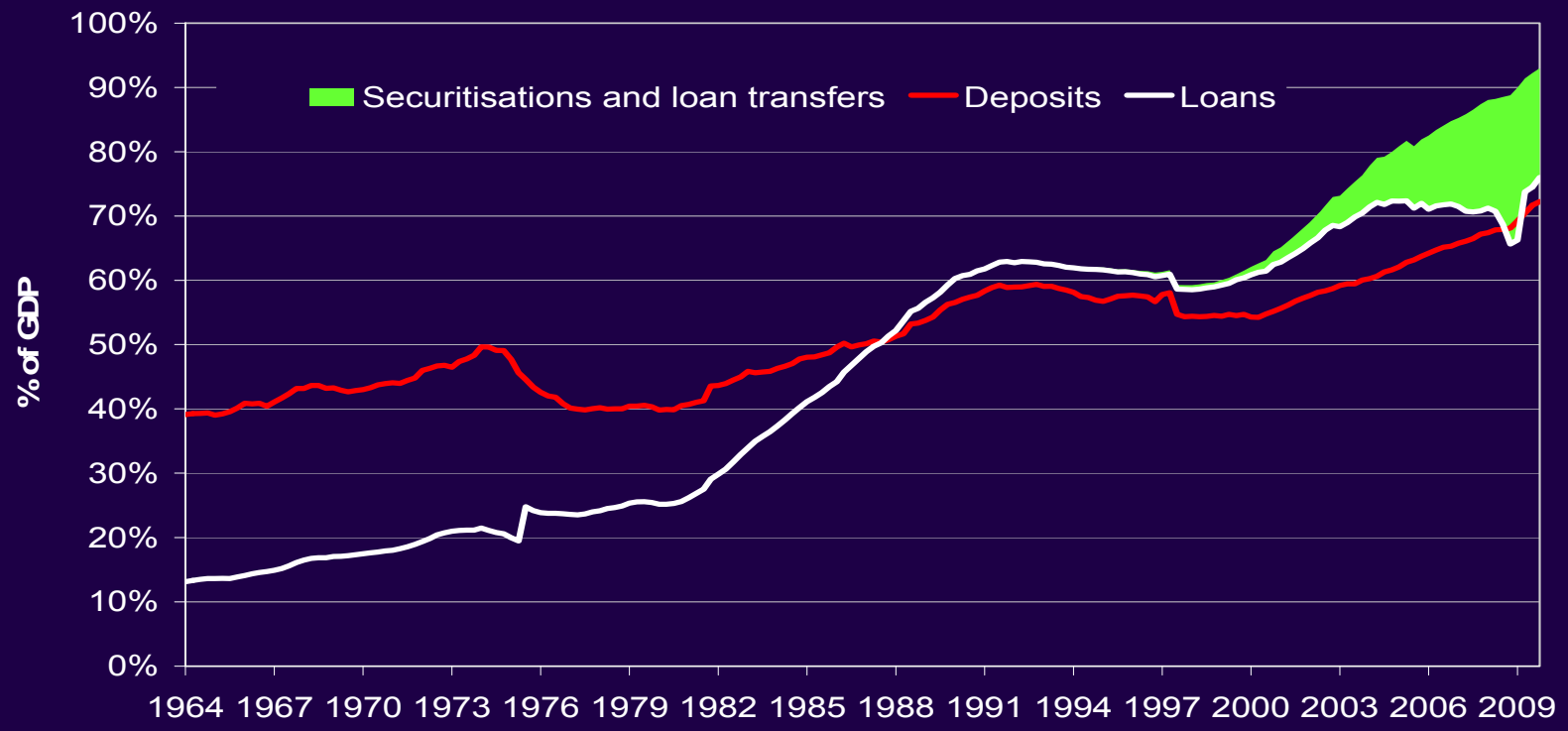
Source: Oliver Wyman

Private non-financial corporate deposits and loans: UK 1964 – 2009



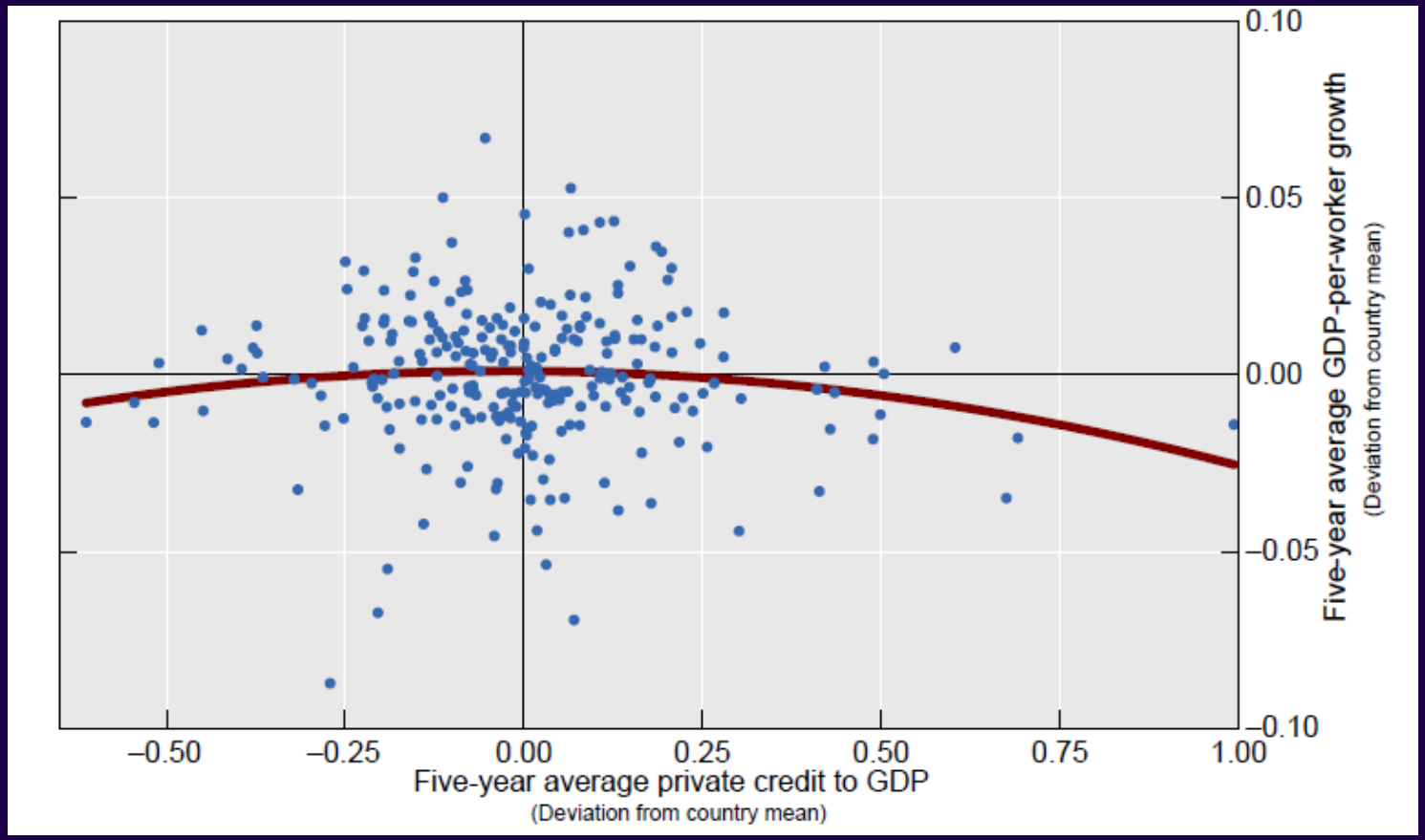
Source: Bank of England Tables A4.3, A4.1

Household deposits and loans: UK 1964 – 2009



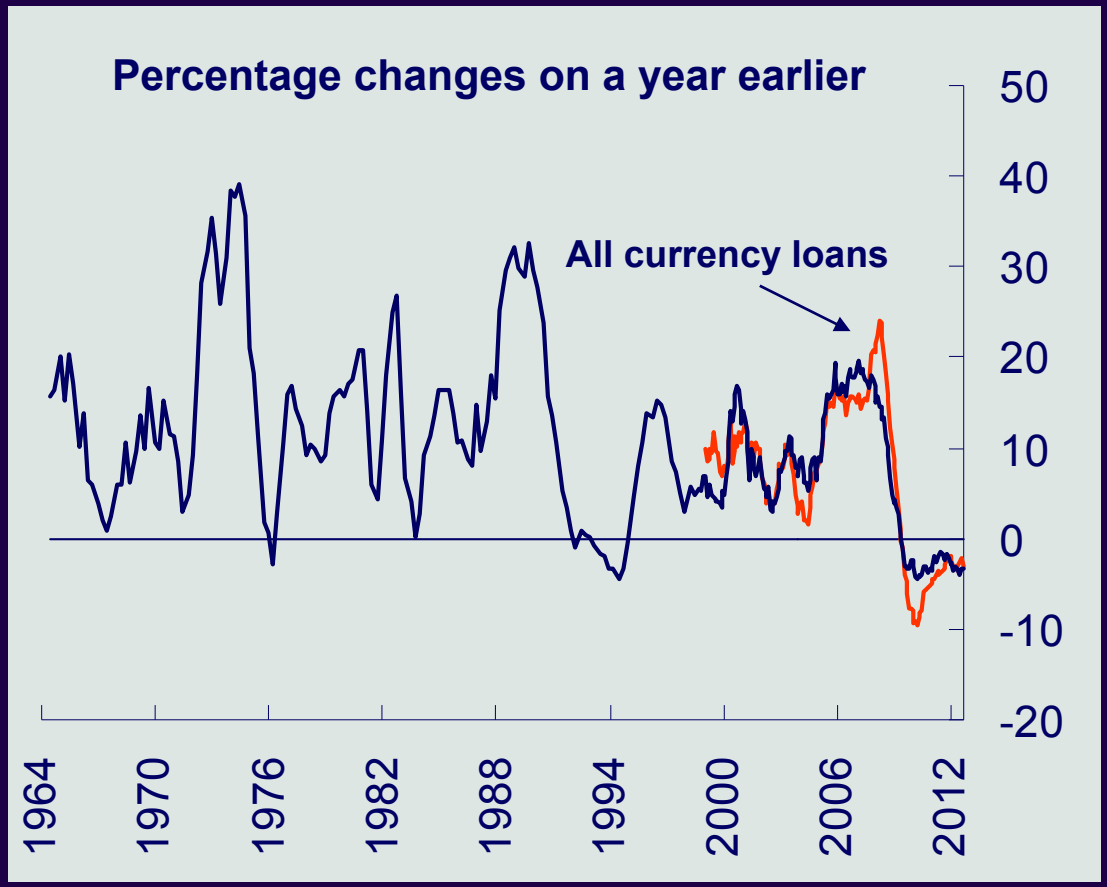
Source: Bank of England, Tables A4.3, A4.1

Private credit to GDP ratio and growth



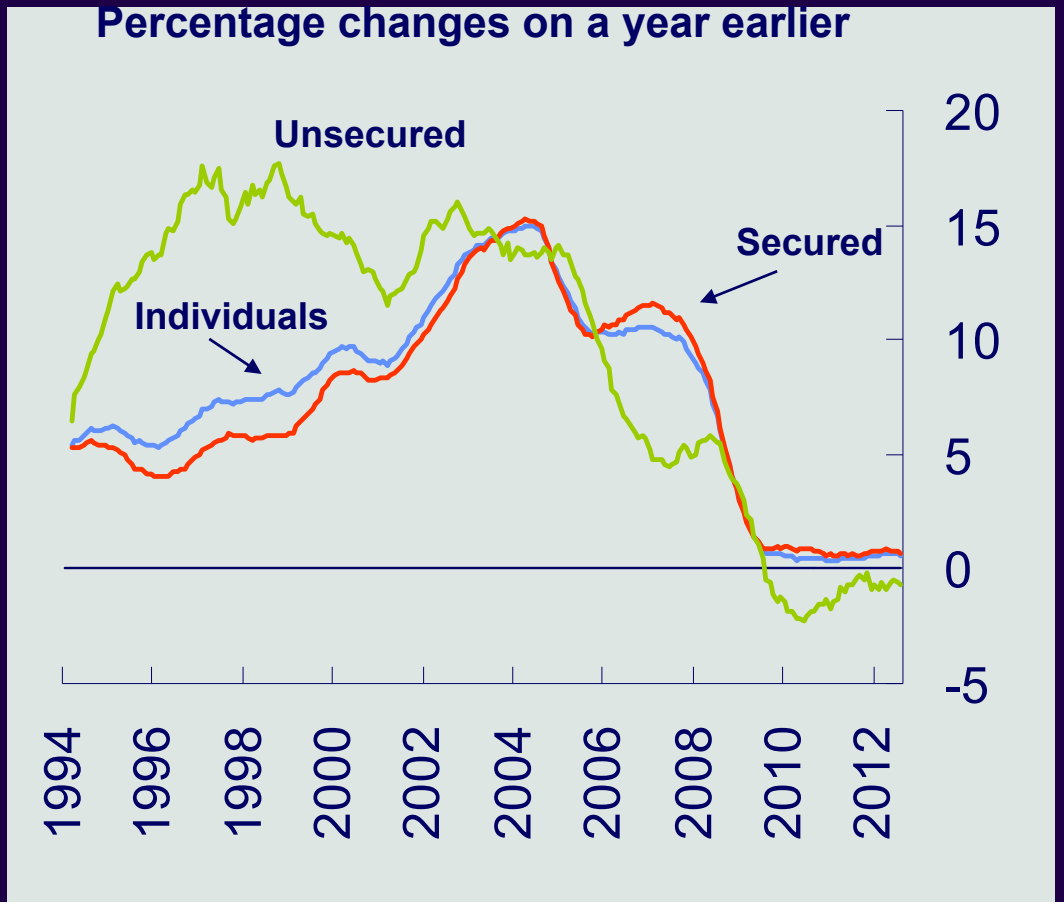
Source: S. Cecchetti, BIS Working Paper No. 381 "Reassessing the impact of finance and growth"

Lending to UK business



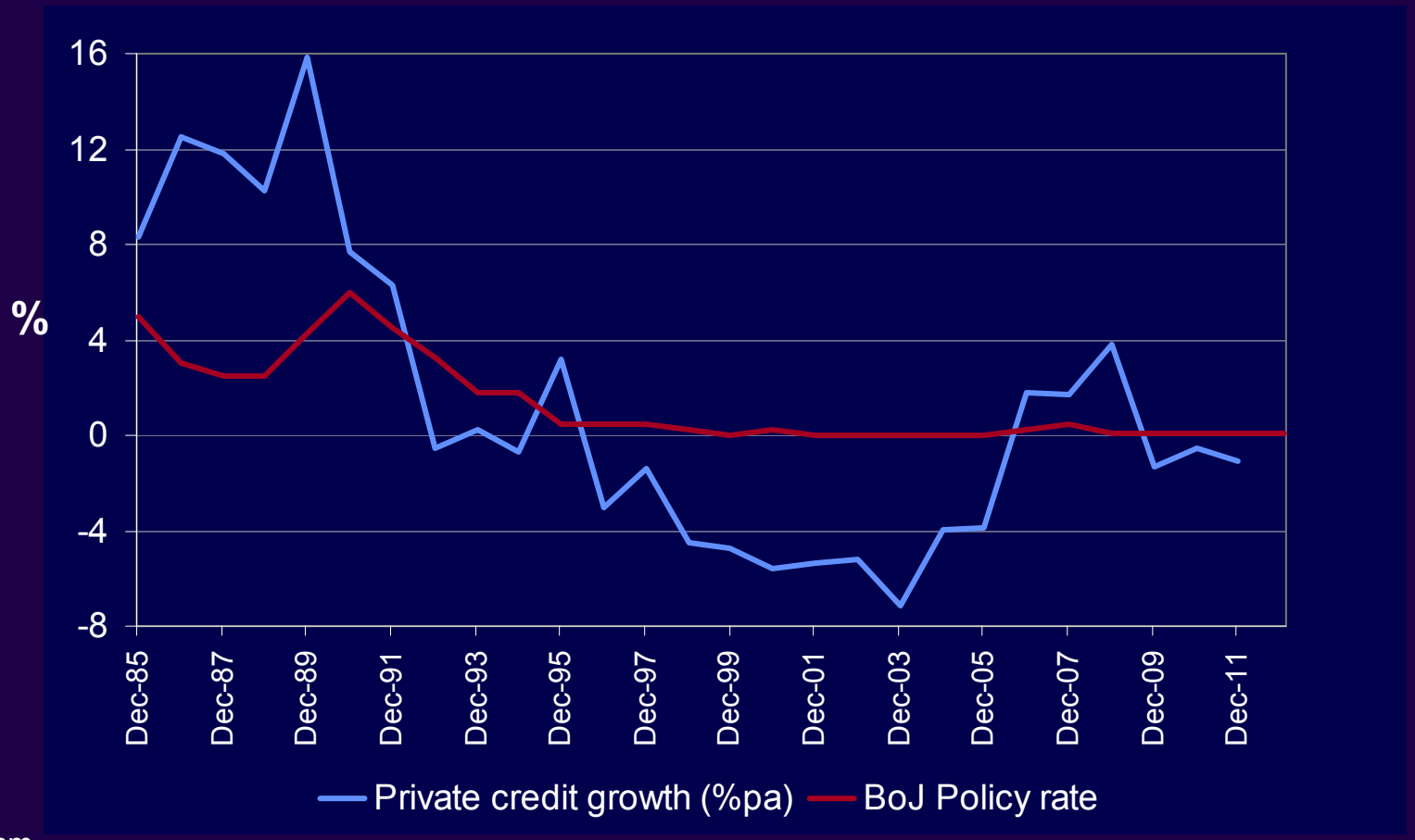
Source: Bank of England "Trends in Lending"

Lending to individuals



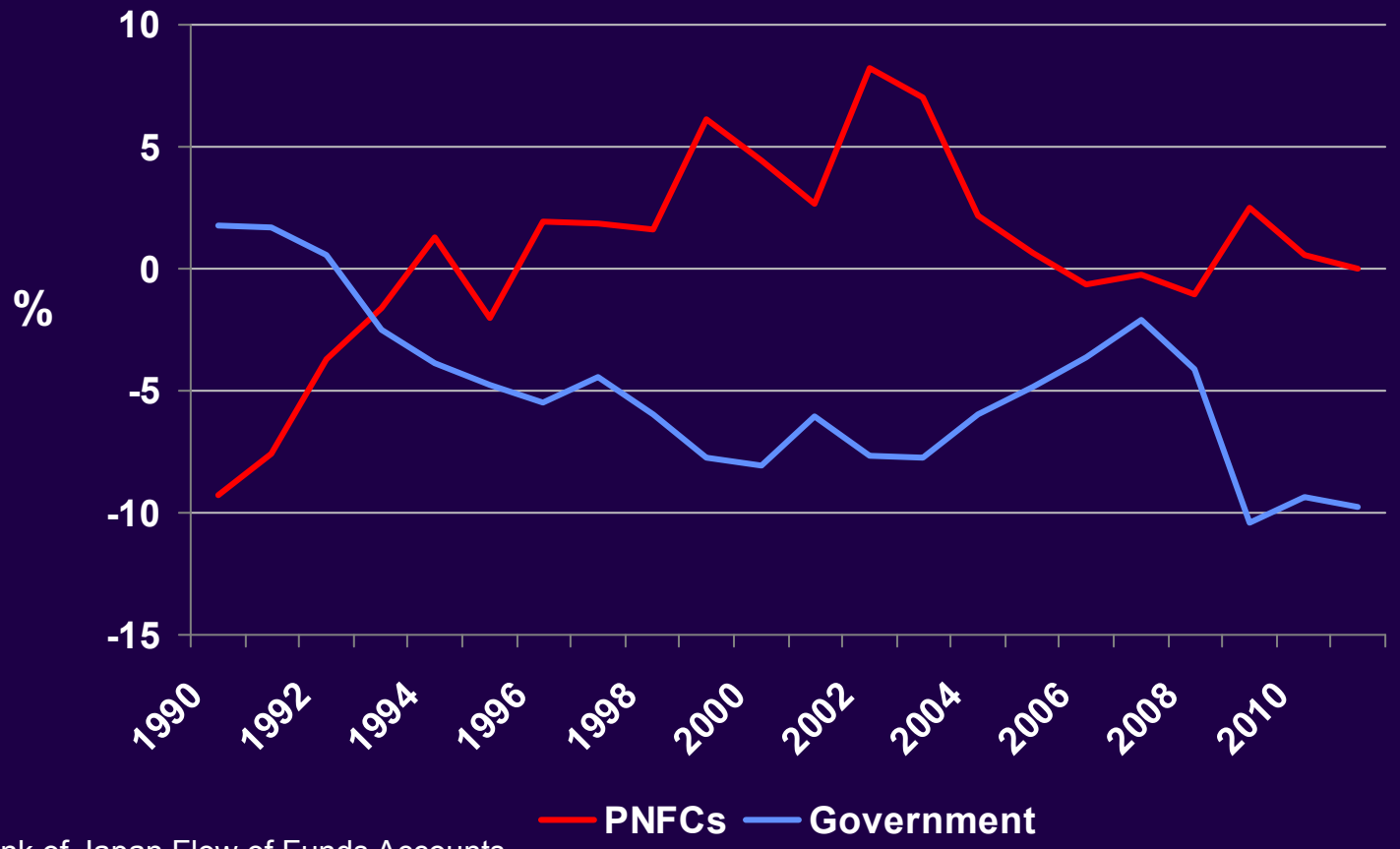
Source: Bank of England "Trends in Lending"

Japan-policy rate vs credit growth per annum



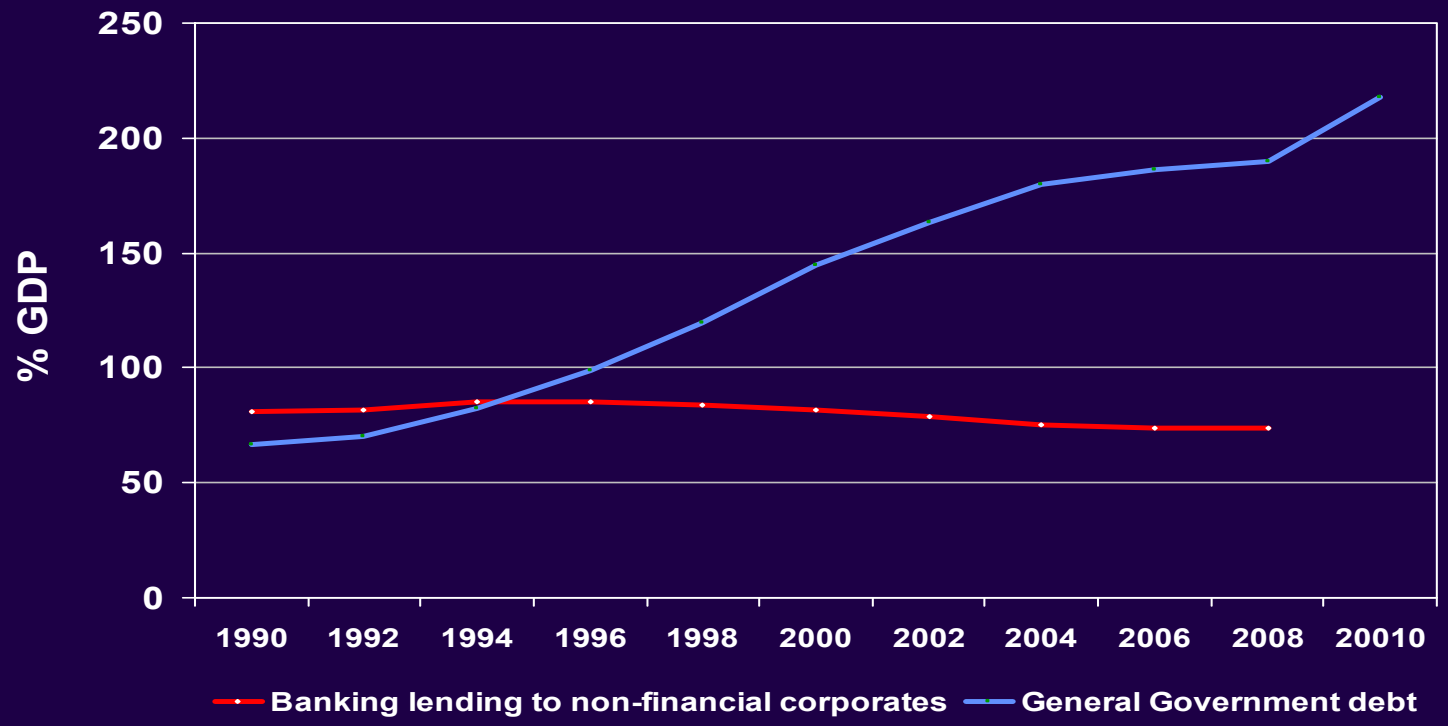
Source: Datastream

Sectoral financial surpluses/deficits as % of GDP: Japan 1990 – 2012



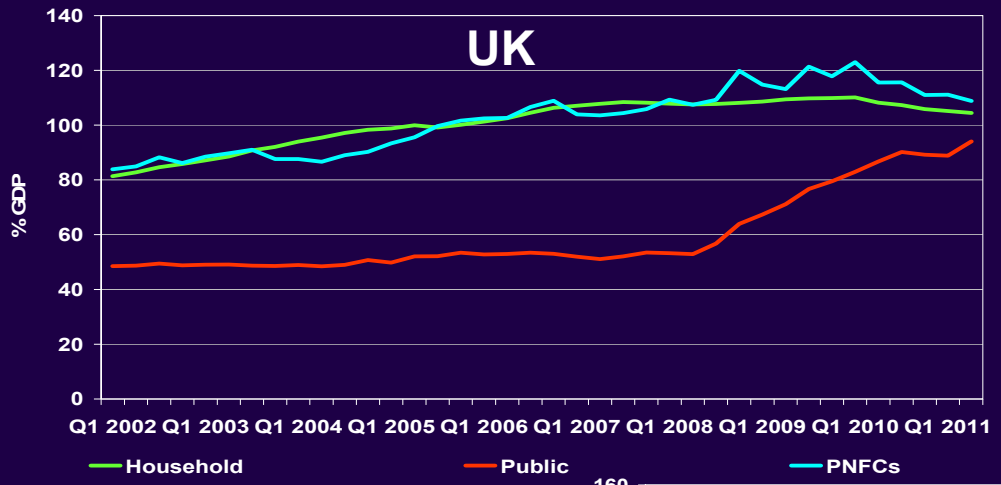
Source: IMF, Bank of Japan Flow of Funds Accounts

Japanese government and corporate debt: 1990 – 2010

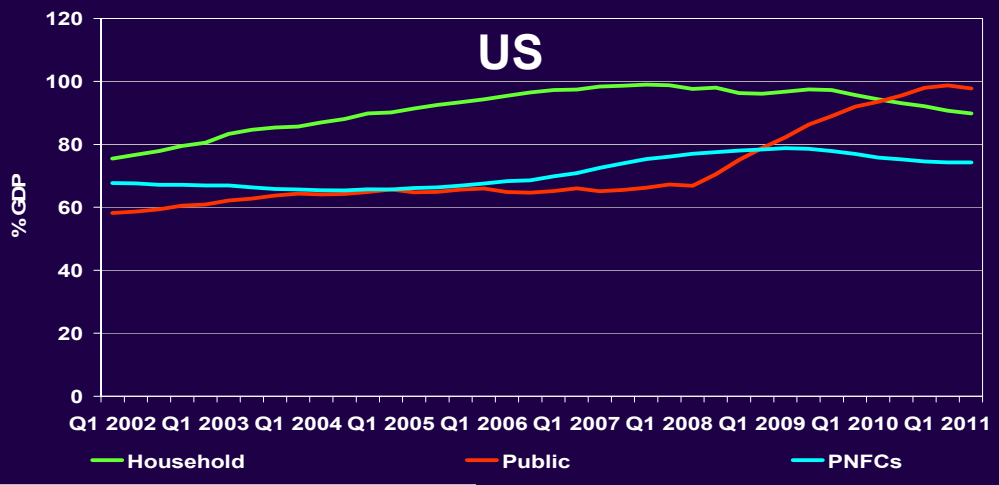


Source: BoJ Flow of Funds Accounts, IMF WEO database (April 2011), FSA calculations

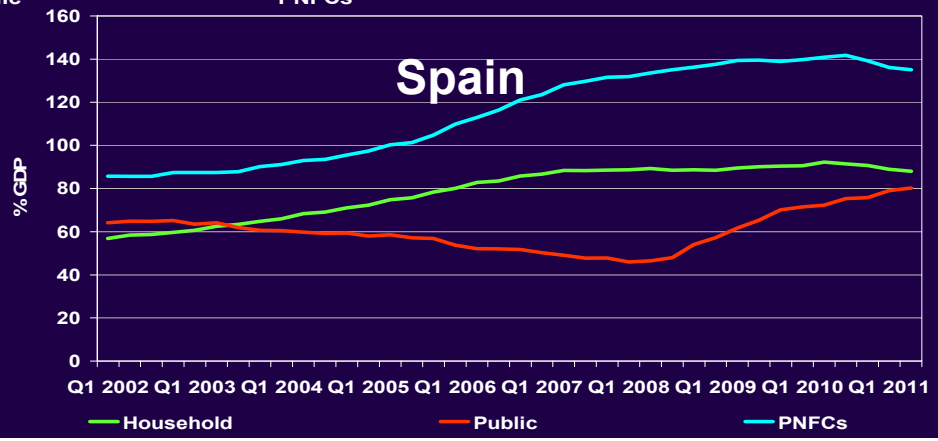
Shifting leverage: private and public debt-to-GDP



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



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



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

Alternative possible targets

Exclusively price focused

- Alternative inflation rate measures (e.g. excluding “one-ff” tax or commodity price effects
- Higher inflation rate (permanently or for a period of time)
- Guidance implying loose policy even after inflation rate back on target
- Price level trend

Price and real output / employment focused

- Circumstance contingent future guidance (loose policy till unemployment below x%)
- Money GDP growth rate (as permanent rule or temporarily)
- Money GDP level trend

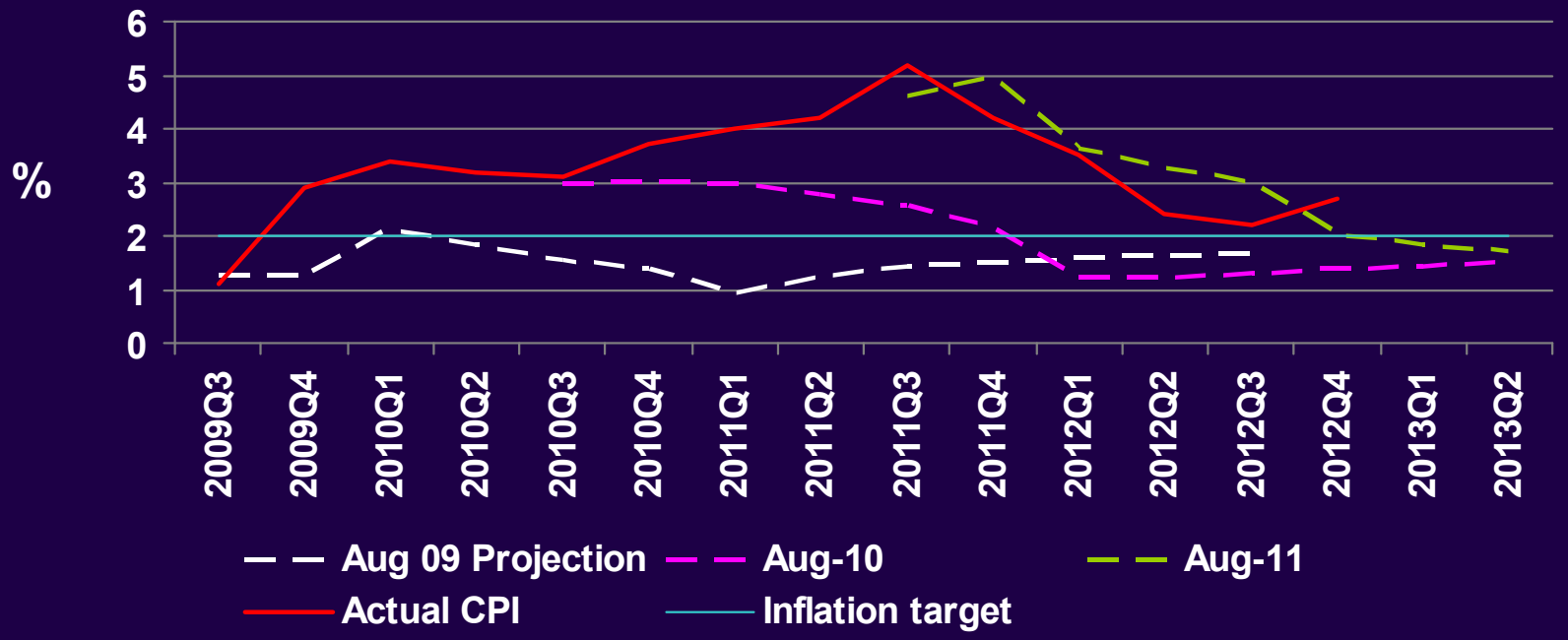
Blanchard et all

Carney, December 2012

Federal Reserve, Autumn 2012

Woodford, August 2012

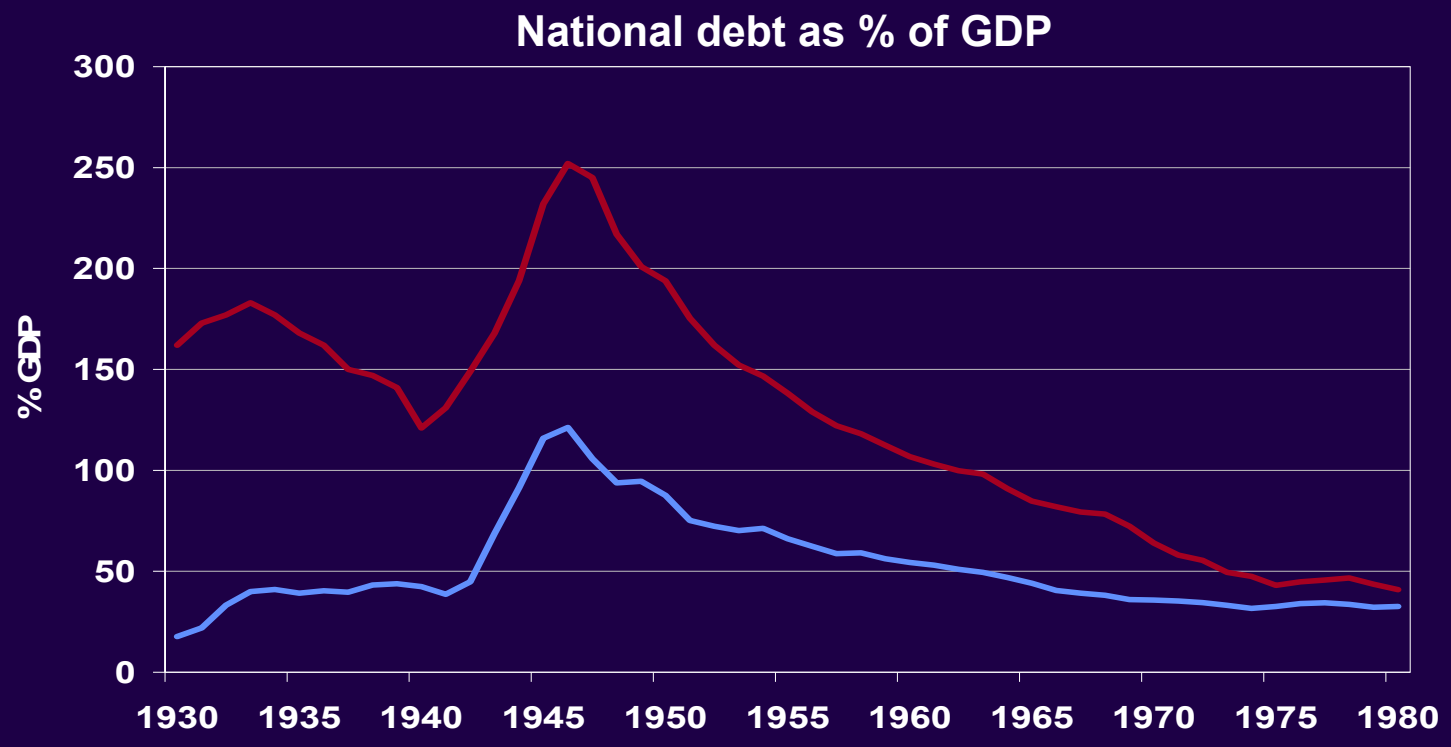
UK inflation: Bank of England forecasts and actual



Arguments for changed targets

- High potential for non-inflationary growth
- Erosion of excess debt levels (public or private) via higher inflation
- Forward commitments to future accommodative policy

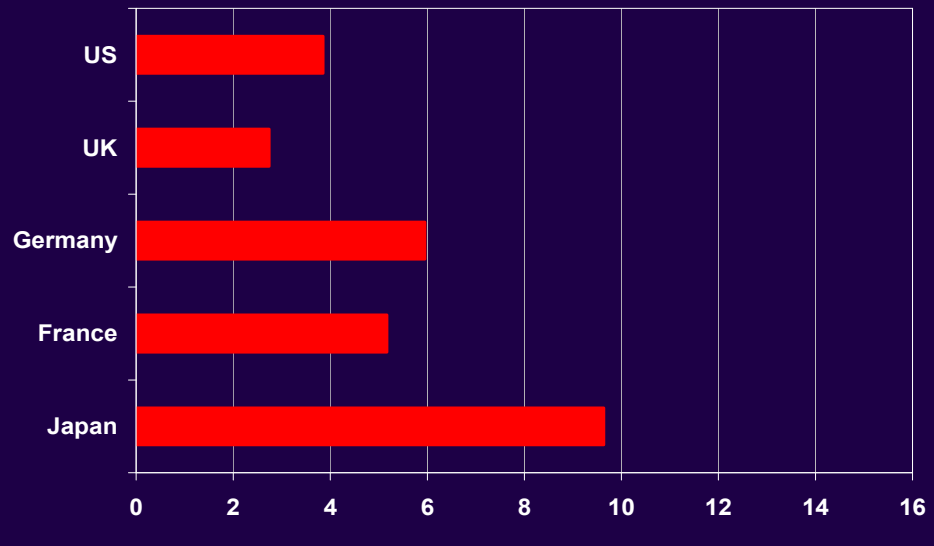
Public debt to GDP: US and UK



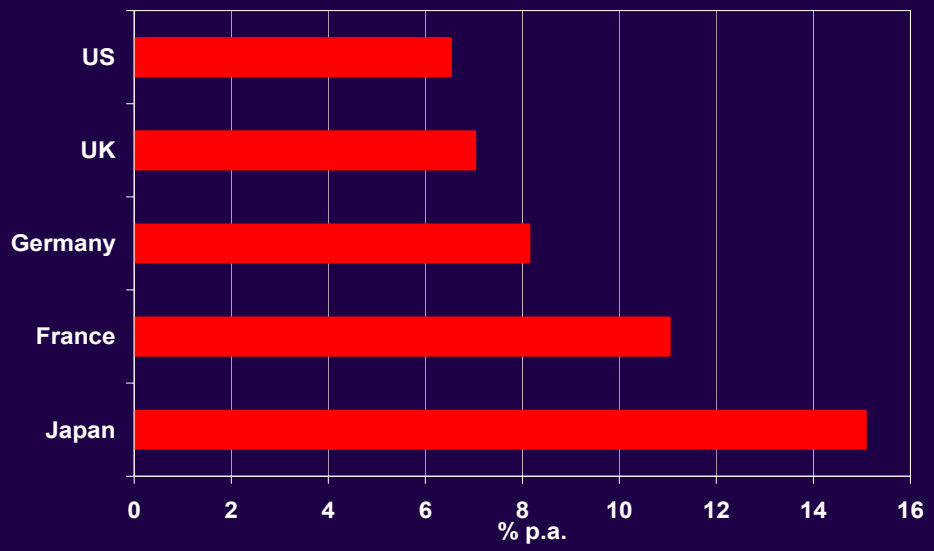
Source: DMO, ONS

GDP Growth rates 1950 – 1970

Real annual average GDP growth %



Nominal annual average GDP growth %



Source: BEA (US), ONS (UK), FSO (DE), Cabinet Office (JP), Madison, FSA calculations

Arguments for changed targets

- High potential for non-inflationary growth
- Erosion of excess debt levels (public or private) via higher inflation
- Forward commitments to future accommodative policy

New targets?

Potential for non-inflationary growth ✓

Erosion of debt via inflation ?

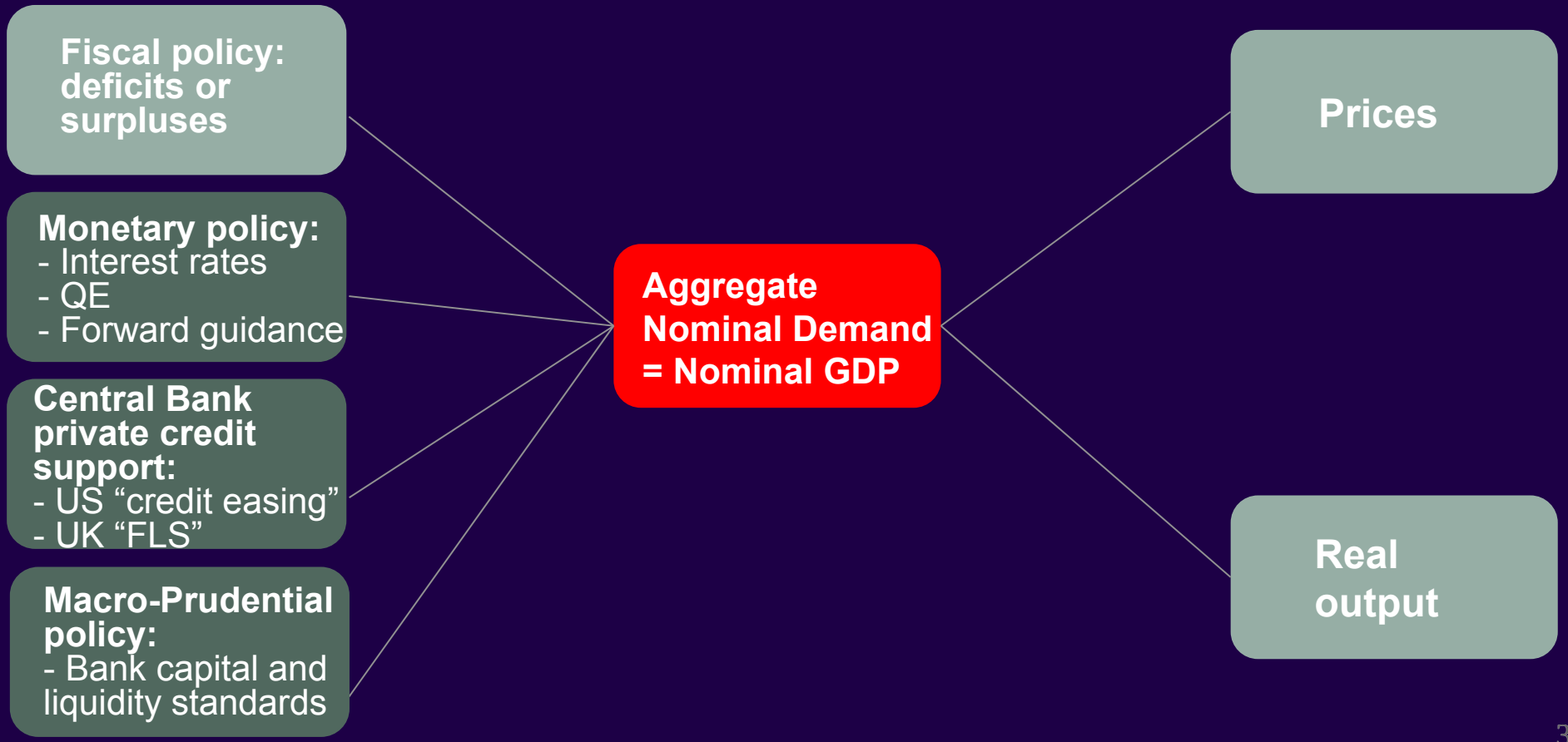
Forward commitments to accommodative policy ✓

- Reasonable case to consider alternatives
- But as temporary not permanent regime change

Particular attractions in:

- Circumstance contingent pre-commitment (Federal Reserve policy)
- Taking account of nominal GDP level… but not Woodford's *"return to trend"* approach

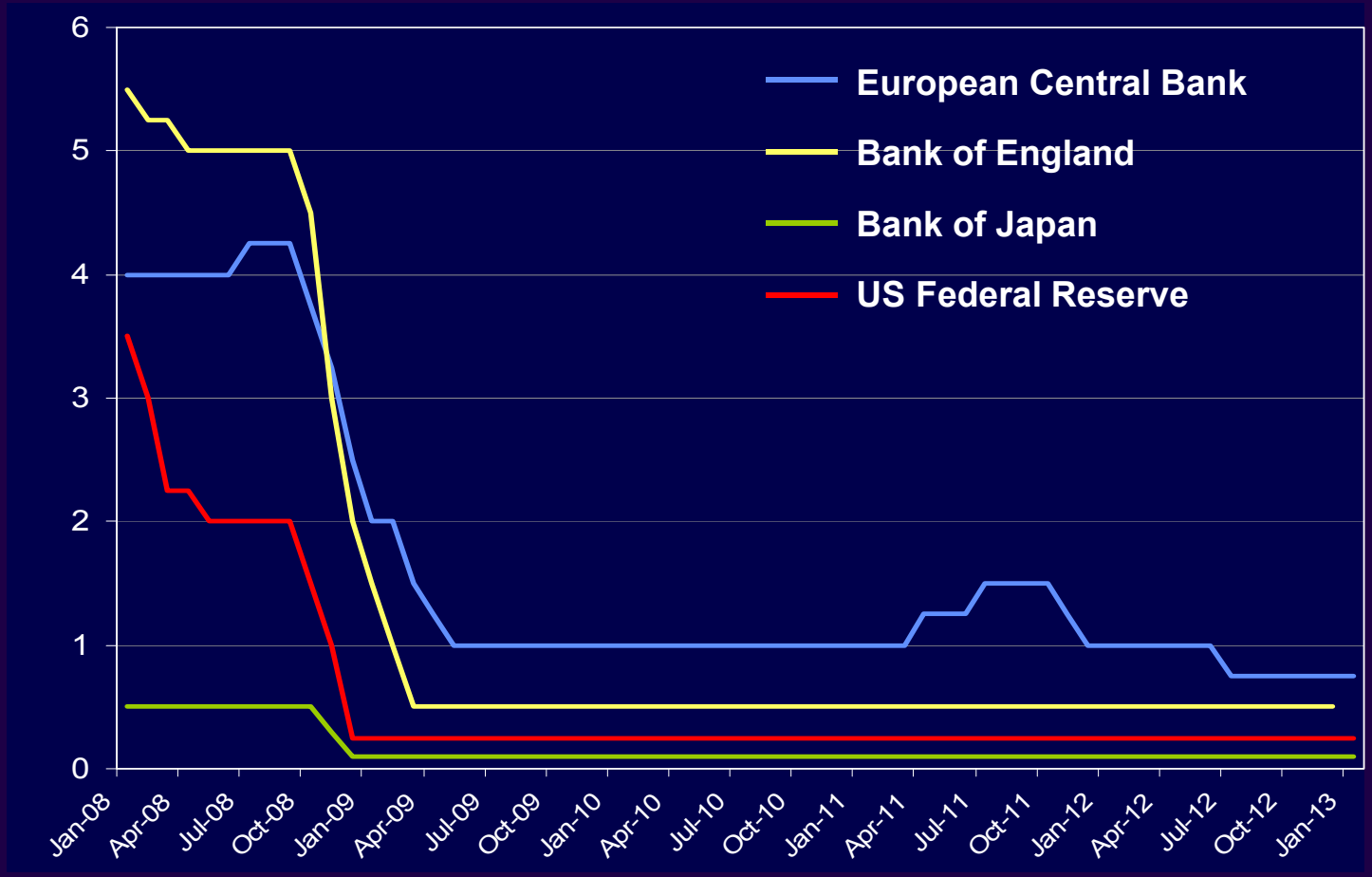
Levers and effects



Monetary, credit support and macro-prudential levers beyond the ZLB

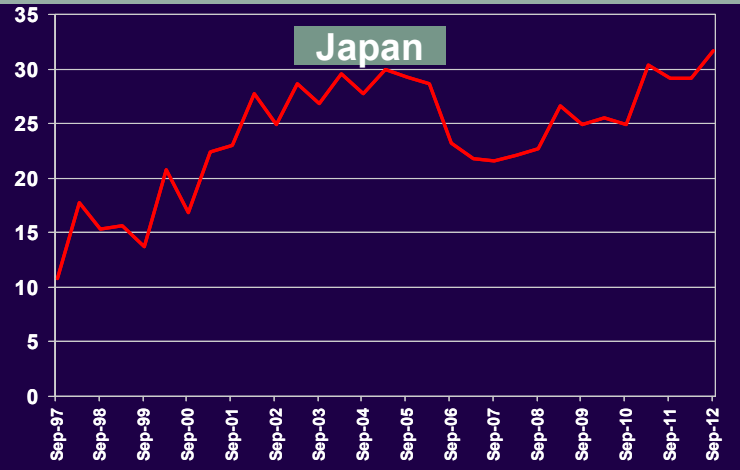
- Standard QE – buying government bonds
- Wider QE – private bonds, equity, property, FX
- Liquidity support – LTRO
- Direct credit subsidy – FLS
- Macro-prudential policy – relaxation of capital or liquidity standards

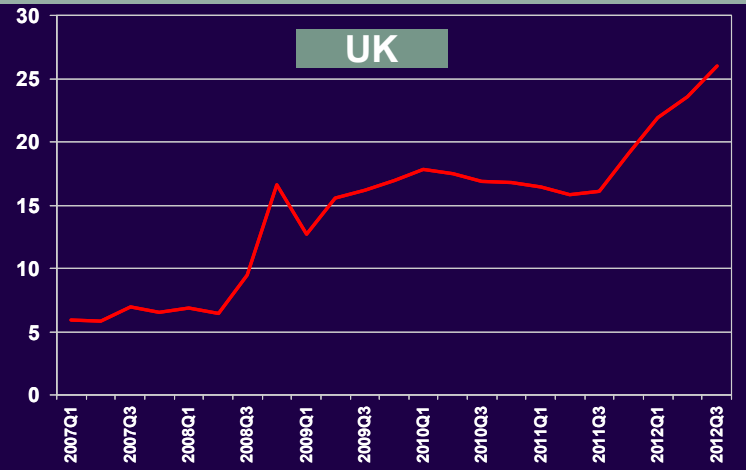
Central Bank policy rates

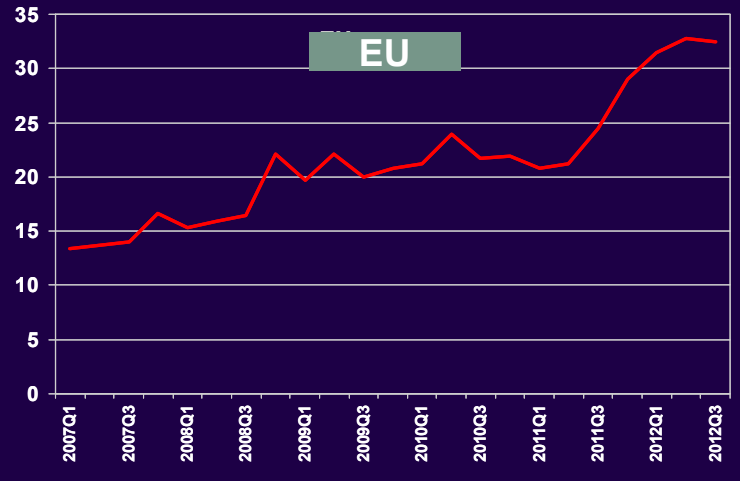


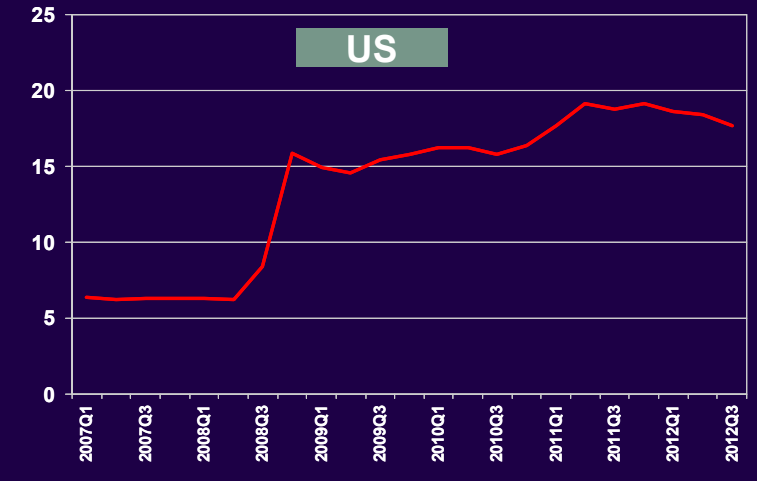
Source: Central Banks

Central Bank balance sheets as %GDP









Monetary, credit subsidy and macro-pru levers

Potential limitation?

Levers work via indirect channels:

- Credit growth – demand and supply
- Search for yield
- Asset price / wealth effects

Potentially limited if:

- Borrowers focussed on strengthening balance sheets
- Long as well as short term interest rates approaching ZLB

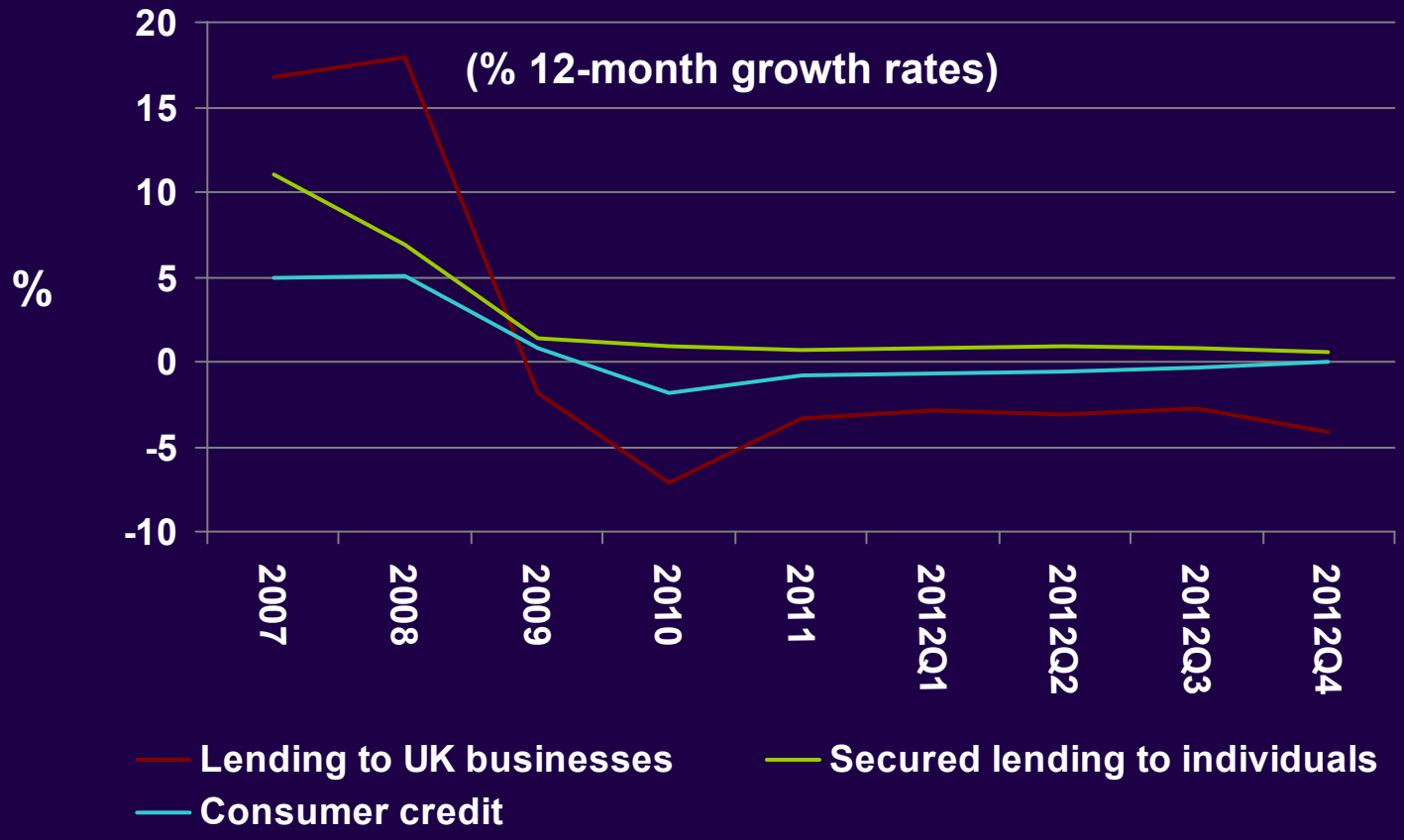
Adverse side effects?

- Low interest rates over many years (decades?)
- Stimulus to private leverage
  - Hair of the dog that bit us
- Relaxed prudential standards → financial stability risks
- Exchange rate spill-over effects

Japan – 10 year nominal yield

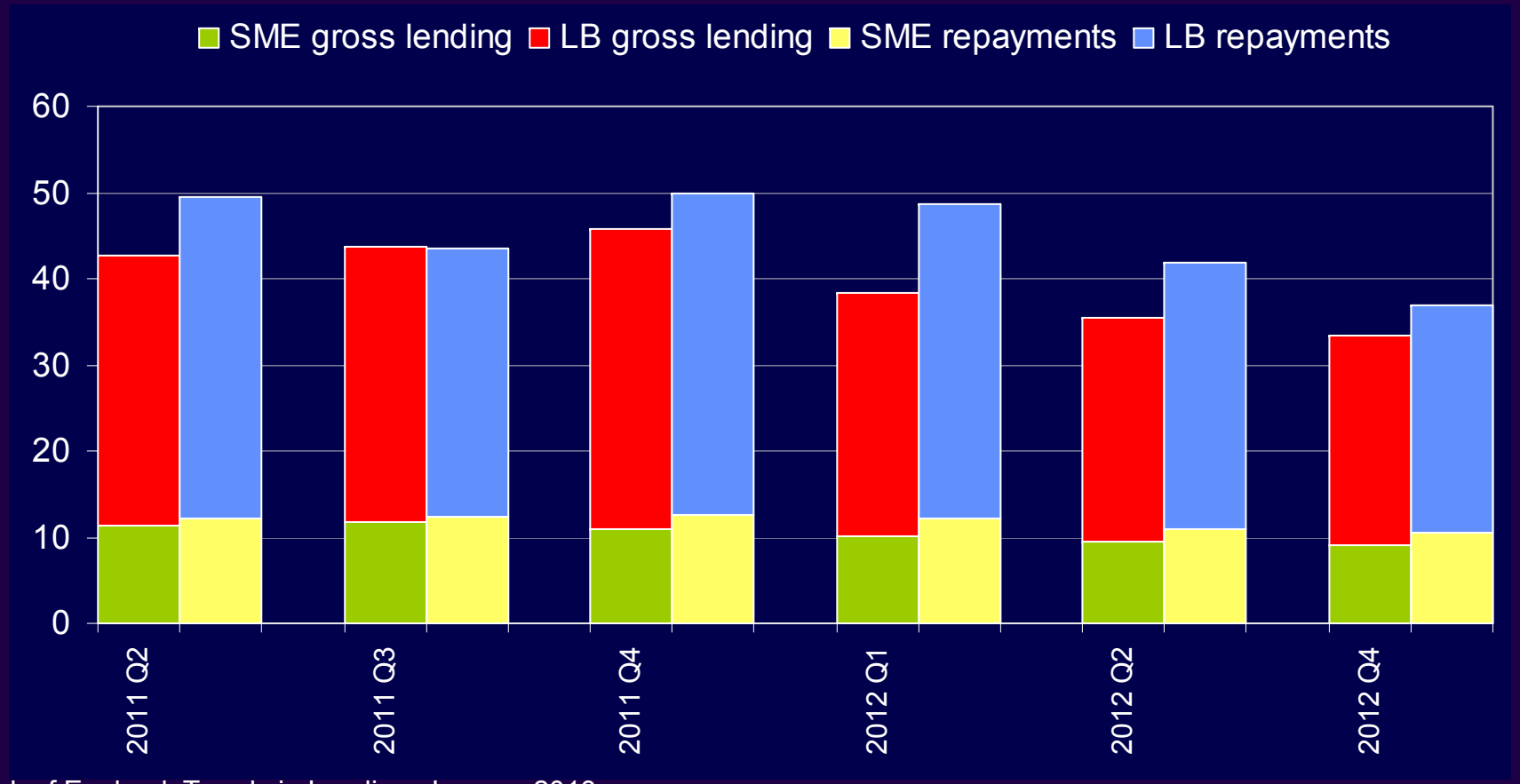
Source: Bloomberg

UK trends in lending: % 12-month growth rates



Source: Trends in Lending, data as of 04/01/2013

Gross lending to and repayments by UK non-financial businesses (£bn)



Source: Bank of England, Trends in Lending, January 2013

Funded fiscal stimulus

Advantage: Puts money directly into the “Income Stream”

But offset by:

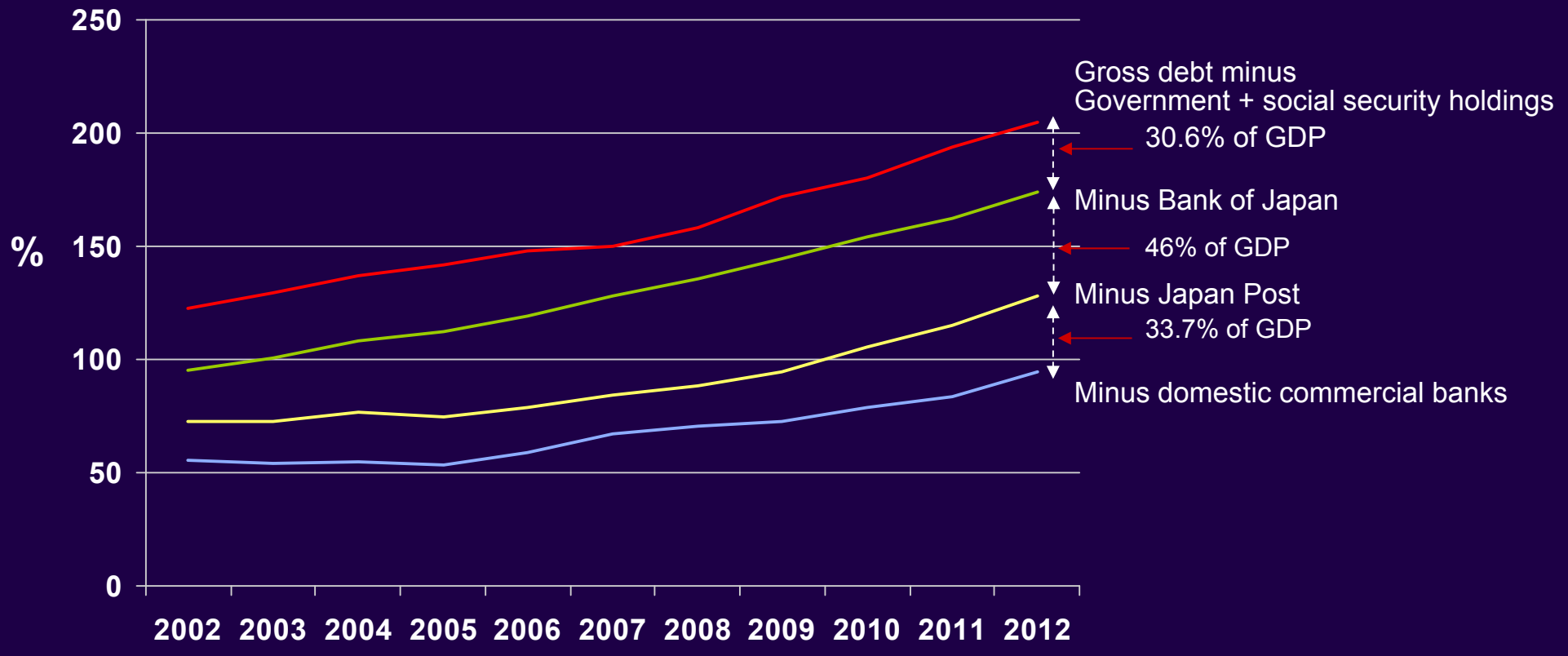
- Crowding out
- Ricardian equivalence

Delong and Summers: The case for pure fiscal stimulus

"When interest rates are constrained by the zero nominal lower bound, discretionary fiscal policy can be highly efficacious as a stabilisation policy tool. Indeed, under … plausible assumptions, temporary expansionary fiscal policies may well reduce long run debt financing burdens"

- Fiscal multipliers low in 'normal times' because central bank
  - Is itself following appropriate monetary policy to achieve non-inflationary growth
  - Will respond to fiscal stimulus by monetary tightening
- Fiscal multipliers far higher when interest rates at the ZLB and if central bank committed to keeping them there
- Stimulus to growth can avoid 'hysteresis' effects which will otherwise depress long-term output potential

Japanese Government debt as % of GDP



Source: Bank of Japan, data as at end 2012, Japan Post Holdings accounts end March 2012

Bernanke 2003:
The case for a money financed tax cut

- *"A tax cut for households and businesses that is explicitly coupled with incremental BoJ purchases of government debt, so that the tax cut is in effect financed by money creation"*
- Important to be clear *"that much or all of the increase in the money stock is viewed as permanent"*
- Consumers and business will spend the tax cut since *"no current or future debt service burden has been created to imply future taxes"* (i.e., no Ricardian equivalence offset)
- Debt to GDP ratio will fall: no increase in nominal debt but *"nominal GDP would rise owing to increased nominal spending"*
- Same principle *"could also support spending programmes to facilitate industrial restructuring, for instance"*

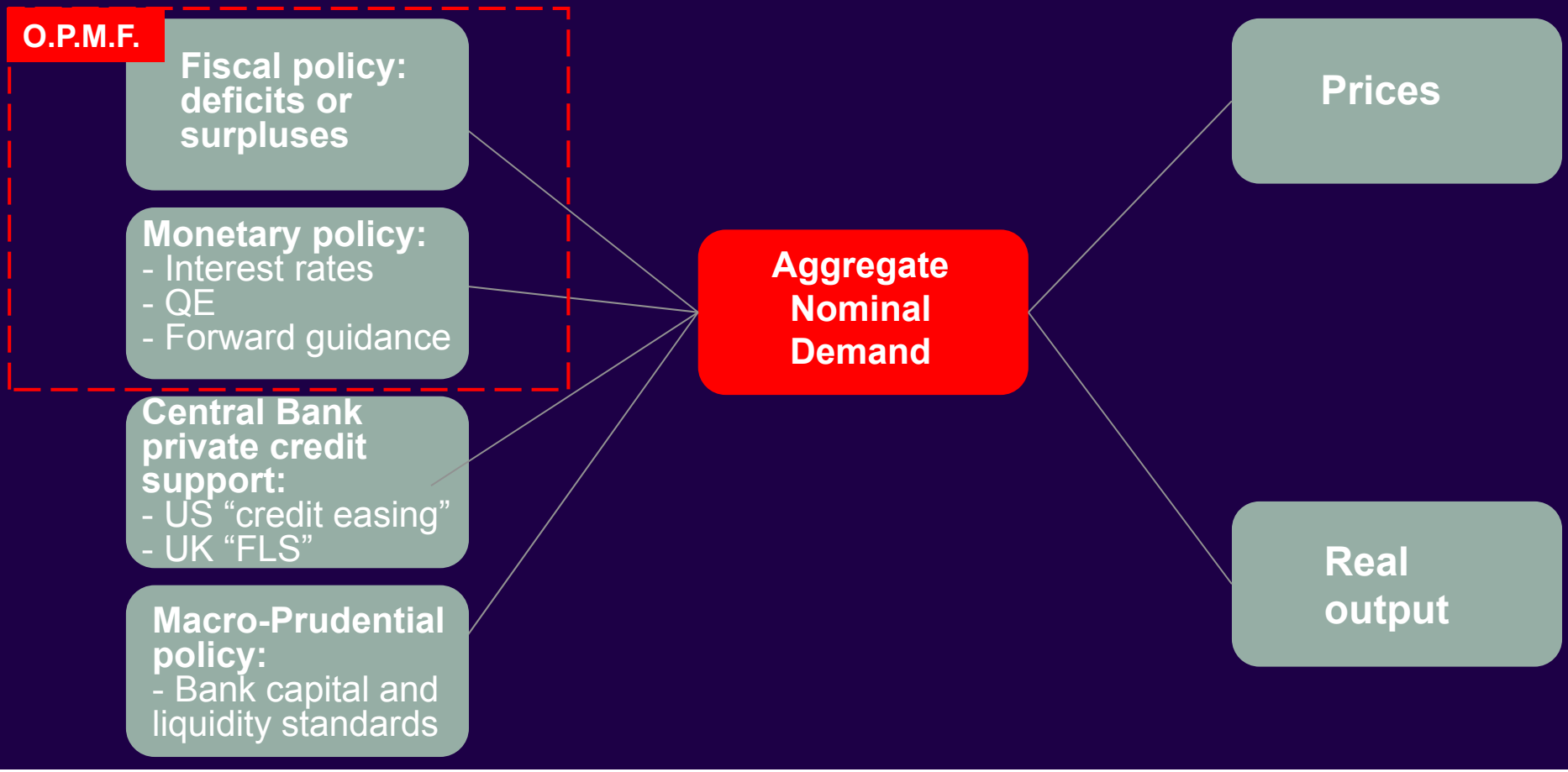
Advantages of OMF

Versus monetary, credit support and macro-pru stimulus ← Works directly

Versus funded fiscal stimulus ← Not offset by:

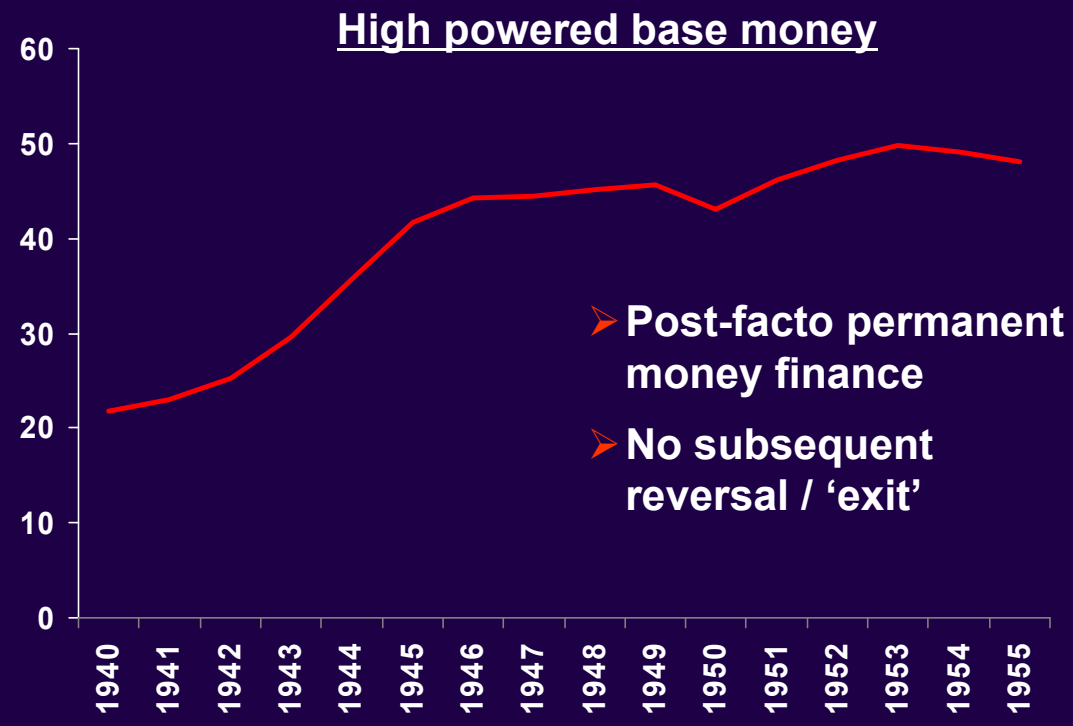
- Crowding out
- Ricardian equivalence

Levers and effects



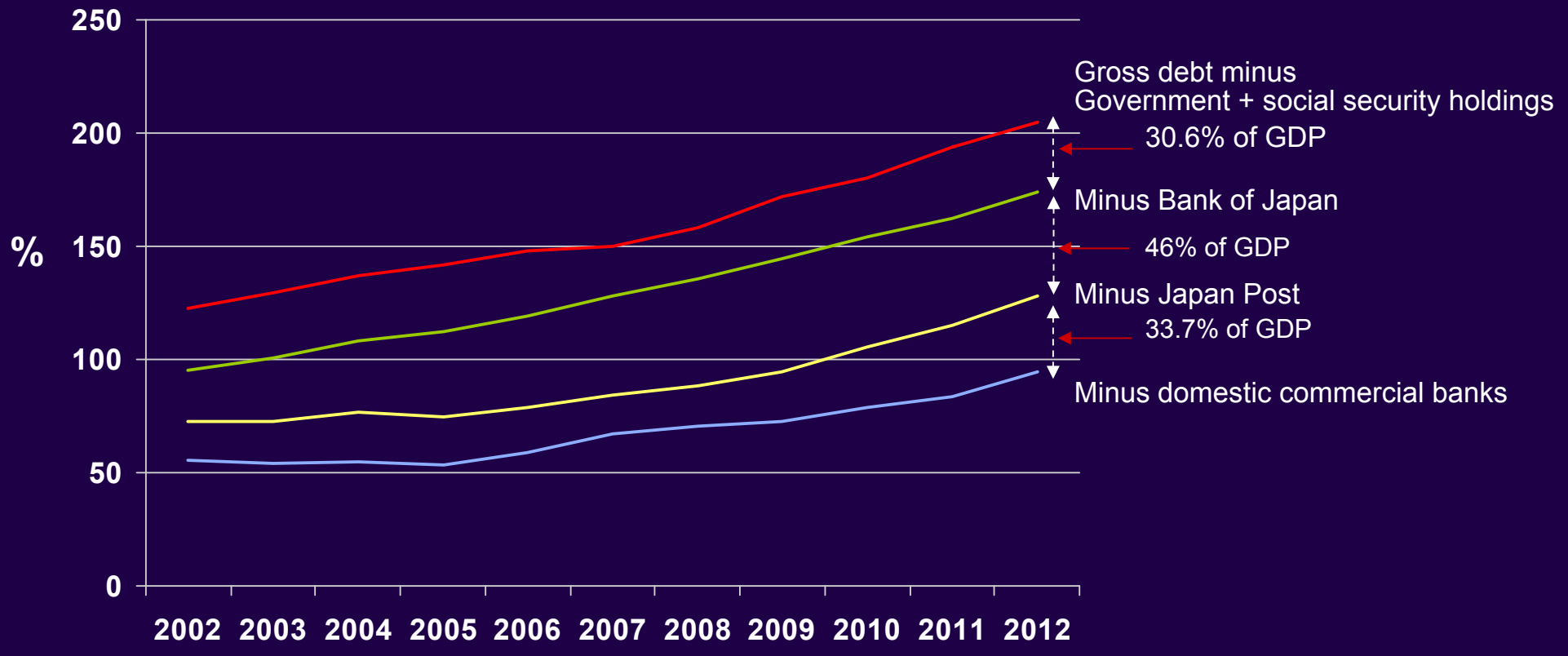
Post-facto money finance: US 1940 to 1951

- Large wartime budget deficits 'funded' by government debt issues
- Federal Reserve commitment to keep interest rates at 2.5% - buying bonds to achieve target



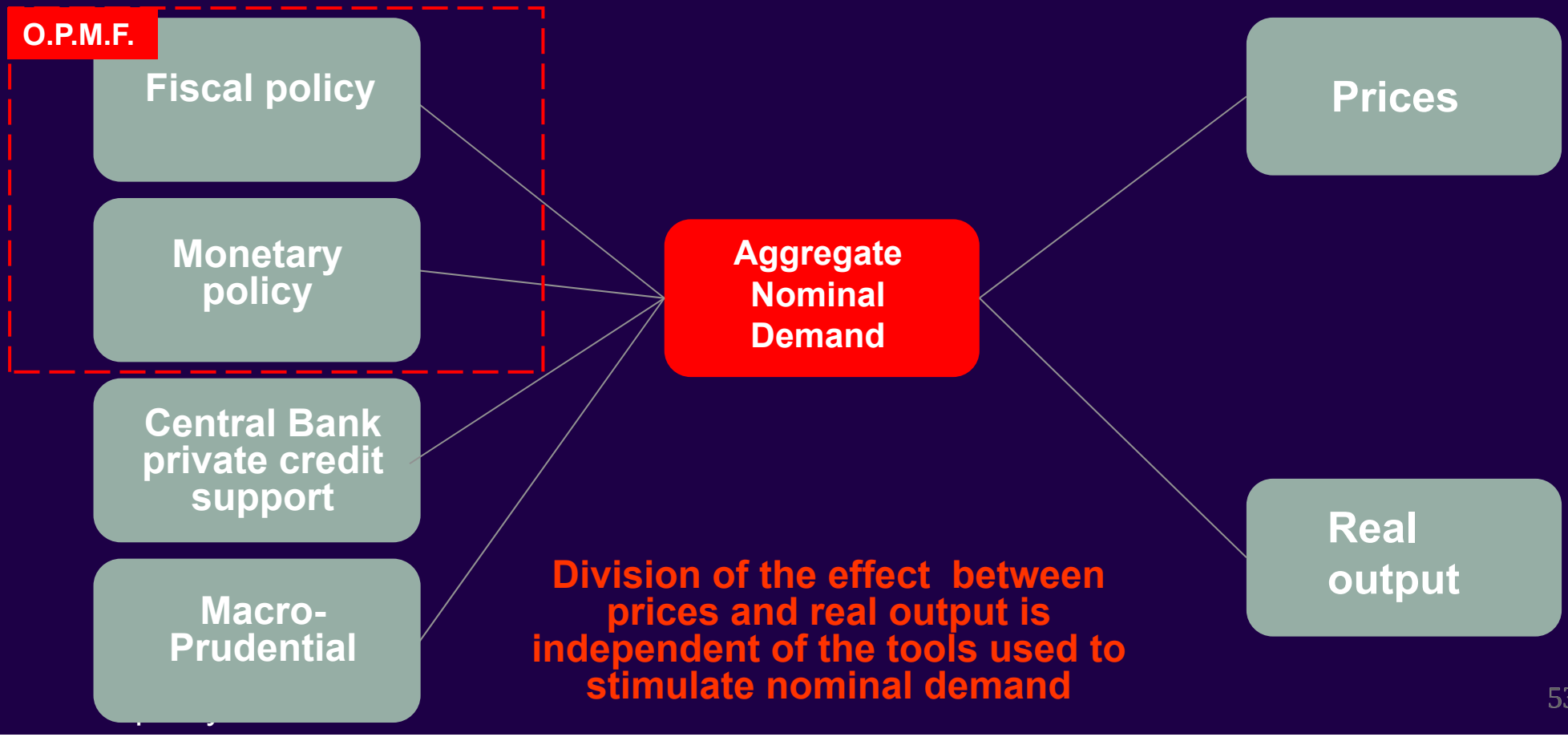
Source: Friedman and Schwarz, *Monetary History of the United States*

Japanese Government debt as % of GDP



Source: Bank of Japan, data as at end 2012, Japan Post Holdings accounts end March 2012

The “independence” assumption



OMF: Technically safe, politically dangerous

"The proposal has of course its dangers. Explicit control of the quantity of money by the government and the explicit creation of money to support actual government expenditures may establish a climate favourable to irresponsible government action and to inflation"

Milton Friedman, 1948

- Admitting possibility of OMF carries political economy risks
- OMF has taboo status
- Taboos can be useful constraints

OMF: A policy that dare not speak its name

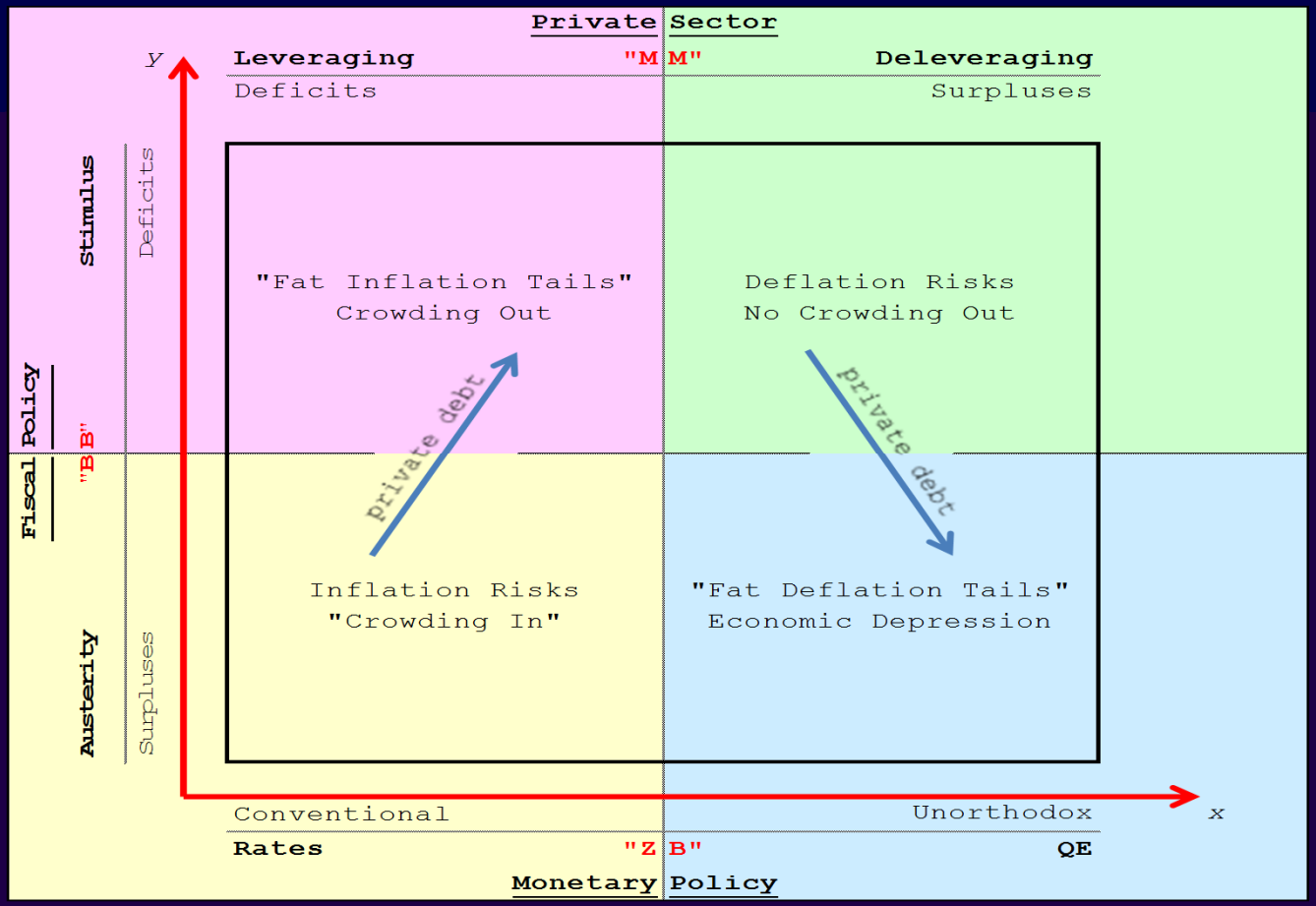
Optimal policy requires *"Policy action that should stimulate spending immediately, without relying too much on expectational channels"*

"The most obvious source of a boost to aggregate demand that would not depend solely on expectational channels is fiscal stimulus"

Need to be clear that some part of *"the increase in the base money is intended to be permanent"*

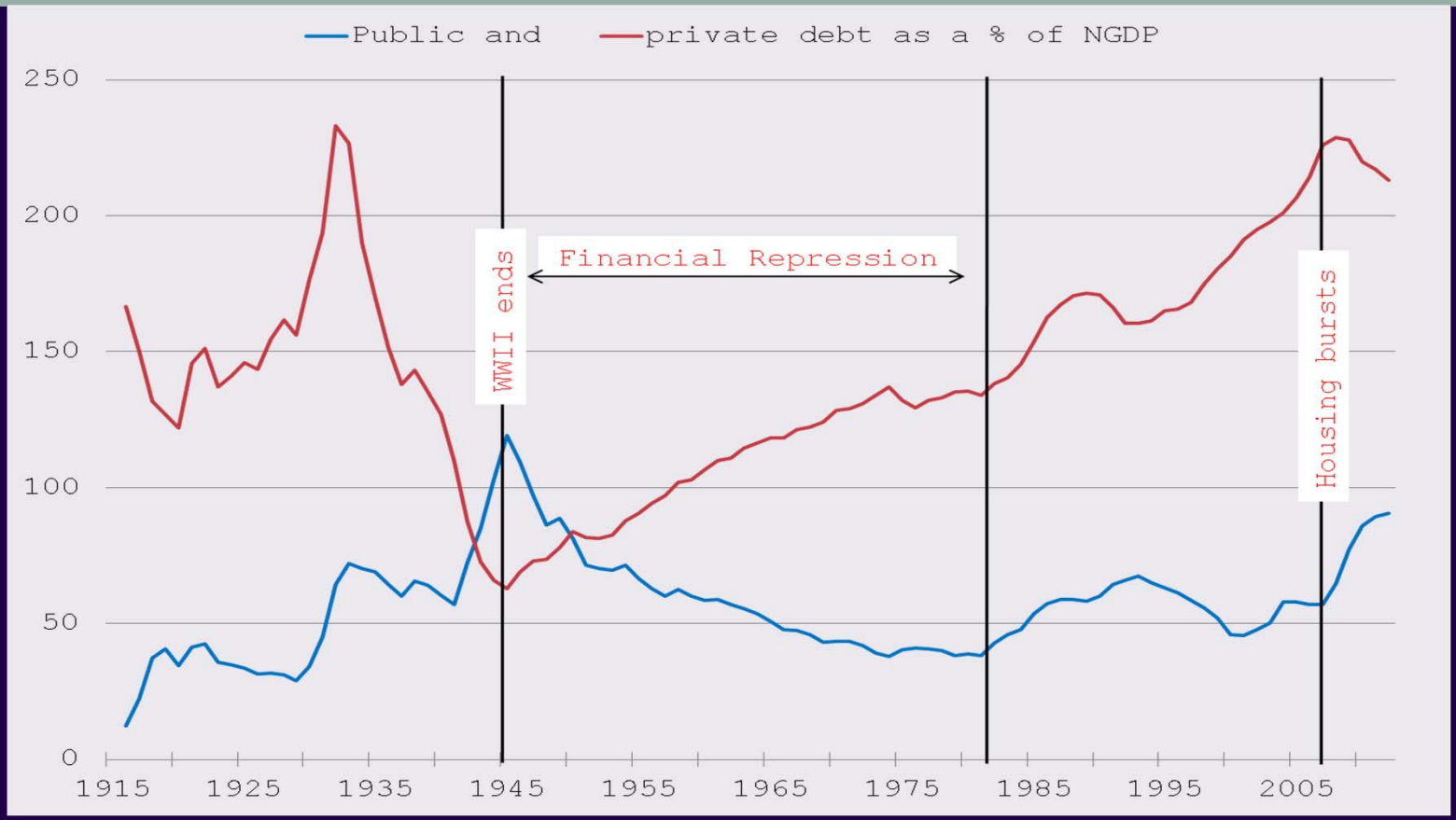
Michael Woodford, August 2012

Varying actual and appropriate policies: McCulley and Pozsar's framework



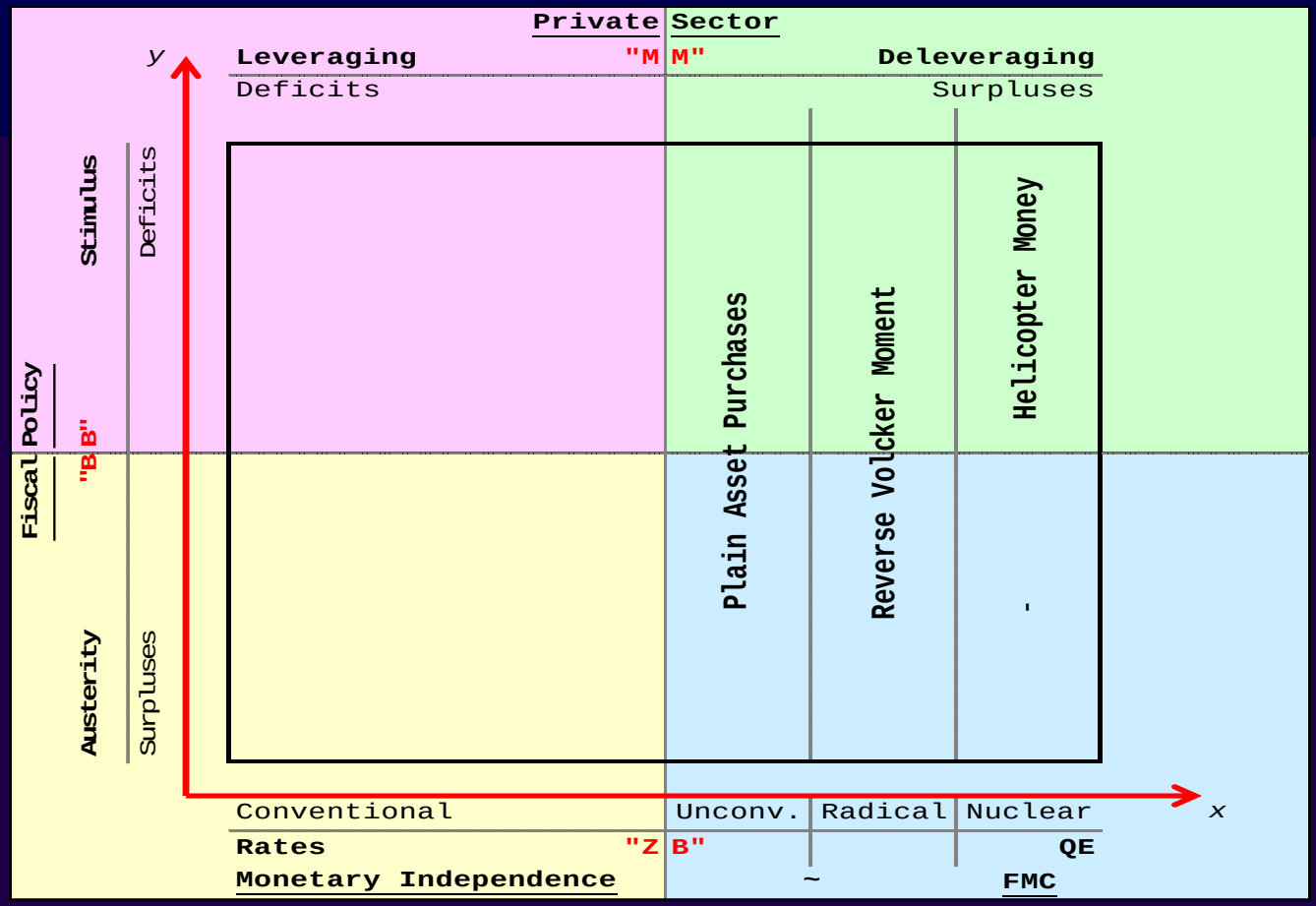
Source: McCulley and Pozsar

Private and public leverage cycles



Source: McCulley and Pozsar

Varying actual and appropriate policies: McCulley and Pozsar's framework



Source: McCulley and Pozsar

"It is important to recognise that the role of an independent central bank is different in inflationary and deflationary environments. In the face of inflation, which is often an associated with excessive monetisation of government debt, the virtue of an independent central bank is its ability to say "NO" to the government. [In a liquidity trap] *however, excessive money creation is unlikely to be the problem, and a more cooperative stance on the part of the central bank may be called for.* [Under these circumstances] *greater cooperation for a time between the central bank and the fiscal authorities is in no way inconsistent with the independence of the central bank".*

Bern Bernanke, 2003

Constraining OMF with rules and authorities

- Amount of OMF determined by central bank in pursuit of defined target (inflation or, temporarily, nominal GDP)
- Amount limited to cyclical element of deficit (as determined by independent authority e.g. OBR)
- OMF used only for one-off bank recapitalisation

Two Policy options

Option 1

Several £100bns of QE with commitment to future reversal

+

Funding for lending

+

Relaxation of bank capital and liquidity standards

Option 2

Several £10bns of OMF of increased fiscal deficit (tax cuts or public spend increasing)

… with commitment that this will be permanent

Which will:

- Be most effective in stimulating nominal demand?
- Have least adverse side-effects?

Implications by country and currency zone

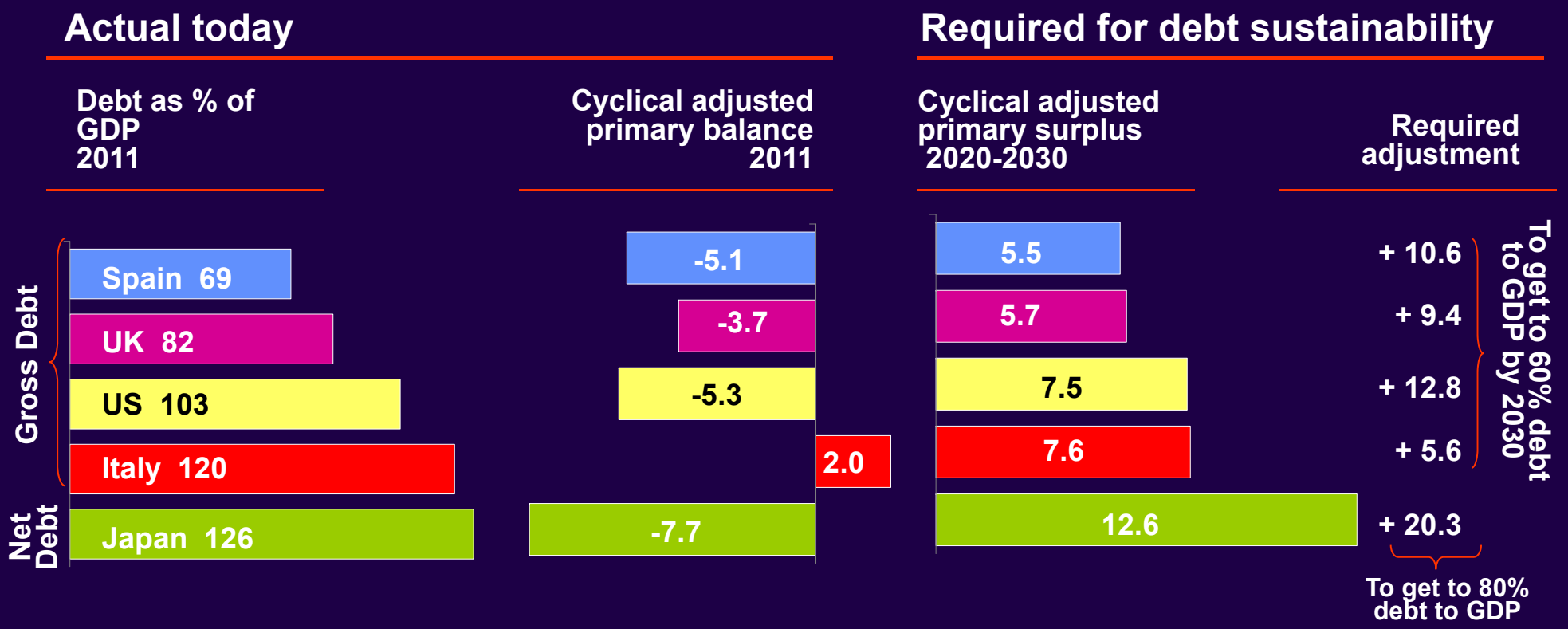
Bernanke was right

Current policy mix optimal, may post-fact be OMF, but is it worth saying so?

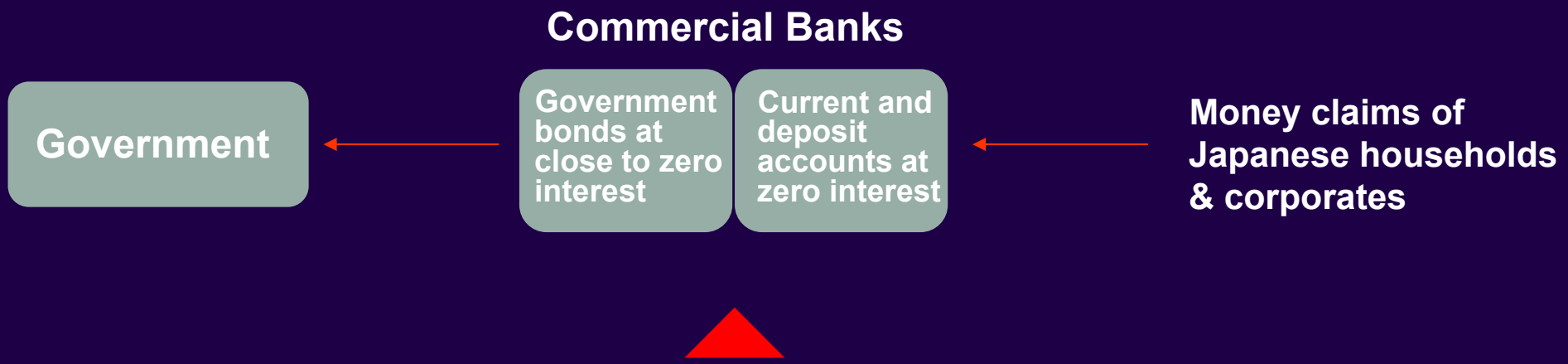
Optimal policy blocked by incomplete currency union

Supply constraints may be as important as demand

Fiscal adjustment required for long-term debt sustainability

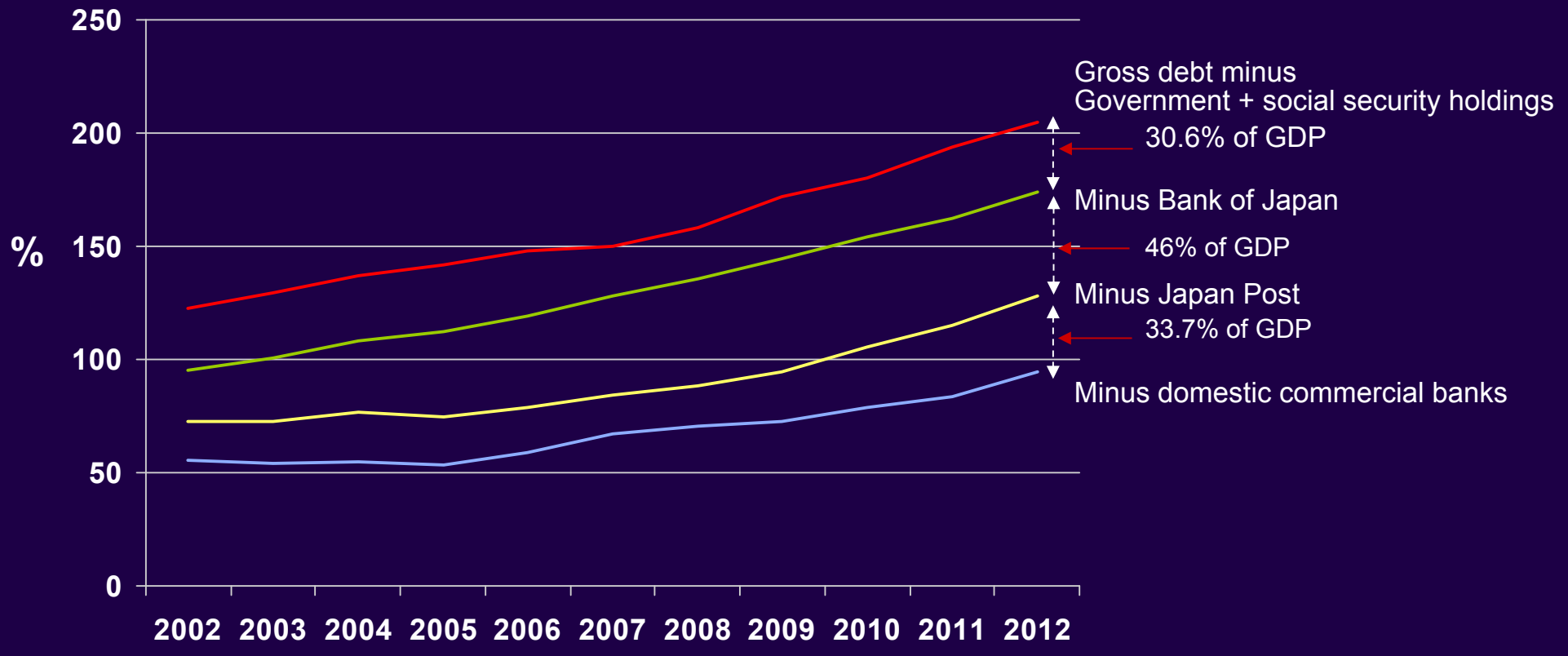


Money finance in Japanese system?



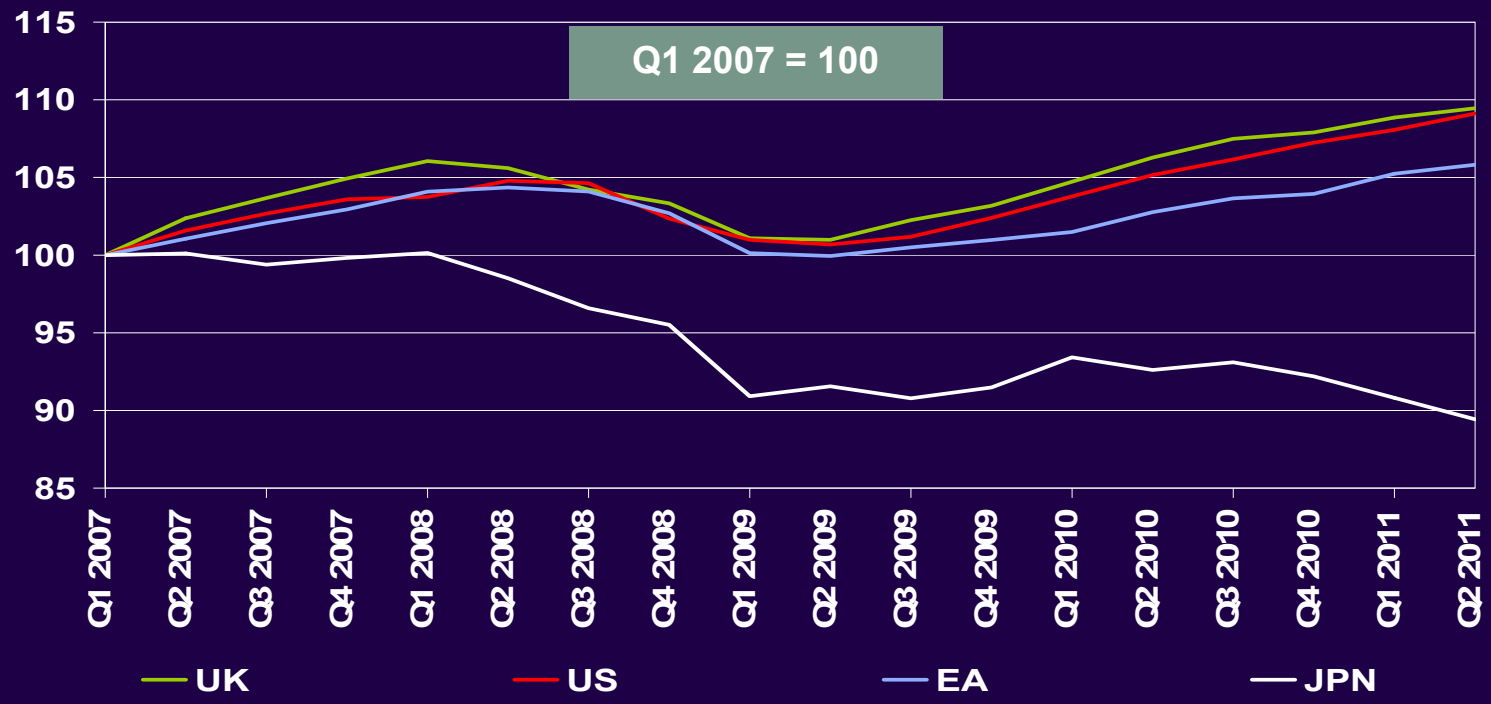
- Close to money financing of deficits
- Closer still if government owns banks
- Which it does in case of Japan Post

Japanese Government debt as % of GDP



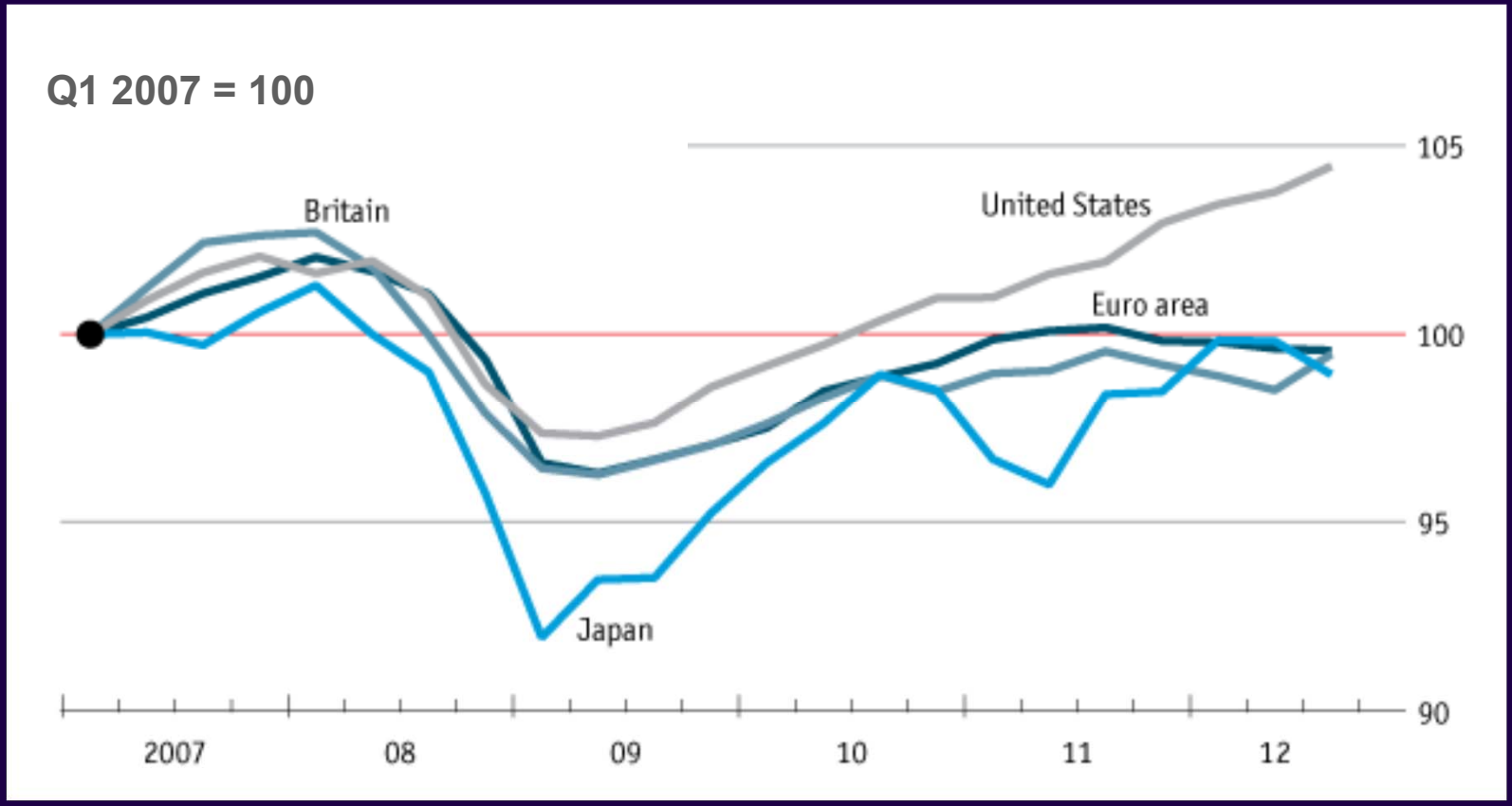
Source: Bank of Japan, data as at end 2012, Japan Post Holdings accounts end March 2012

Nominal GDP in four major economic areas: 2007 – 2011



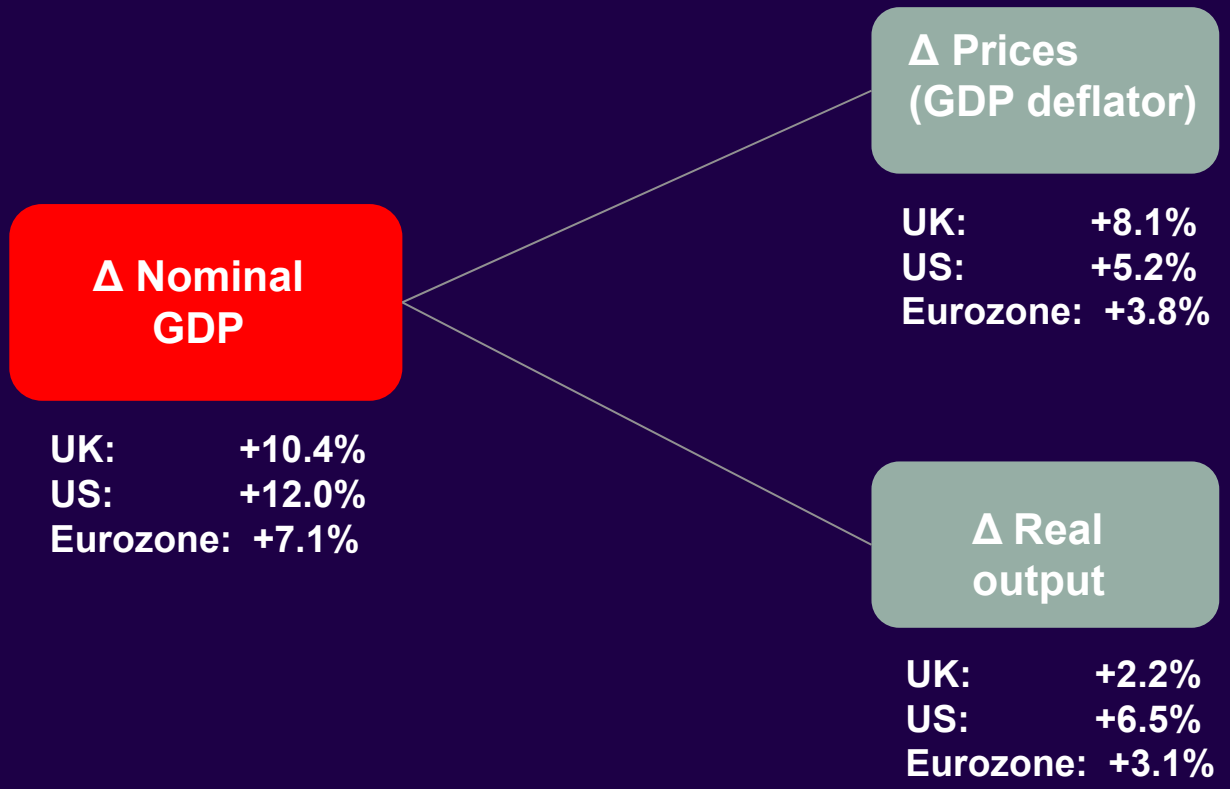
Source: ONS, BEA, Eurostat, Cabinet Office (Japan)

Developed economies' GDP growth

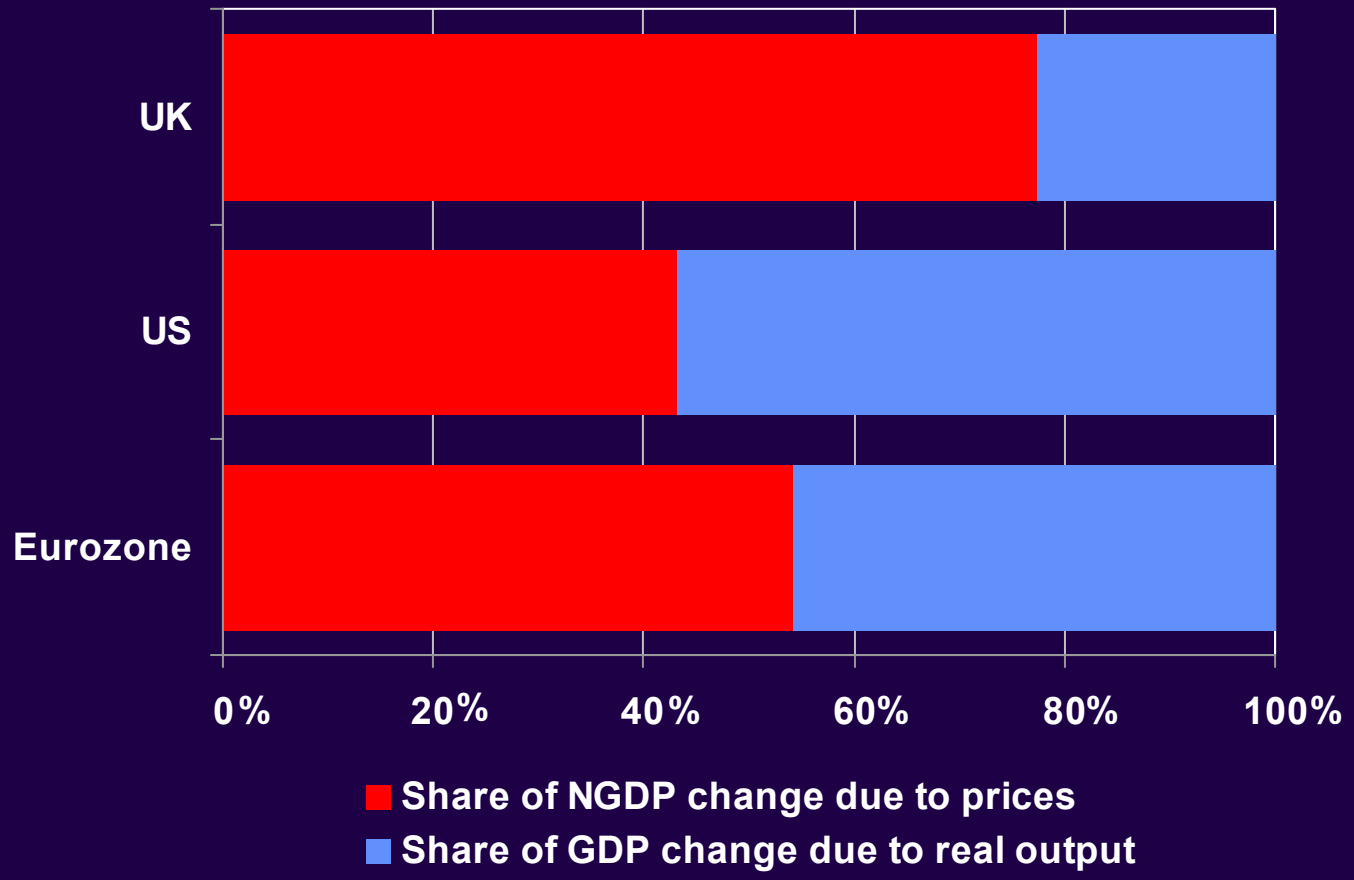


Source: McCulley and Pozsar

Breaking down of NGDP growth from trough (2009) to peak



Breakdown of NGDP growth from trough: 2009 to 2012



Conclusions

- Leverage and the credit cycle matter a lot
- Banks are different – arguments for freer markets don't apply
- Excess leverage crises are followed by attempted deleveraging – which changes appropriate macro-demand policy
- In the deleveraging cycle, monetary, credit support and macro prudential levers alone may
  - … become powerless
  - … have adverse side effects
- Fiscal multipliers are higher when interest rates are at ZLB
  - … but long term debt sustainability matters
- Governments and central banks together never run out of ammo: OMF is possible and
  - May have less adverse side effects
  - In technical terms, is no more inflationary than other levers
- But the political economy risks of OMF are huge
  - So need strong disciplines to constrain misuse
- Overt money finance should not be a taboo subject

Faust (Part II) and OPMF: how bad was it?

"Mephistopheles leaps to a single conclusion, that there has been too much deflation and austerity and what was lacking was money. There is, he says, plenty of gold and silver beneath the earth, and the Emperor simply needs to issue pieces of paper in the form of claims against the underground metallic treasure. The Emperor is suspicious of this clever advice.

But everything in the empire improves as a consequence of the introduction of paper money. The generals are pleased because the soldiers are paid once more, the treasurer finds that he can pay off all the debts, tailors are busily making new clothes, ladies become more willing to embark on well paid romantic adventures, the property market booms."

Harold James, *Germany should re-read Goethe's Faust Part II*, Financial News, October 2012

END