2017-8 Lecture Series:

Blueprint for Brexit Britain: The Structure of Finance

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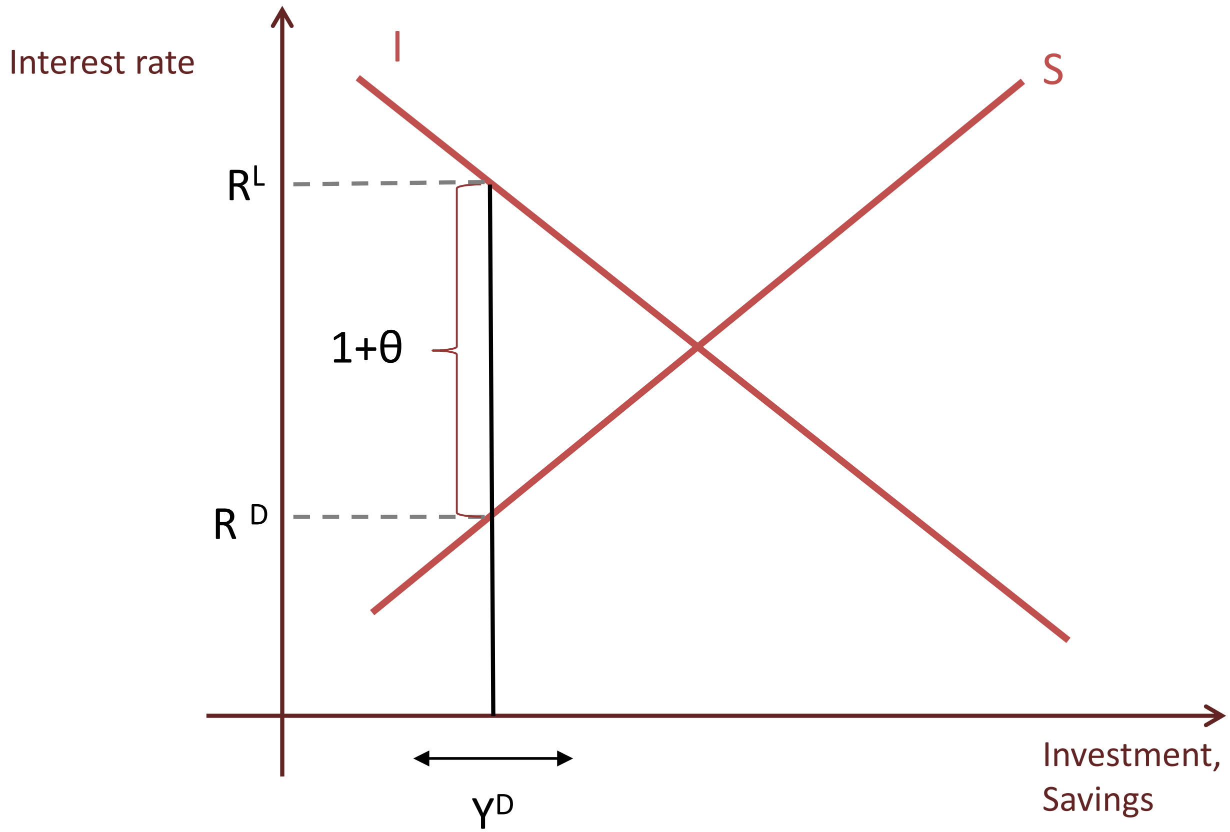
"I would rather see Finance less proud and Industry more content. The fact that this island with its enormous extraneous resources is unable to maintain its population is surely a cause for the deepest heart searching."

Winston Churchill, 1925

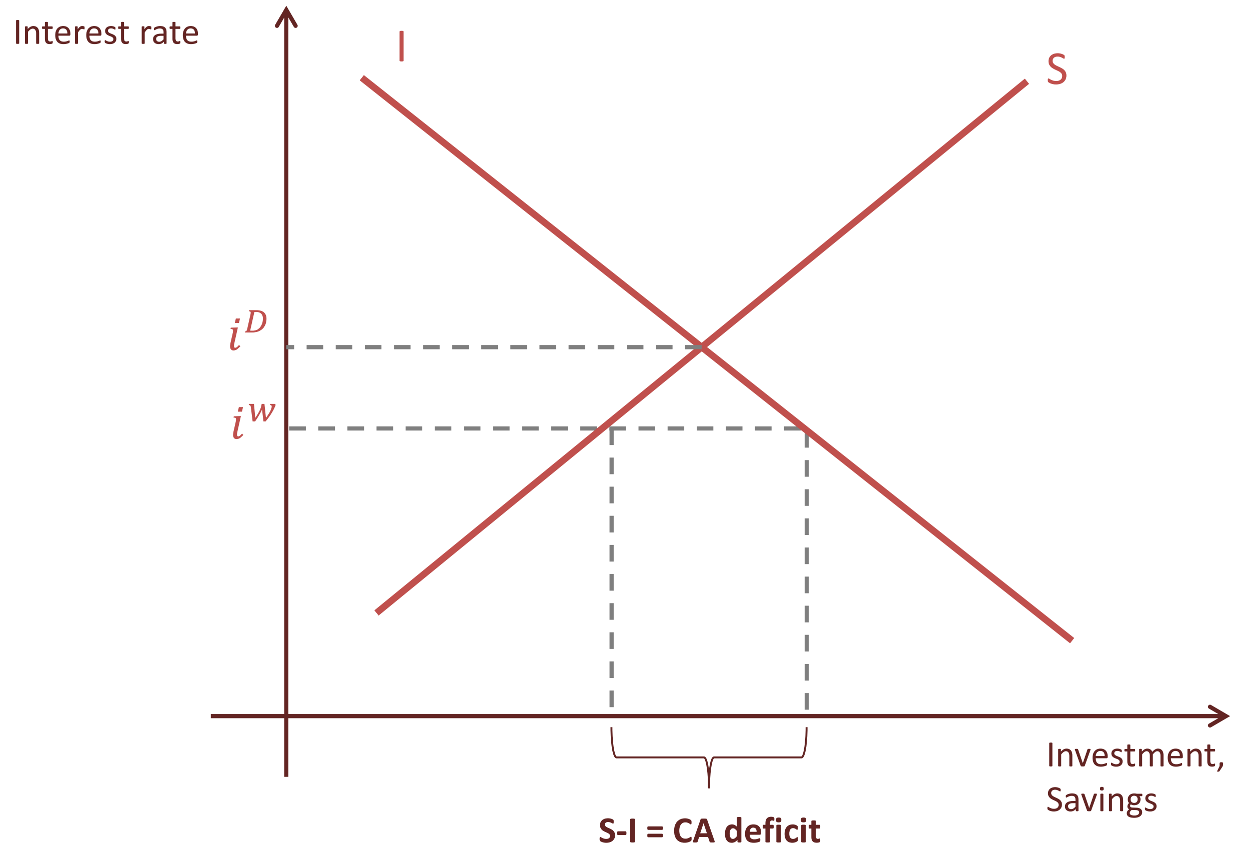
"We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time."

T. S. Eliot, Four Quartets, 1943

Saving and Investment in a closed economy

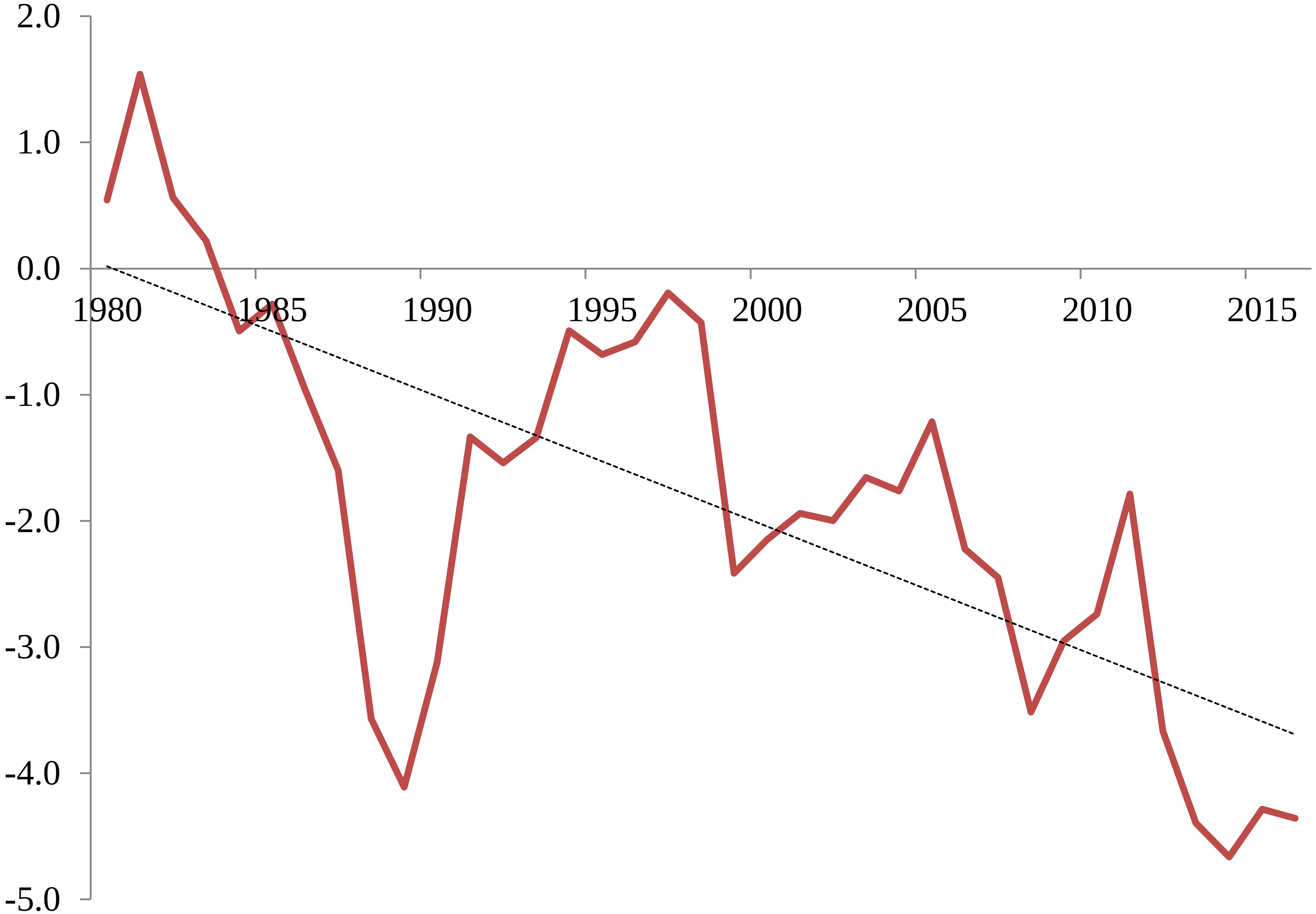


Saving and Investment in a small open economy



The shortage of domestic savings is met by the arrival of foreign capital

UK Current Account Balance as % of Nominal GDP



Breaking up the problem

	H0
T=0	S
T=1	S
T=2	C
T=3	
T=4	
T=5	
T=6	
T=7	
T=8	

Household 0 saves (S) 1/3 of period 0 income (Y) in period 0, 1/3 of income (Y1) in period 1 and consumes these savings = 2/3 of period income in periods 1 and 2

Sadly life ends after period 2

Households are born every period

Question:

Save under the bed or friend?

Place it with an institution?

The Sequence of Life

	H0	H1	H2	H3	H4	H5	H6
T=0	S						
T=1	S	S					
T=2	C	S	S				
T=3		C	S	S			
T=4			C	S	S		
T=5				C	S	S	
T=6					C	S	S
T=7						C	S
T=8							C

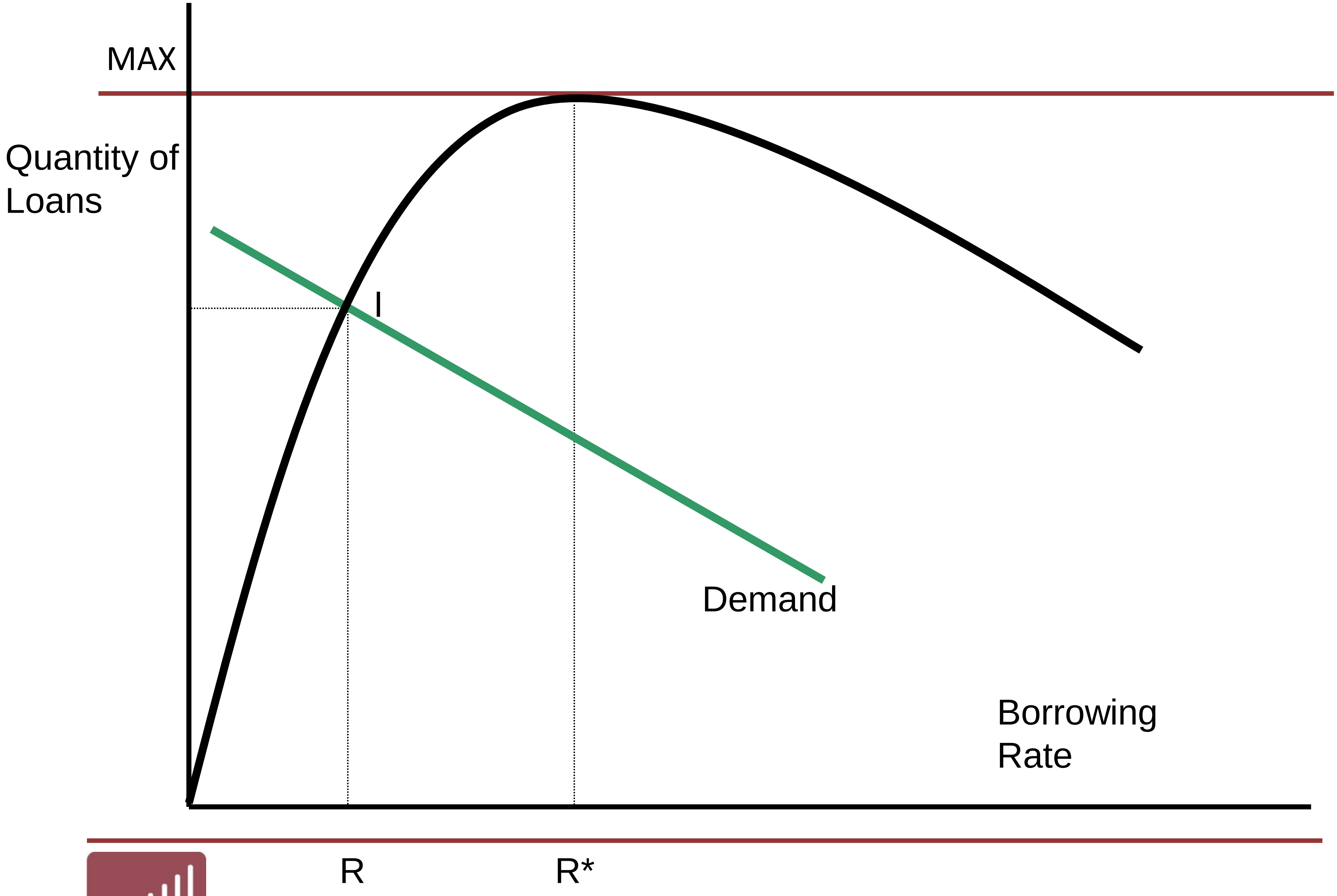
Intermediation

	H0	H1	H2	H3	B1	B2	B3
T=0	S						
T=1	S	S			D=2S		
T=2	C	S	S			D=2S	
T=3		C	S	S			D=2S
T=4			C	S			
T=5				C			

- Banks always have a stock of savings but the deposits are for two periods only – **maturity transformation**

- By identifying lending opportunities we arrive at **full employment** i.e. Y(N)=C(N-2)+C(N-1)+C(N)

Constrained Lending



Bank and Central Bank Insurance

Bank A	
Assets	Liabilities
Reserves	Retail Deposits
Loans	Wholesale Deposits
	Capital

Bank B	
Assets	Liabilities
Reserves	Retail Deposits
Loans	Wholesale Deposits
	Capital

OFI	
Assets	Liabilities
investments (low)	Pensions
investments (high)	Insurance claims

Monetary Authorities	
Assets	Liabilities
Bonds	Central Bank Money
Capital	

- Money markets allow ironing out of liability wrinkles - central bank stands at centre.

Story so far

The External Position

- The UK has a persistent, chronic current account deficit that implies borrowing from abroad
- Might imply borrowing from a richer future
- Or a response to relaxed financial frictions over the forty year period of financial liberalisation
- The NIIP is -4.39% of GDP as of 2016

The Bank Problem

- To match savers and borrowers
- Asymmetric information
- Network effects or externalities
- Liquidity to offset Bank Runns
- And capital choices to absorb losses and provide returns to shareholders
- Central Bank stands behind the system by issuing government liabilities

Commercial Bank Balance Sheet

Assets (A)	Liabilities (L)
Reserves or Liquid Assets $= R = (1-\lambda)A$	**Deposits** $= (1-\mu) L$
Loans $= \lambda A$	**Capital** $= \mu L$

Bank Problem

$R^L = (1+\theta)\, R^D$ Loan rate is a spread over the deposit rate

$A = L$ Assets equal liabilities

λ = fraction of illiquid assets

μ = fraction of capital/equity on bank balance sheet

$\pi = R^L \text{Loans} - R^D \text{Deposits} - F$ Flow profits are interest received on loans - interest paid on deposits - fixed costs

$$\pi = (1+\theta)\, R^D \lambda A - R^D (1-\mu) A - F$$

$$\frac{d\pi}{dA} = 0: \qquad \frac{(1-\mu)}{\lambda} = 1+\theta$$

Choice on liquidity and capital **pins** down the finance spread/premium

Bank Problem II

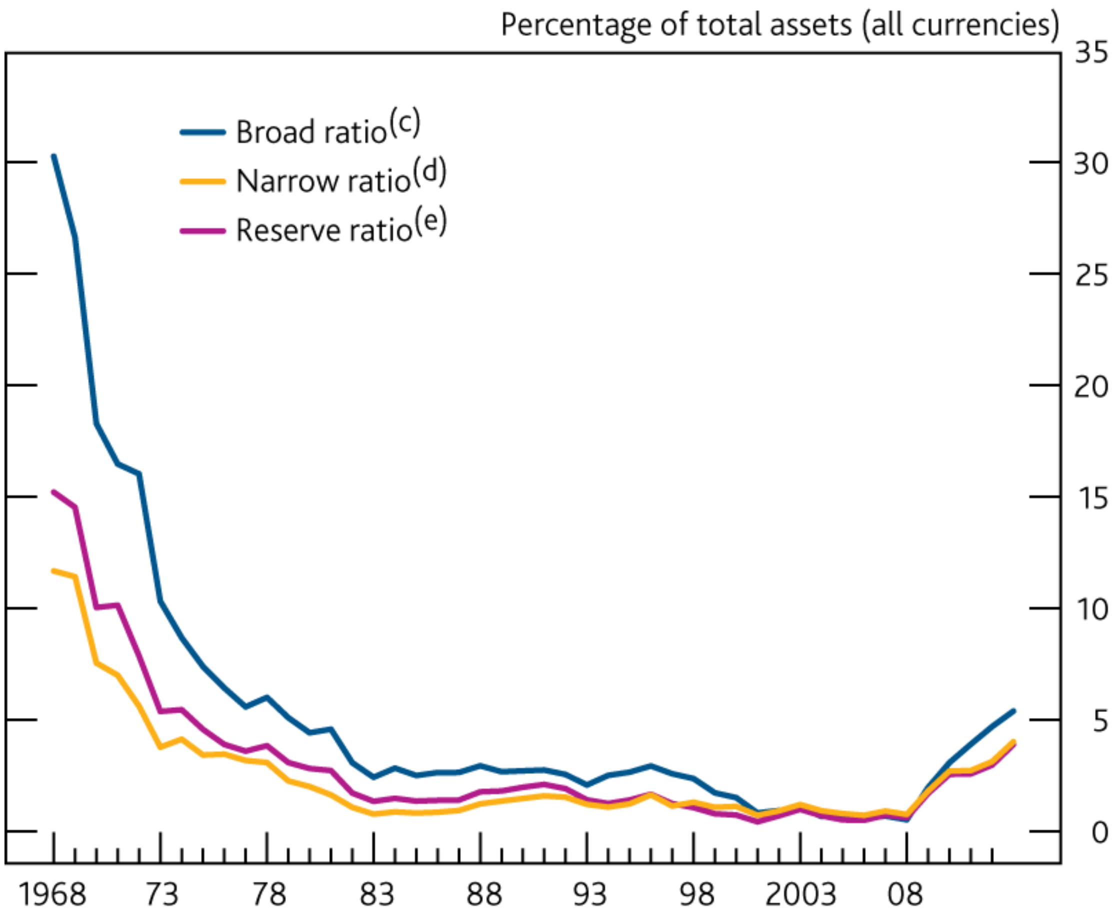
$\frac{d\pi}{dA} = 0$: $\qquad \frac{(1-\mu)}{\lambda} = 1+\theta$

Choice on liquidity and capital **pins** down the finance spread/premium

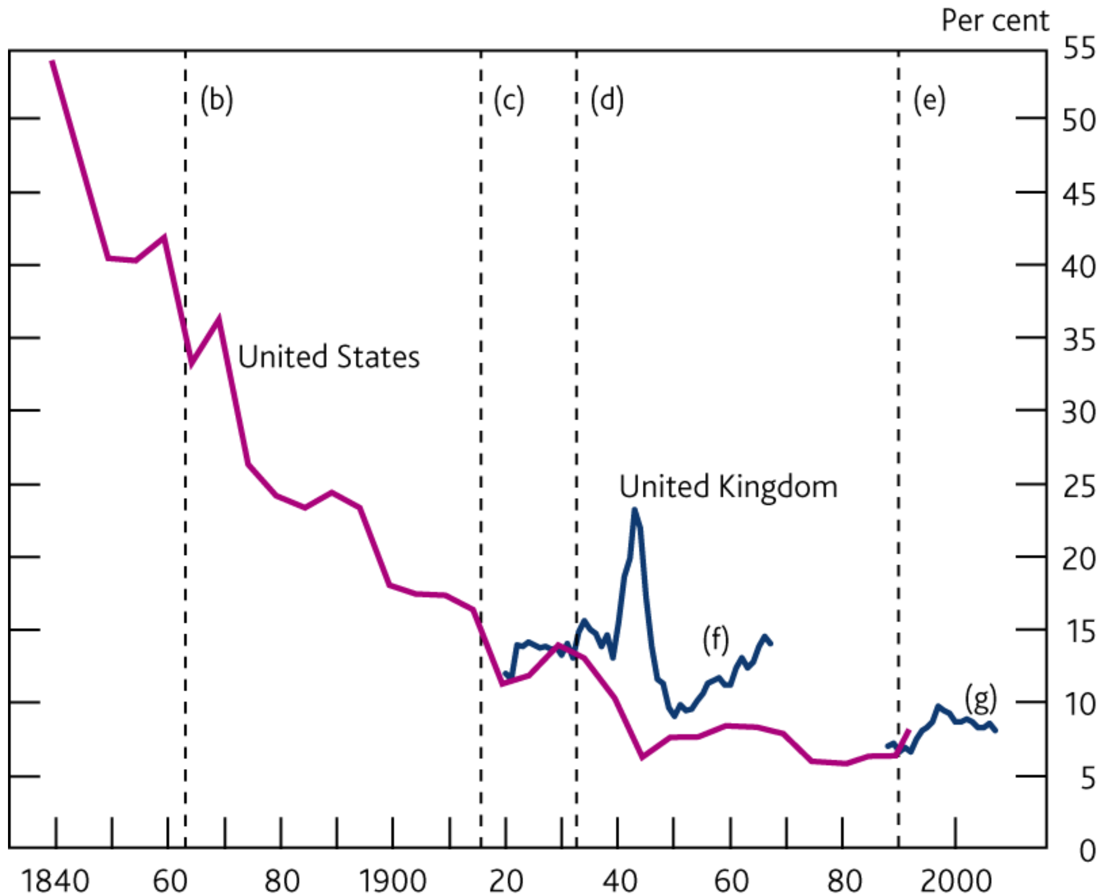
- If banks can have higher fractions of loans compared to liquid reserves, λ, then they can lower the loan rate spread
- If banks can reduce their capital (or equity) then there is less pressure to increase the spread to fund activity
- But $\frac{\pi}{\mu L}$ i.e. rate of return on capital will fall

Long run falls in capital and liquid assets might offset each other and lead to little change in mark-ups

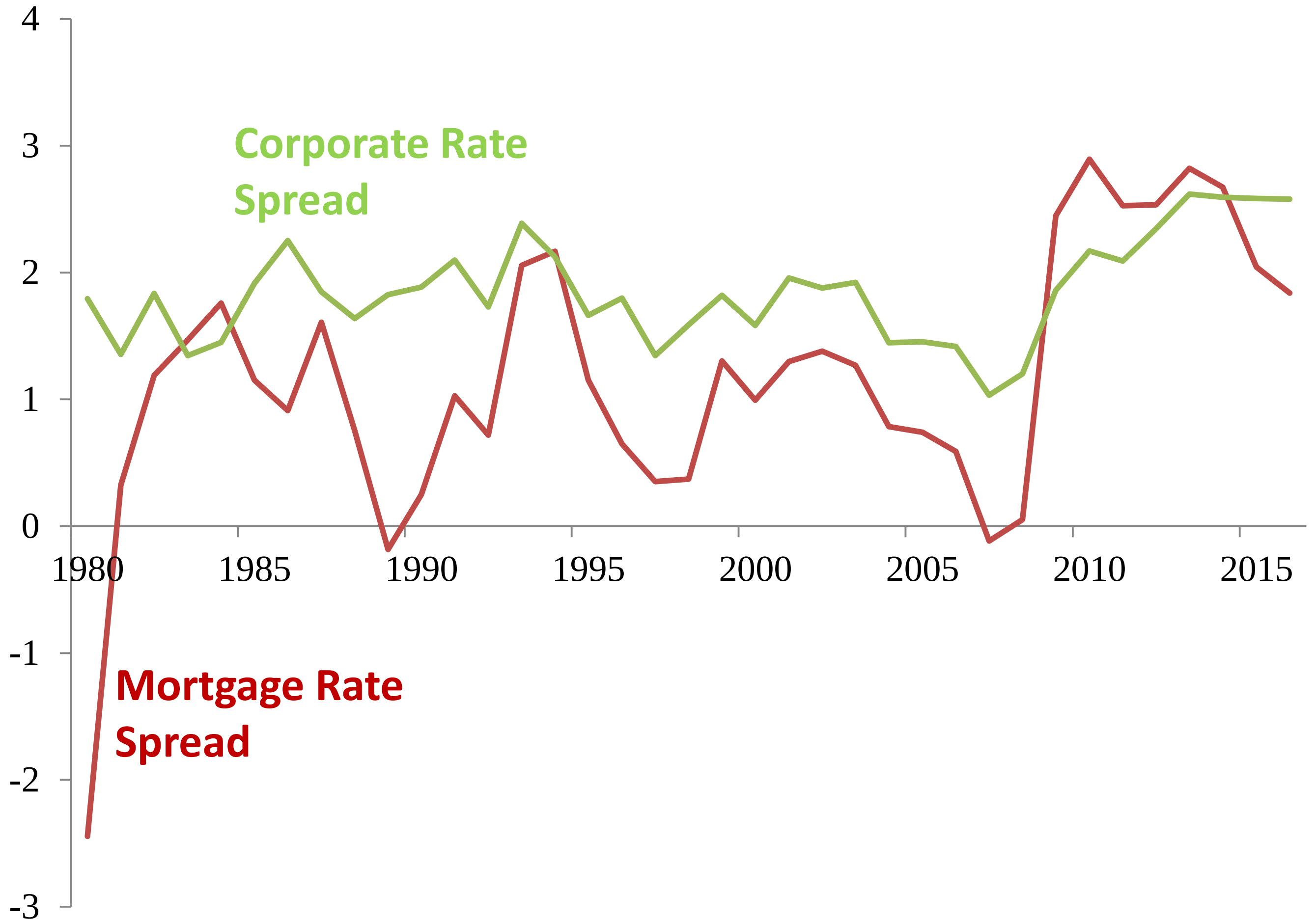
Sterling liquid assets/total asset holdings in UK



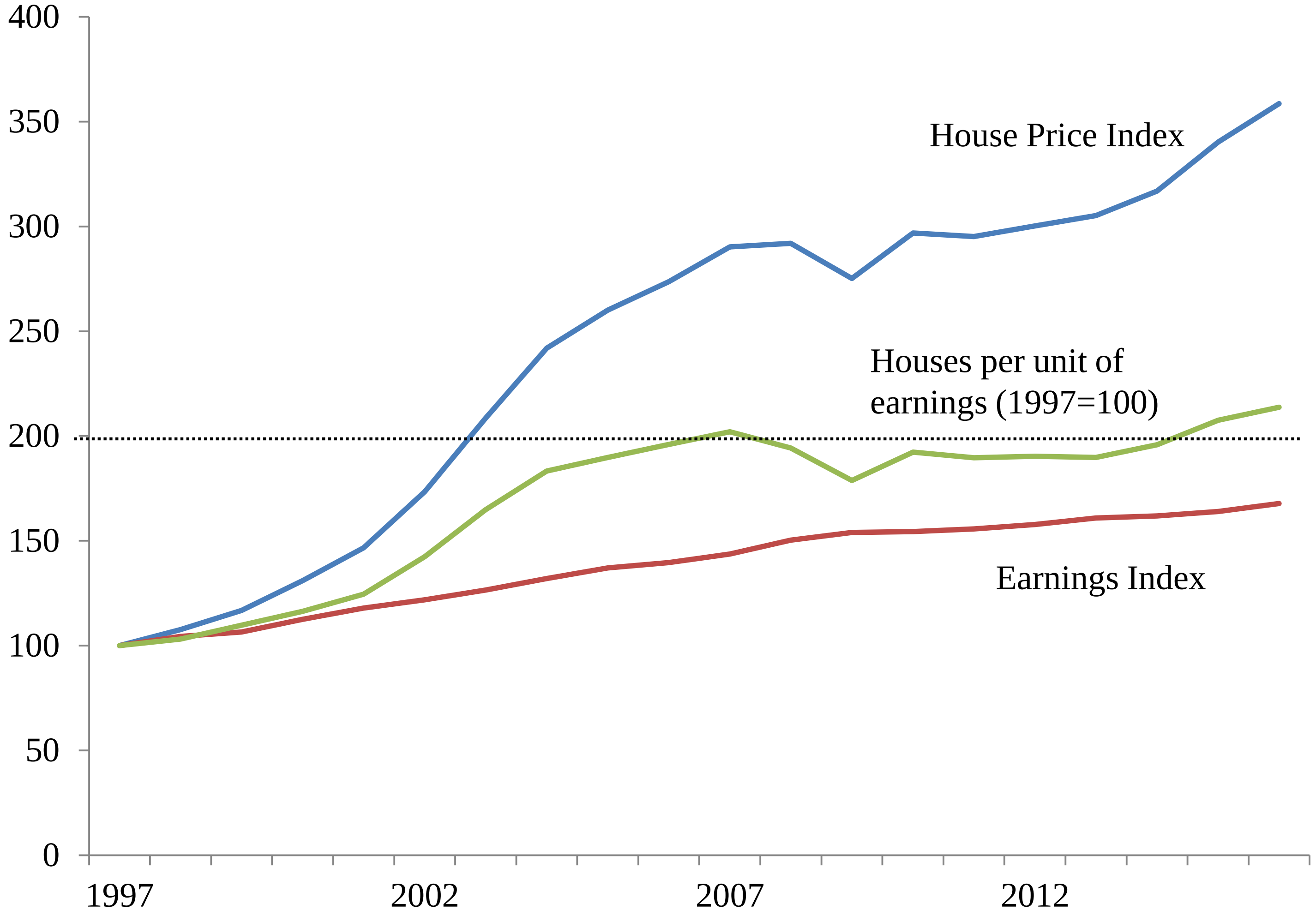
Long-run capital levels for UK and US banks



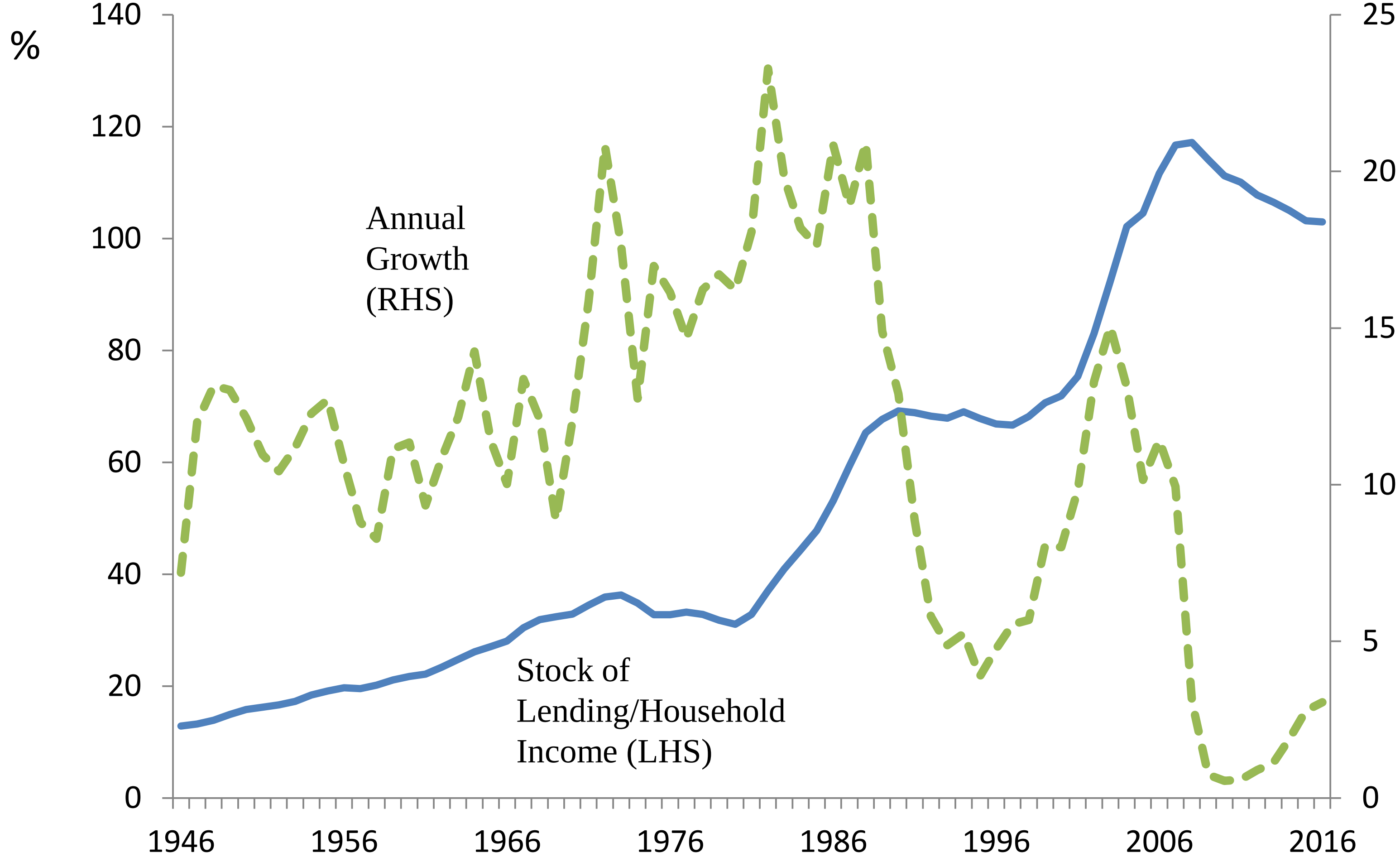
Corporate and Household Borrowing Spreads



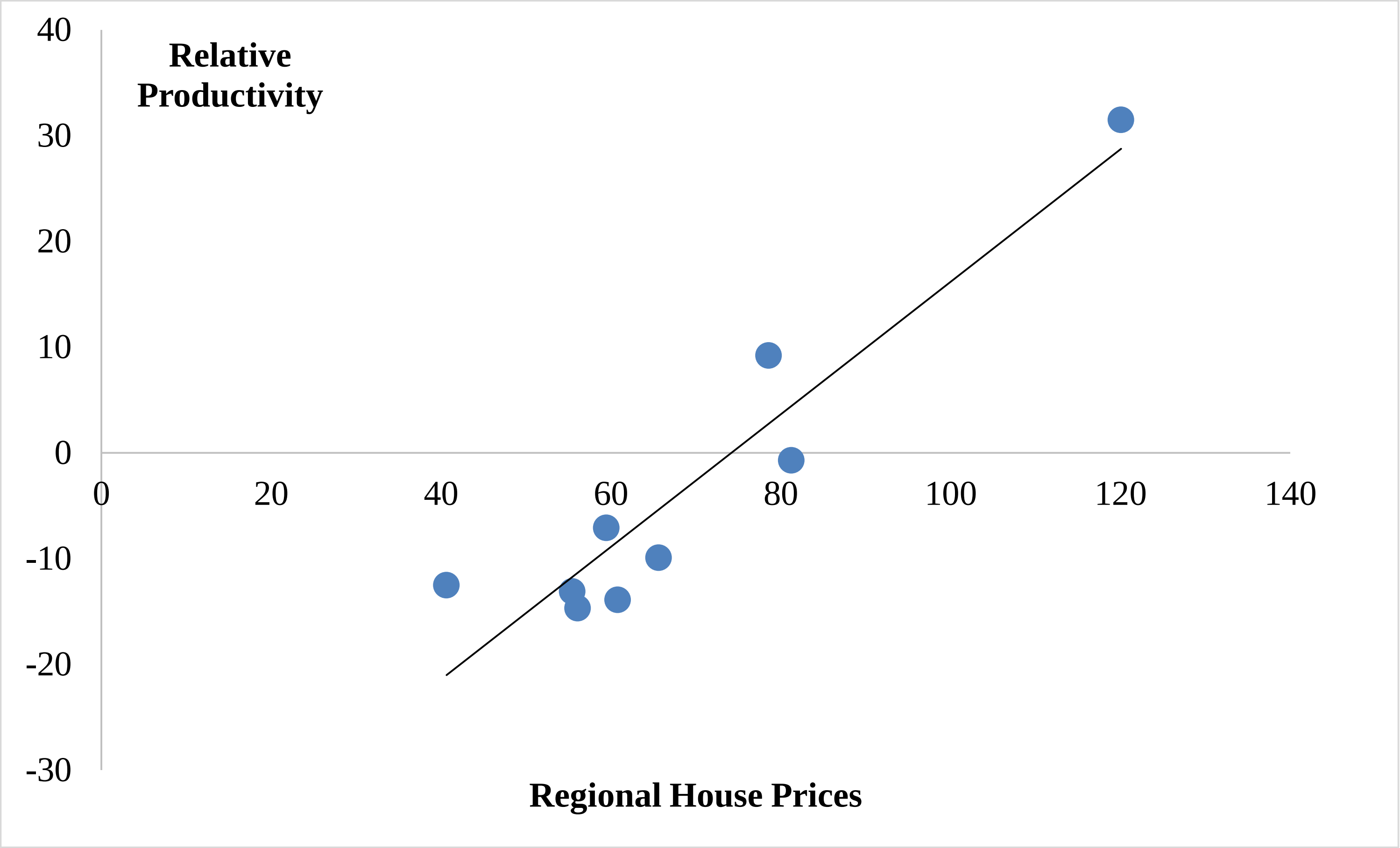
Affordability of Housing in the last 2 decades



Secured Lending to Households and NPISH



Regional English House Price Rises versus Relative Productivity



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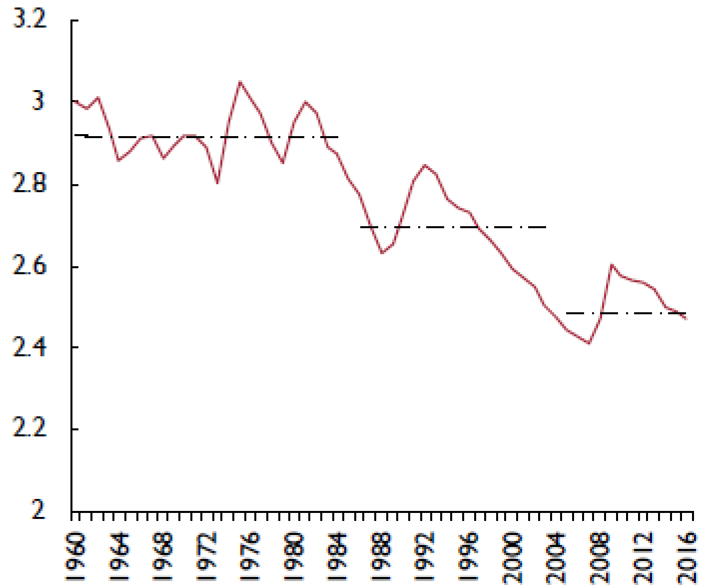
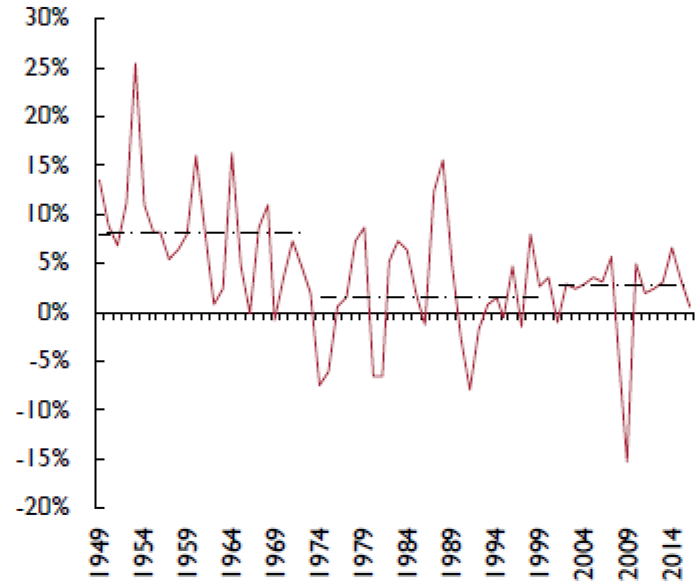
Capital Employed Dwindling

Capital–output ratio at constant prices 1960–2016



Source: European Commission and NIESR.

Real investment growth 1949–2016



Source: ONS and NIESR.

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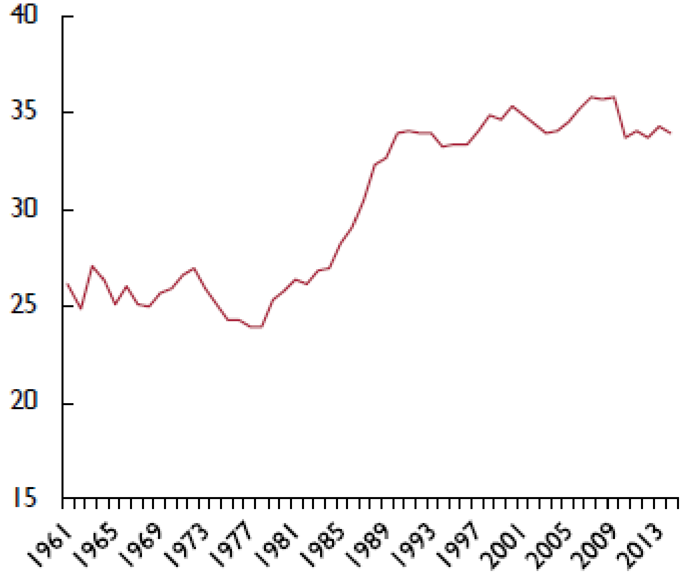
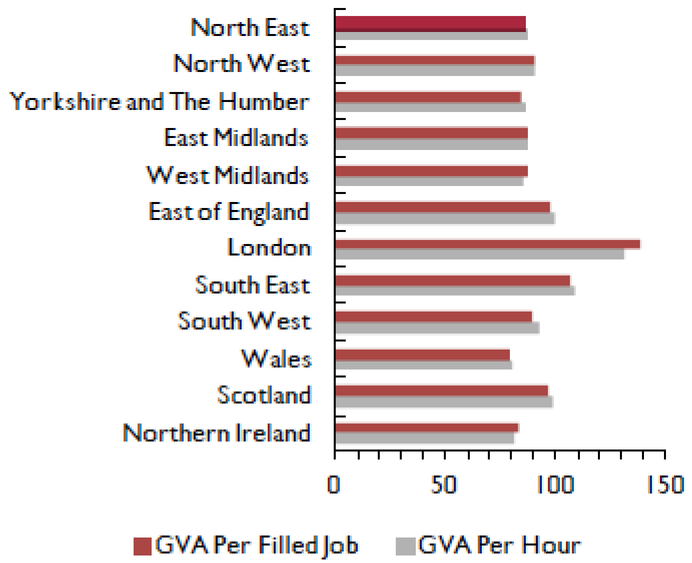
Income Inequality and Regional Productivity

UK Gini coefficient 1961–2014



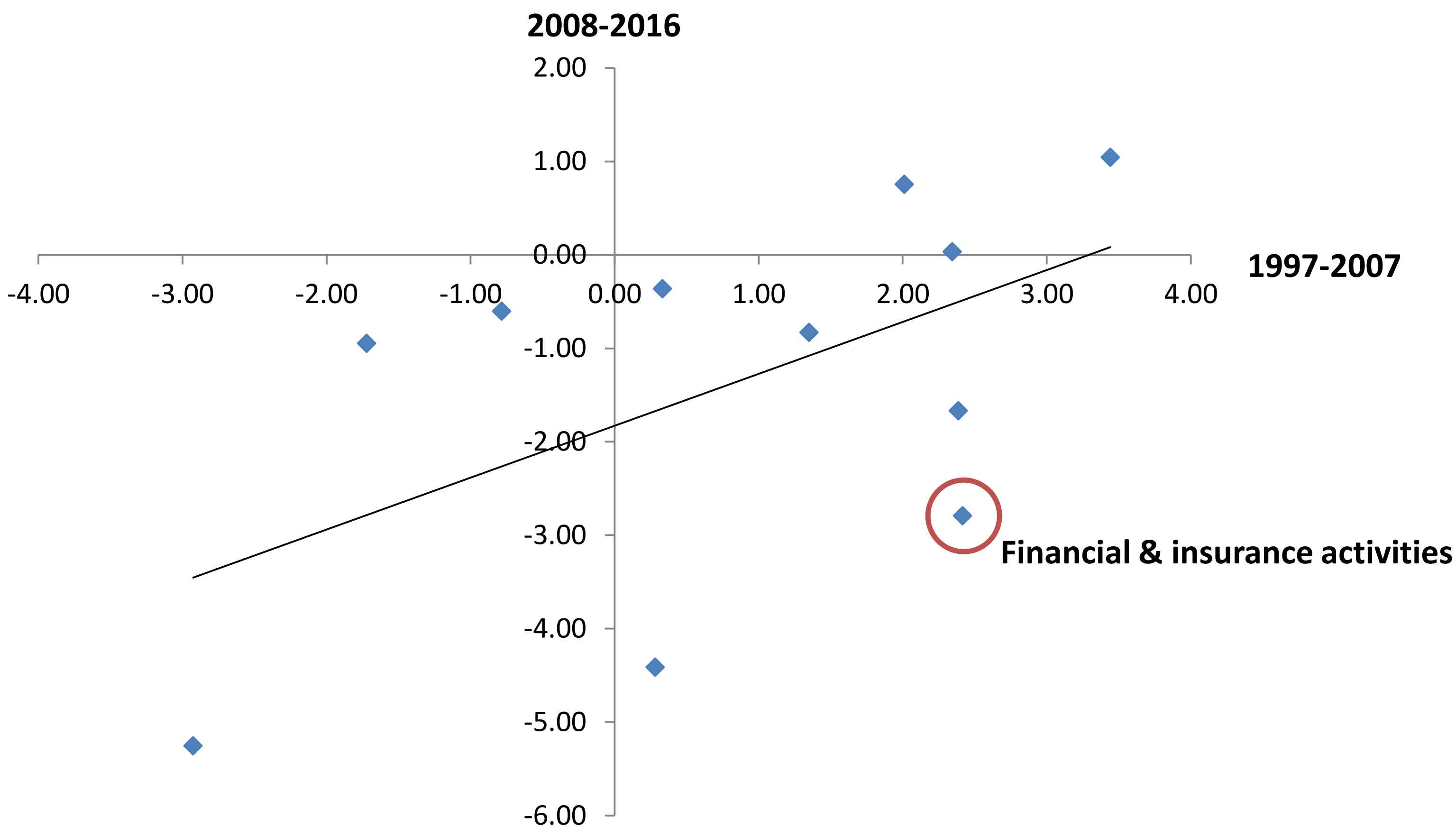
Source: *The chartbook of economic inequality*, Atkinson *et al.*

Labour productivity by NUTS 1 region or country, 2015



Source: ONS and NIESR, UK=100.

MFP contribution to GVA growth before and after the crisis



Source: ONS and NIESR

Measuring Financial Sector Output

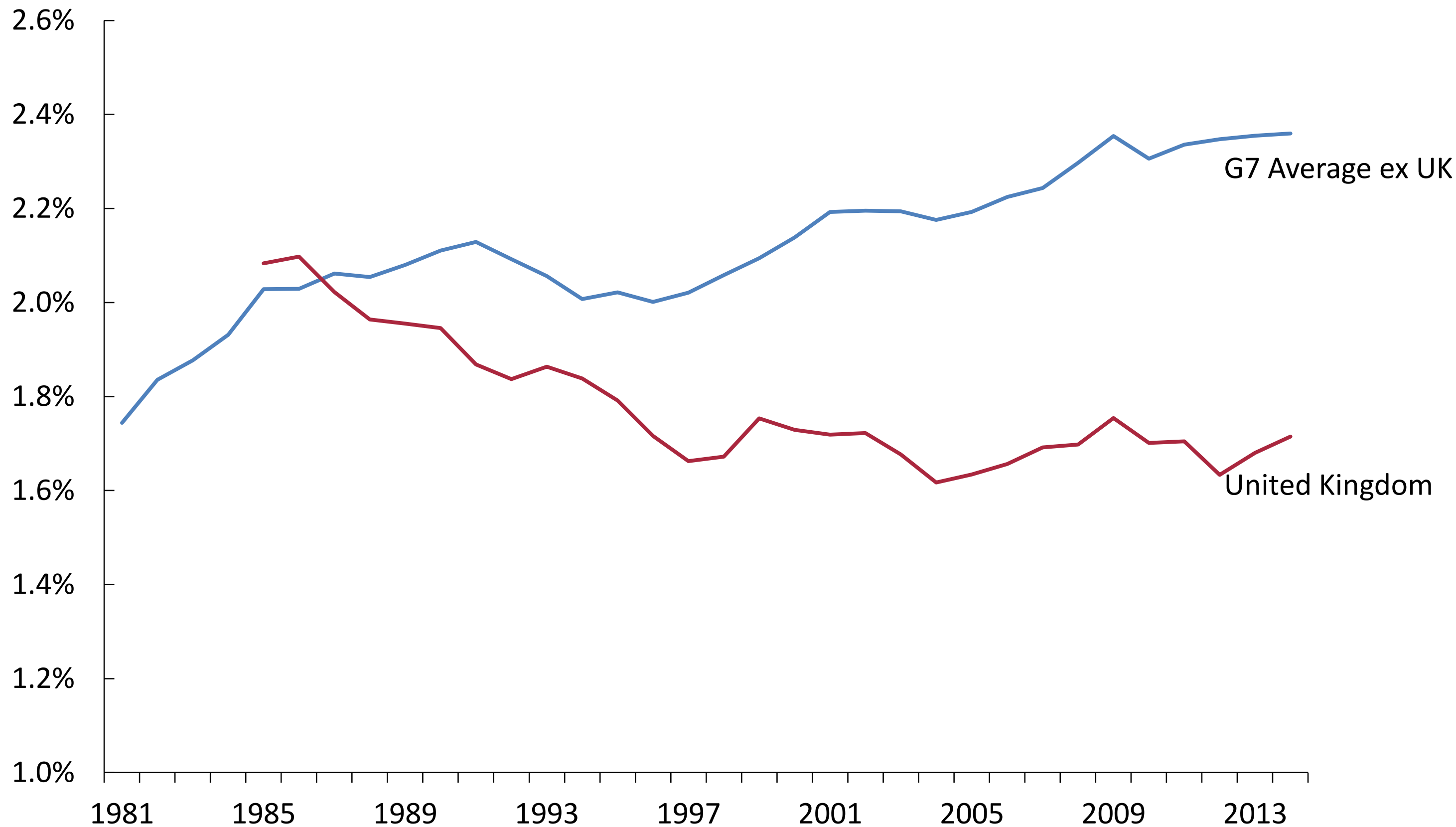
Table 5. Financial intermediaries output measure

Sector	Measurement method
Banking sector[a]	Fees and commissions receivable Net spread earnings Other operating income Financial Intermediation Services Indirectly Measured (FISIM)
Non-banking financial intermediaries	FISIM Value of funds under management for investment funds

Source: Burgess (2011).

Note: (a) Deflation made using AWE series for the financial services industry, excluding bonuses and adjusted for changes in productivity.

R&D expenditure to GDP ratio in the UK and rest of G7 average, 1981-14



Source: OECD, NIESR

Estimates of the stock of external finance for UK businesses

£ billions	Bank lending[b]				Bonds Markets (public)	Insurance companies and pensions funds	Asset-based finance (eg factoring and invoice	Peer-to-peer lending
Source	Bank of England				ONS[f]	ONS[g]		Peer-to-Peer Finance Association[j]
Type	PNFCs[c]	Total non-financial[d]	SMEs[e]	Large[e]			Total advances[h]	
Code	B4VR	B4H3 Z8YJ	Z8YH	Z8YI	KLB6	RLKA		
2009	531	583			268	22	14	
2010	479	536			265	23	15	
2011	450	504	189	315	300	31	16	
2012	427	472	176	296	328	34	17	
2013	406	448	166	282	336	35	18	
2014	390	435	167	268	330	38	19	0.6
2015	387	430	164	265	313	38	20	1
2016	402 (Aug.)	445 (Aug.)	161 (Aug.)	284 (Aug.)	351 (Q2)	39 (Q2)	20 (Q2)	1 (Q2)

Government Support

- **Recapitalisation of Lloyds Banking Group (Lloyds) and Royal Bank of Scotland (RBS)** through a series of transactions eventually acquiring 83 per cent of RBS (but 68 per cent of the voting rights) and 41 per cent of Lloyds (of both ordinary shares and voting rights).
- **Lending money to the Financial Services Compensation Scheme (FSCS)** so it could guarantee customer deposits of up to £50,000. The limit has been increased since then, most recently in January 2017 it was increased to £85,000.
- **Lending directly to insolvent banks so they could repay customer deposits of over £50,000**, including to London Scottish Bank, Dunfermline Building Society and the Icelandic Banks – Heritable, Kaupthing Singer and Friedlander, and Landsbanki.
- **Nationalising Northern Rock and Bradford & Bingley (B&B)** to protect their depositors and facilitate the orderly unwinding of their obligations and HM Treasury's guarantees.
- The **Special Liquidity Scheme**, introduced in April 2008 and lasting until January 2012, to increase the liquidity of UK banks. It was a Bank of England (BoE) scheme, supported by a HM Treasury guarantee, under which banks swapped assets for more liquid Treasury Bills in return for a fee.
- The **Credit Guarantee Scheme**, introduced in October 2008, to help restore investor confidence in bank wholesale funding by guaranteeing certain unsecured debts in return for a fee. The scheme closed in 2012.
- The **Asset Protection Scheme**, announced in January 2009, to protect assets on banks' balance sheets. RBS and Lloyds initially agreed in principle to join, but in the end only RBS joined. The scheme closed in 2012.

Economic Issues

- Lending is property based
- Household sector is “overweight” housing wealth with c £1.7Tn loans
- Significant regional and distributional issues
- Capital stock, investment and productivity seems to have fallen short

Financial Sector

- Determines the level of output
- Subject to informational constraints and network/externalities
- Cannot self-insure so needs liquidity and capital
- Measured productivity in the sector has fallen post-crisis

Case for a Development Bank

- Government owned or significant capital stake
- Can be directed in certain areas e.g. SMEs, start-ups, perhaps even venture capital
- Could have a regional bias or flavour e.g. Liverpool Development Bank

Questions

- Projects must still be able to provide a rate of return without subsidised lending
- Might offer better screening and matching function for long term investment
- British Business Bank set up in 2012 with £1bn of government funding
- Macro-Prudential Instruments and the centralised rules of modern banking might mean there are individuals who are perfectly good risks that are not getting finance
- Can we identify shortfalls in lending finance independently of the state of the economy?