

# Reforming monetary, fiscal and prudential policy after the financial crisis

Tony Yates

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# Argument in brief

- Crisis undermined pre-existing consensus over proper roles and targets and institutions for monetary, fiscal and financial policy
- What looked like a great macroeconomic calm engineered by a 'science of monetary policy' was an illusion.
- In future, many reforms may be needed to avoid a repeat.

# Reform:

- Higher inflation targets
- Institutions for discretionary fiscal policy at the ZLB;
- International policy coordination;
- Prudential regulation as a form of capital control
- And more...

**PRE-CRISIS CONSENSUS**

# Consensus before the crash: domestic macroeconomic policy

- Inflation targeting: 2%
- Compromise between: Friedman Rule, menu costs of inflation, zero bound considerations, inflation overstatement, downward nominal wage rigidity.
- Zero bound of academic interest alone.
- Discretionary fiscal policy not needed to achieve macro stability, and in fact damaging.
- Central bank independence necessary and sufficient for macro stability.

Table 2: Effect of Altering the Shock-Process Sample Period on Estimated Probabilities of ZLB Events and Confidence Intervals for Projections of Interest Rates, Inflation and Real Activity, Hopping off from Conditions in 2007Q4<sup>1</sup>

	FRB/US	EDO	SW	LW	TVP-VAR	GARCH
<i>Based on long sample ending in 2007<sup>2</sup></i>						
Probability of a ZLB event on or before 2012Q4	0.03	0.10	0.19	0.09	0.09	0.29
Probability of a 4-quarter ZLB event on or before 2012Q4	0.01	<0.01	<0.01	0.05	0.04	0.12
Probability of a 8-quarter ZLB event on or before 2012Q4	<0.01	<0.01	<0.01	0.01	0.01	0.03
95 percent confidence intervals for conditions in 2012Q4						
Federal funds rate	0.9, 8.8	0.3, 9.8	0.3, 9.3	0.2, 10.1	-0.1, 7.7	-1.6, 10.2
Inflation rate	0.6, 4.0	-1.1, 6.2	-1.9, 6.4	-0.7, 5.7	-0.7, 5.7	
Output gap	-4.8, 4.9	-3.3, 2.9	-3.6, 5.1	-6.2, 4.6		
Unemployment rate	2.3, 7.8				2.9, 6.4	
<i>Based on long sample ending in 2010<sup>2</sup></i>						
Probability of a ZLB event on or before 2012Q4	0.09	0.23	0.25	0.09	0.24	0.36
Probability of a 4-quarter ZLB event on or before 2012Q4	0.04	0.02	0.01	0.05	0.12	0.18
Probability of a 8-quarter ZLB event on or before 2012Q4	0.01	<0.01	<0.01	0.01	0.03	0.05
95 percent confidence intervals for conditions in 2012Q4						
Federal funds rate	0.2, 9.0	0.3, 9.4	0.3, 8.6	0.1, 10.2	-2.3, 9.8	-2.5, 10.4
Inflation rate	0.4, 4.2	-1.7, 5.8	-2.3, 5.9	-0.7, 5.7	-1.6, 6.2	
Output gap	-5.3, 5.0	-3.4, 3.3	-4.5, 5.2	-6.4, 4.7		
Unemployment rate	2.1, 8.1				1.4, 8.2	
<i>Based on 1984-2007 sample</i>						
Probability of a ZLB event on or before 2012Q4	0.01	0.02	0.02	0.05		
Probability of a 4-quarter ZLB event on or before 2012Q4	<0.01	<0.01	<0.01	0.02		
Probability of a 8-quarter ZLB event on or before 2012Q4	<0.01	<0.01	<0.01	<0.01		
95 percent confidence intervals for conditions in 2012Q4						
Federal funds rate	1.3, 8.1	0.8, 7.0	1.7, 7.2	0.1, 9.1		
Inflation rate	0.8, 3.7	0.9, 3.7	0.1, 3.7	0.0, 5.0		
Output gap	-3.8, 3.9	-2.7, 1.5	-3.6, 4.4	-5.3, 3.8		
Unemployment rate	2.9, 7.3					

1. In all models, the federal funds rate follows an estimated equation. Estimates do not include the effects of uncertainty about parameters and latent variables.
2. The sample starts in 1968 except for LW, in which case the sample starts in 1961.

# Consensus before the crash: financial policy

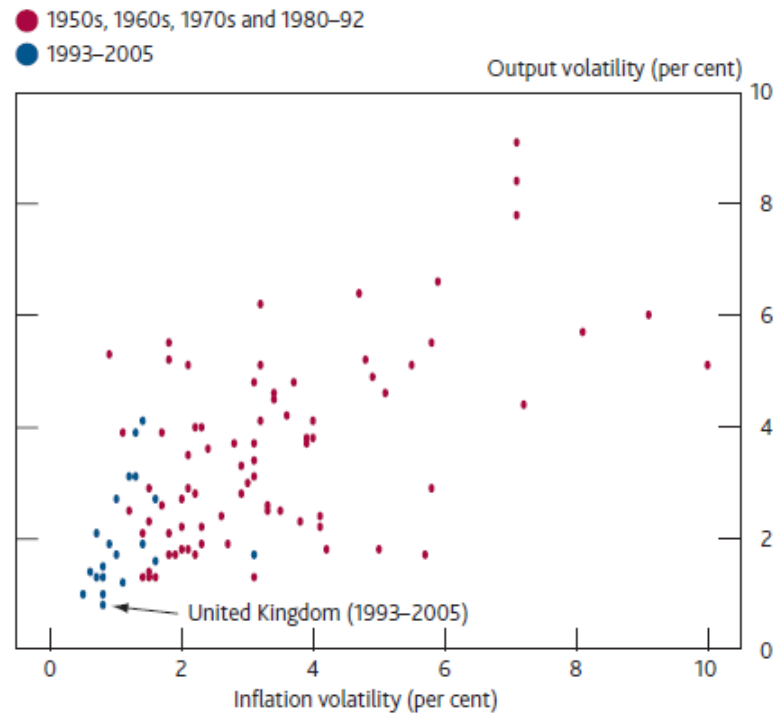
- Financial intermediaries have adequate incentives to manage own risks, and risks of the system.
- IT and financial innovation that has deepened the market for new securities has improved risk management.
- Don't interfere in a cyclical way with banks' balance sheets

## Consensus before the crash: international macro policy

- Capital controls: bad, sign of failure. Something that signifies emerging, not developed economy status.
- International monetary policy coordination: would be nice, but cost of not having it not so great.
- Individual countries pursuing flexible inflation targets will generate global monetary calm in exchange rates and capital flows.



**Chart 1** Inflation and real output growth volatility across countries

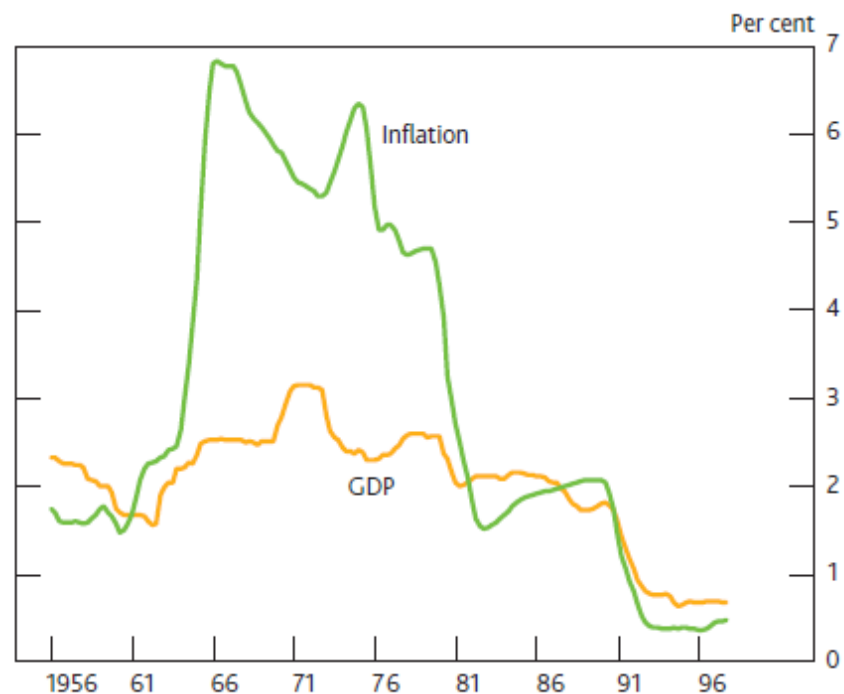


Note: The scatter plot shows the standard deviation of inflation and output growth for each of 20 industrial countries in different periods of similar length from 1950 to 2005.

Source: Global Financial Data.

Source: Young, G (2008), 'On the sources of macroeconomic stability'. A write up of a conference held in August 2007 to celebrate the Great Moderation, overlapping with the collapse of Northern Rock.

Chart 2 Inflation and real output growth volatility in the United Kingdom



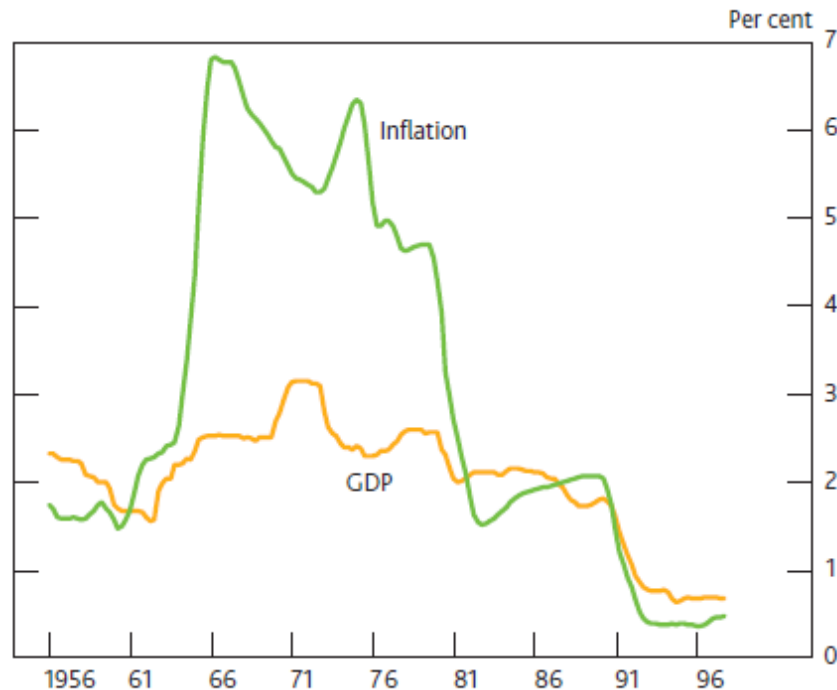
Notes: Rolling ten-year standard deviations of four-quarter GDP growth and RPIX (RPI before 1976) inflation. Standard deviations are leading, so the final observation on the chart is 1998 Q1 showing the standard deviation over the subsequent ten years.

Source: Young, G (2008), 'On the sources of macroeconomic stability'

# Great moderation research questions

- How much of the miracle fall in volatility was good luck?
- How much of it was good policy?
- To the extent that it was good policy:
  - Which particular policy had been instrumental in ending the business cycle?
  - Independent cb's? Inflation targeting?  
Abandoning disc fiscal policy?

Chart 2 Inflation and real output growth volatility in the United Kingdom



Notes: Rolling ten-year standard deviations of four-quarter GDP growth and RPIX (RPI before 1976) inflation. Standard deviations are leading, so the final observation on the chart is 1998 Q1 showing the standard deviation over the subsequent ten years.

Fall in *both* output and inflation volatility confounded old idea of 'Taylor Curve'.

Lowering inflation volatility should *raise* output volatility.

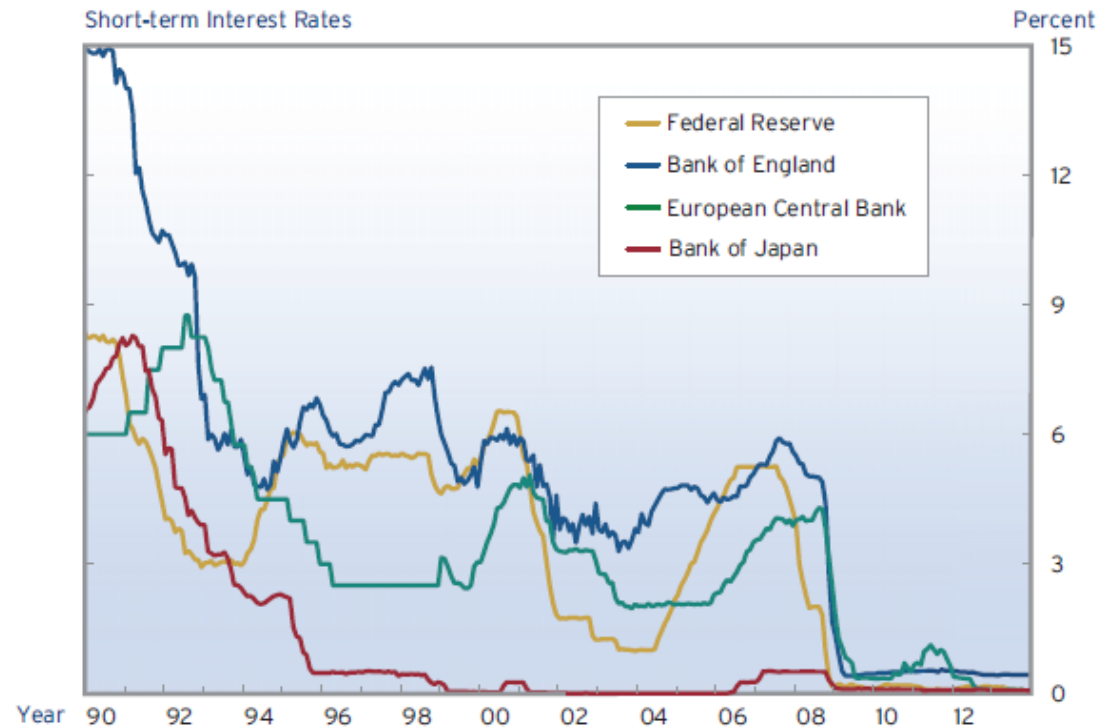
Lower variance of shocks [good luck] or better anchoring of expectations [good policy]?

Source: Young, G (2008), 'On the sources of macroeconomic stability'

# **THE CRASH, AND POLICY RESPONSES TO IT**

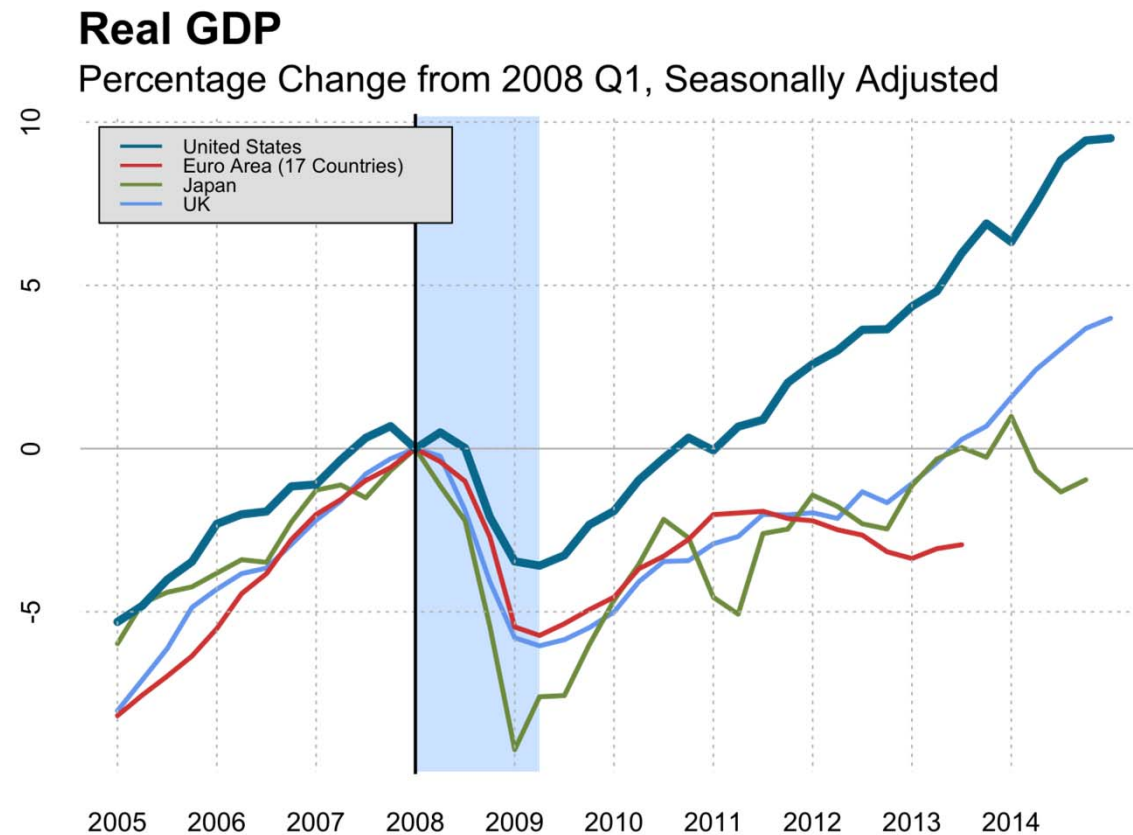
# The zero bound becomes a reality

FIGURE 1. The ZLB: Not Just an Academic Concern



*Sources:* Board of Governors of the Federal Reserve System (2013); Organisation for Economic Co-operation and Development (OECD; 2013).

# Crash brings a great contraction

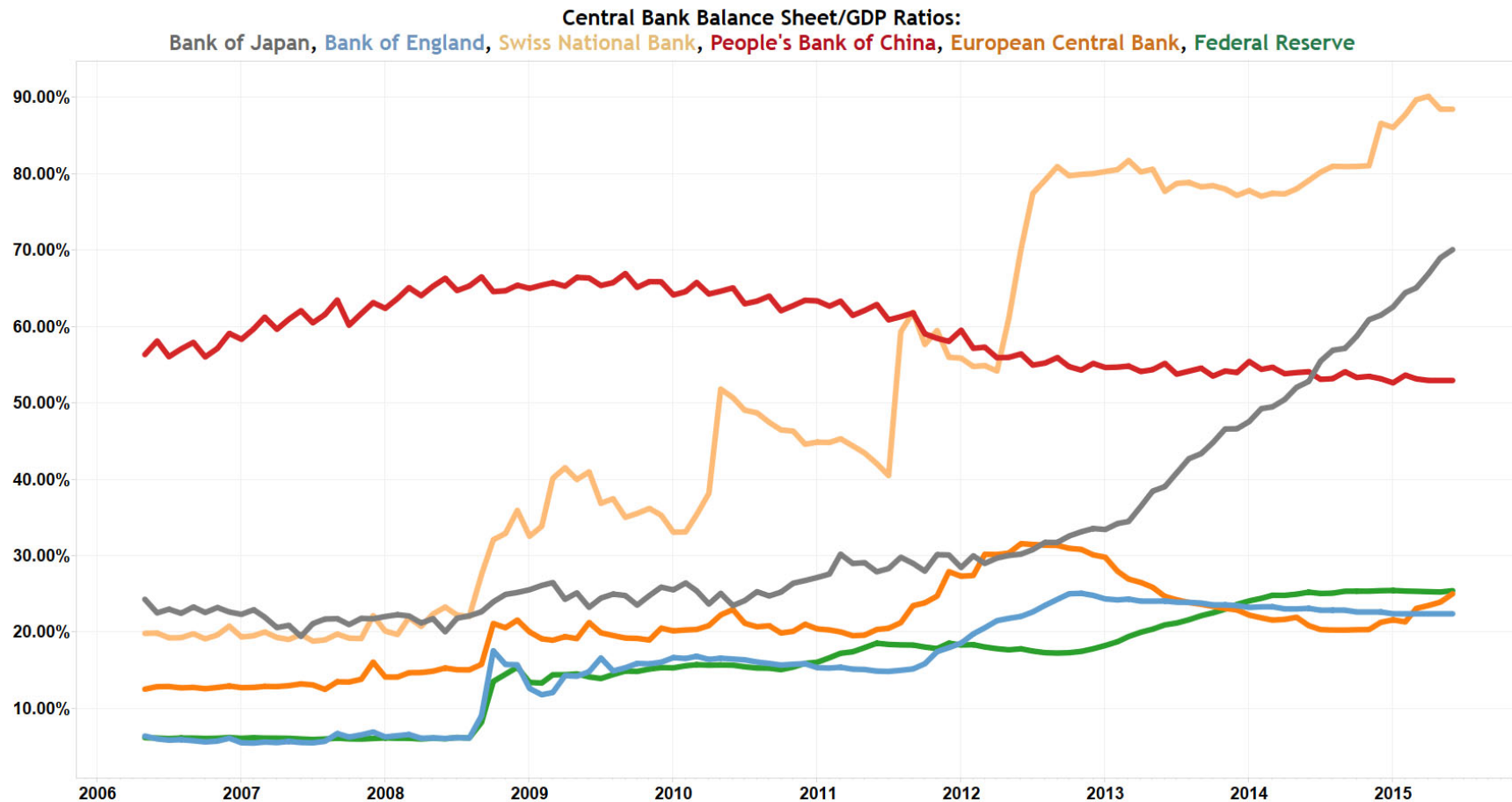


Econsnapshot.com

Source: OECD Main Economic Indicators, GDP Constant Prices

[Link to source](#)

# Cbs improvise QE,etc



Source: 'National Inflation Association', which is 'preparing Americans for hyperinflation' (!)



# QE of uncertain, moderate impact

TABLE 1. Estimates of LSAP Effects on Longer-Term Interest Rates

Study	Sample	Method	Representative estimates of effect of \$600 billion LSAP (+2 std errors if avail.)
Modigliani-Sutch (1966, 1967)	Operation Twist	time series	0 bp ( $\pm 20$ bp)
Bernanke-Reinhart-Sack (2004)	Japan, United States	event study	400 bp ( $\pm 370$ bp), 40 bp ( $\pm 60$ bp)
Greenwood-Vayanos (2008)	postwar United States (precrisis)	time series	14 bp ( $\pm 7$ bp)
Krishnamurthy-Visiting-Jorgensen (2011, 2012)	postwar U.S., LSAP1, and LSAP2	time series	15 bp ( $\pm 5$ bp)
Gagnon-Raskin-Remache-Sack (2011)	LSAP1	event study, time series	30 bp ( $\pm 15$ bp), 18 bp ( $\pm 7$ bp)
D'Amico-King (2013)	LSAP1 Treasury purchases	security-specific event study	100 bp ( $\pm 80$ bp)
Hamilton-Wu (2011)	U.S., 1990-LSAP2	affine no-arbitrage model	17 bp
Hancock-Passmore (2011)	LSAP1 MBS purchases	time series	30 bp
Swanson (2011)	Operation Twist	event study	15 bp ( $\pm 10$ bp)
Joyce-Lasaosa-Stevens-Tong (2011)	U.K. LSAPs	event study, time series	40 bp
Neely (2013)	effect of U.S. LSAP1 on foreign bond yields	event study	17 bp ( $\pm 13$ bp)
Christensen-Rudebusch (2012)	LSAP1, LSAP2, and U.K. LSAPs	event study, affine no-arbitrage model	10 bp
D'Amico et al. (2012)	United States, precrisis	weekly time series	45 bp
Bauer-Rudebusch (forthcoming)	LSAP1, LSAP2	event study, affine no-arbitrage model	16 bp
Li-Wei (2013)	United States, precrisis	affine no-arbitrage model	26 bp

**Note:**

bp = basis point

LSAP1, LSAP2, etc. = large-scale asset purchase (LSAP) program 1, 2, etc.

MBS = mortgage-backed securities

Median effect is to reduce 10 year yields by 15-25 basis points=cut in FFR of 0.75-1pp.

# Other cb asset, 'credit easing' policies

- US Fed:
  - TARP
  - TALF
- UK's BoE:
  - short maturity, liquid corporate paper from large issuers
  - 'special liquidity scheme'
  - 'Funding for lending'

# Constraints on Fed credit easing

- Bolder, involving large scale intervention in riskier assets.
- Interventions provoked hostility from right.
- John Taylor et al and the 'audit the Fed' bill.
  - Saw QE and ZLB [and the Bush/Obama fiscal stimulus package in 2009] as departure from 'rules based' behaviour.

# Constraints/coordination failure in UK credit easing

- Govt wanted larger scale intervention in private assets
- But would not tell the BoE to do it.
- BoE too concerned about politicising 'monetary policy' to propose it.
- Result: too much focus on buying gilts.

**Table 1.1a. Fiscal Balances, 2008–15: Overall Balance**  
*(Percent of GDP)*

	2008	2009	2010	2011	2012	2013
World <sup>1,3</sup>	-2.2	-7.3	-6.0	-4.3	-3.9	-3.2
Advanced Economies <sup>1</sup>	-3.6	-9.0	-7.8	-6.5	-5.8	-4.3
United States <sup>1</sup>	-7.0	-13.5	-11.3	-9.9	-8.6	-5.8
Euro Area	-2.1	-6.3	-6.2	-4.1	-3.7	-3.0
France	-3.2	-7.2	-6.8	-5.1	-4.9	-4.2
Germany	-0.1	-3.1	-4.2	-0.8	0.1	0.2
Greece	-9.9	-15.6	-11.0	-9.6	-6.4	-3.2
Ireland <sup>2</sup>	-7.1	-13.2	-29.3	-12.5	-7.8	-6.7
Italy	-2.7	-5.4	-4.4	-3.6	-2.9	-3.0
Portugal	-3.7	-10.2	-9.9	-4.3	-6.5	-5.0
Spain <sup>2</sup>	-4.5	-11.1	-9.6	-9.6	-10.6	-7.1
Japan	-4.1	-10.4	-9.3	-9.8	-8.7	-8.2
United Kingdom	-5.0	-11.3	-10.0	-7.8	-8.0	-5.8
Canada	-0.3	-4.5	-4.9	-3.7	-3.4	-3.0
Others	2.5	-0.9	-0.2	0.4	0.4	0.1

Source: IMF(2014), 'Back to work: how fiscal policy can help', fiscal monitor 2014,2, p2

**Table 1.2. General Government Debt, 2008–15**  
(Percent of GDP)

	2008	2009	2010	2011	2012	2013
<b>Gross Debt</b>						
World <sup>1</sup>	65.5	75.9	78.3	79.2	81.1	79.7
Advanced Economies	79.4	92.8	99.3	103.3	107.6	106.2
United States <sup>2</sup>	72.8	86.1	94.8	99.0	102.5	104.2
Euro Area	70.3	80.2	85.9	88.3	92.9	95.2
France	67.0	78.0	80.8	84.4	88.7	91.8
Germany	66.8	74.6	82.5	80.0	81.0	78.4
Greece	112.9	129.7	148.3	170.3	157.2	175.1
Ireland	42.6	62.2	87.4	98.9	111.4	116.1
Italy	106.1	116.4	119.3	120.7	127.0	132.5
Portugal	71.7	83.7	94.0	108.2	124.1	128.9
Spain	40.2	54.0	61.7	70.5	85.9	93.9
Japan	191.8	210.2	216.0	229.8	237.3	243.2
United Kingdom	51.9	67.1	78.5	84.3	89.1	90.6
Canada <sup>2</sup>	70.8	83.0	84.6	85.9	88.1	88.8

Source: IMF(2014), 'Back to work: how fiscal policy can help', fiscal monitor 2014,2, p4

- History of abuse of fiscal policy, commitment to and reneging on rules
- Ex post realisation that financial sector and other tax revenues not sustainable.
- Pressure of actual and potential further bail-outs on yields; threat of a market run.
- Concern that 'austerity' at the ZLB wd produce spiralling deflation and recession.

- Politicisation of fiscal stabilisation policy as views polarized.
- Left: unregulated capitalism at fault for the crisis, austerity was punitive.
- Right: austerity prudent; fiscal stabilisation was meddling by government, interfering in purgatory and renewing process of recession.



# **PREVENTATIVE REFORMS**

# Reforms:

- Raise the inflation target
- Institutions to deploy discretionary fiscal policy at the zero bound
- Formalisation and automation of unconventional monetary and credit easing policies.
- -ve rates, helicopter money. [less desirable]
- International policy coordination. [infeasible]

# **RAISING THE INFLATION TARGET AS A PREVENTATIVE MEASURE**

# Motivation for inflation target hike

- Target of 2% chosen at a time when zero bound seemed highly unlikely: raise to 4%
- Creates more room for nominal rates above the zero bound
- In long run, nominal rates settle at a level consistent with Fisher equation:

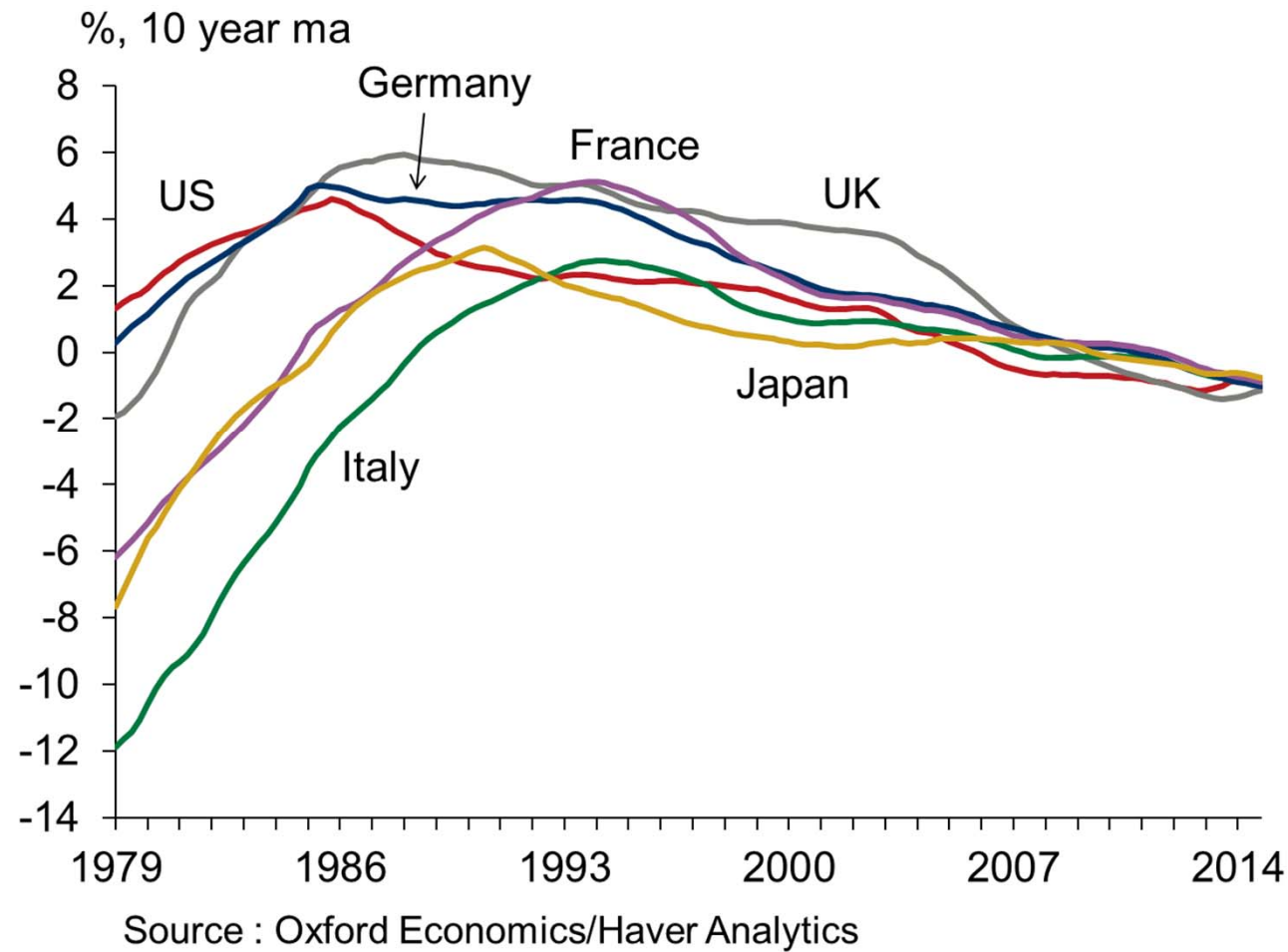
$$i_{ss} = r_{ss} + \pi^T$$

# Secular stagnation and the real interest rate

- Current target arguably too low for pre-existing real rates.
- On top of this, several forces bearing down on equilibrium real interest rate, including:
  - Demographics
  - Investment demand
  - lower TFP growth
  - uphill capital flows

# Global real rates decline

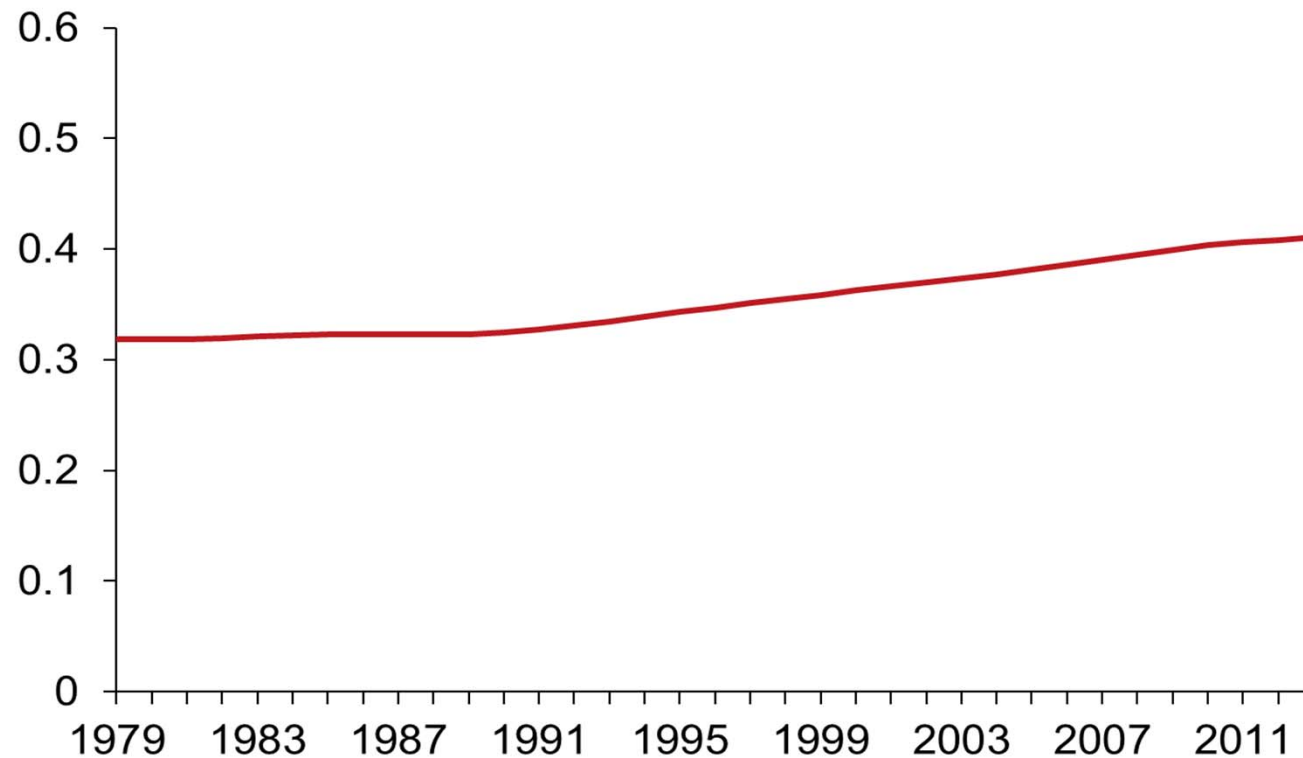
## 'Advanced economies' real interest rates'



# Demographics: more savers

## Western Population ratio

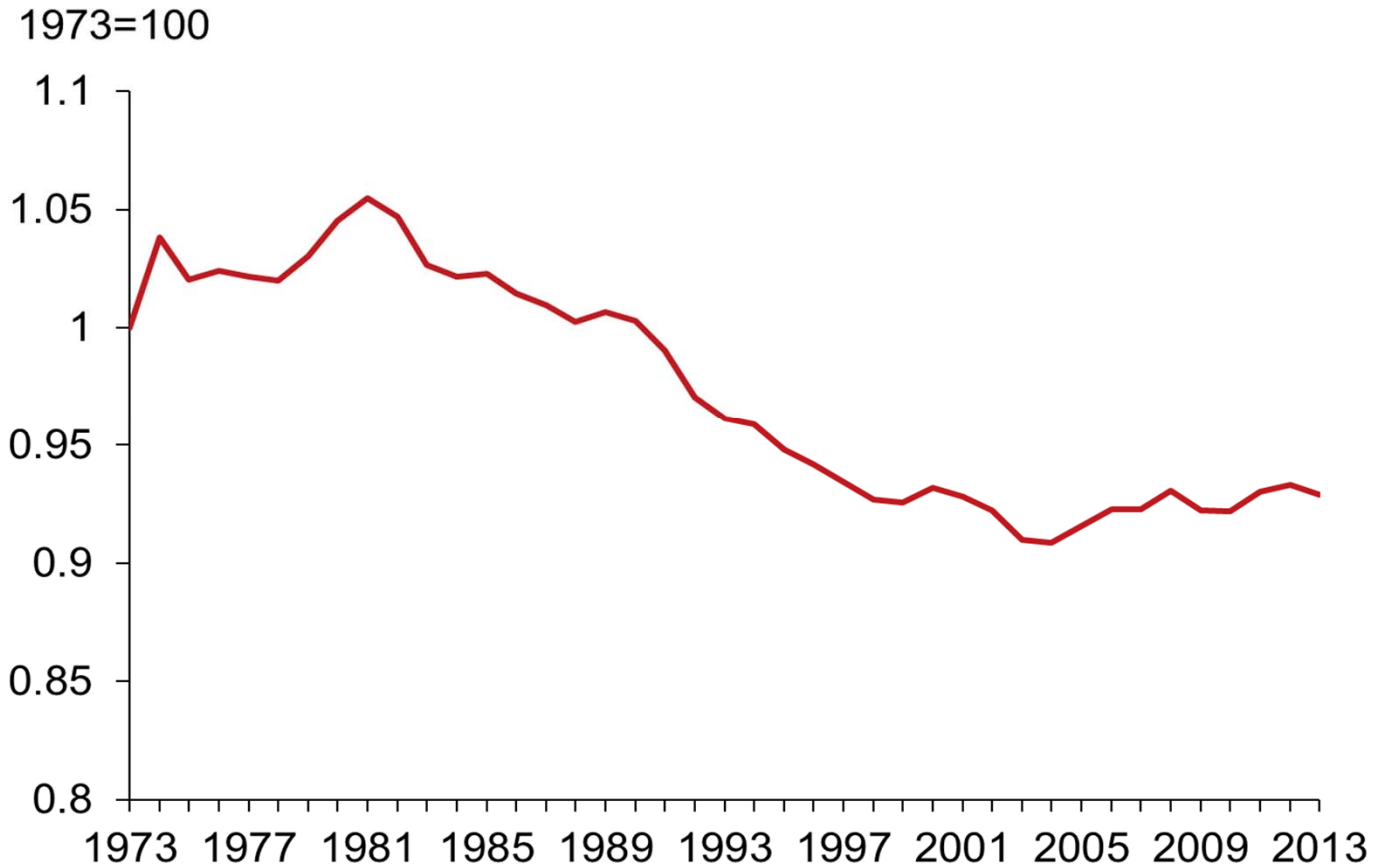
Pop 45-64/Pop Working Age



Source : Oxford Economics/Haver Analytics

# Cheaper investment goods means lower demand for borrowed funds

## Western Investment-GDP deflator ratios

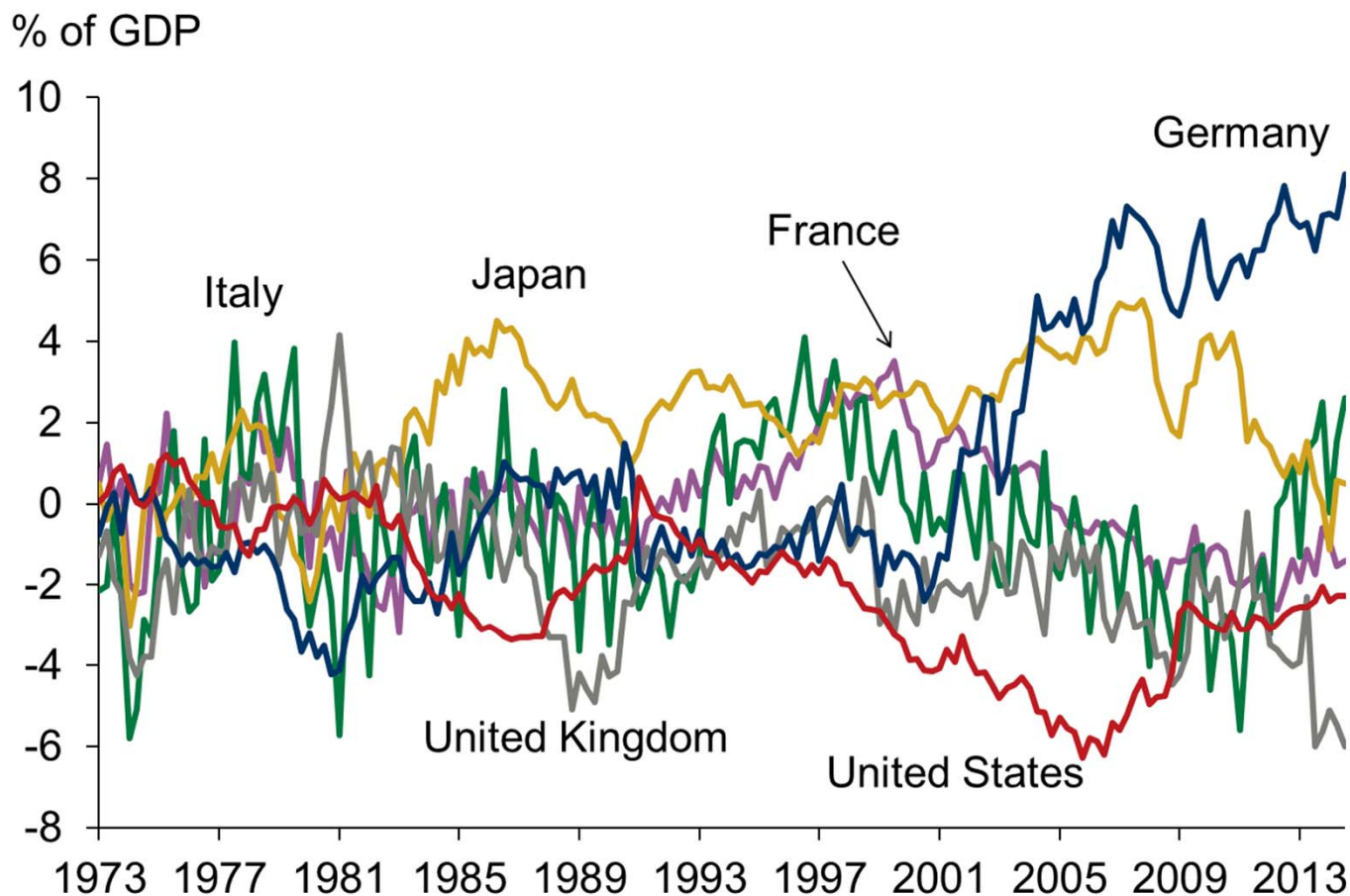


Source : Oxford Economics/Haver Analytics



# Savings flow uphill from Asia to West

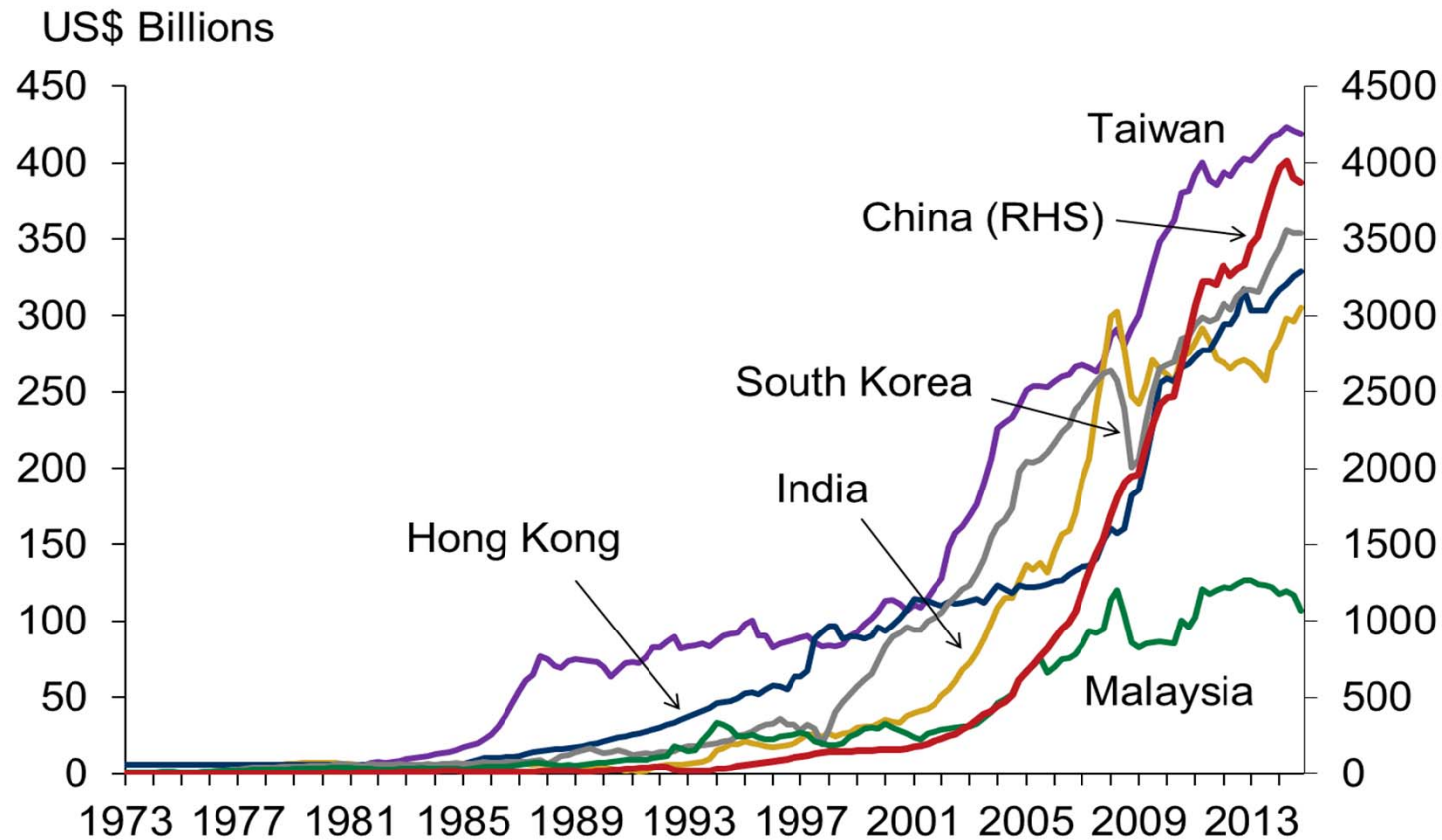
## Western Current Account Balances



Source : Oxford Economics/Haver Analytics

# Official savings also flowing uphill

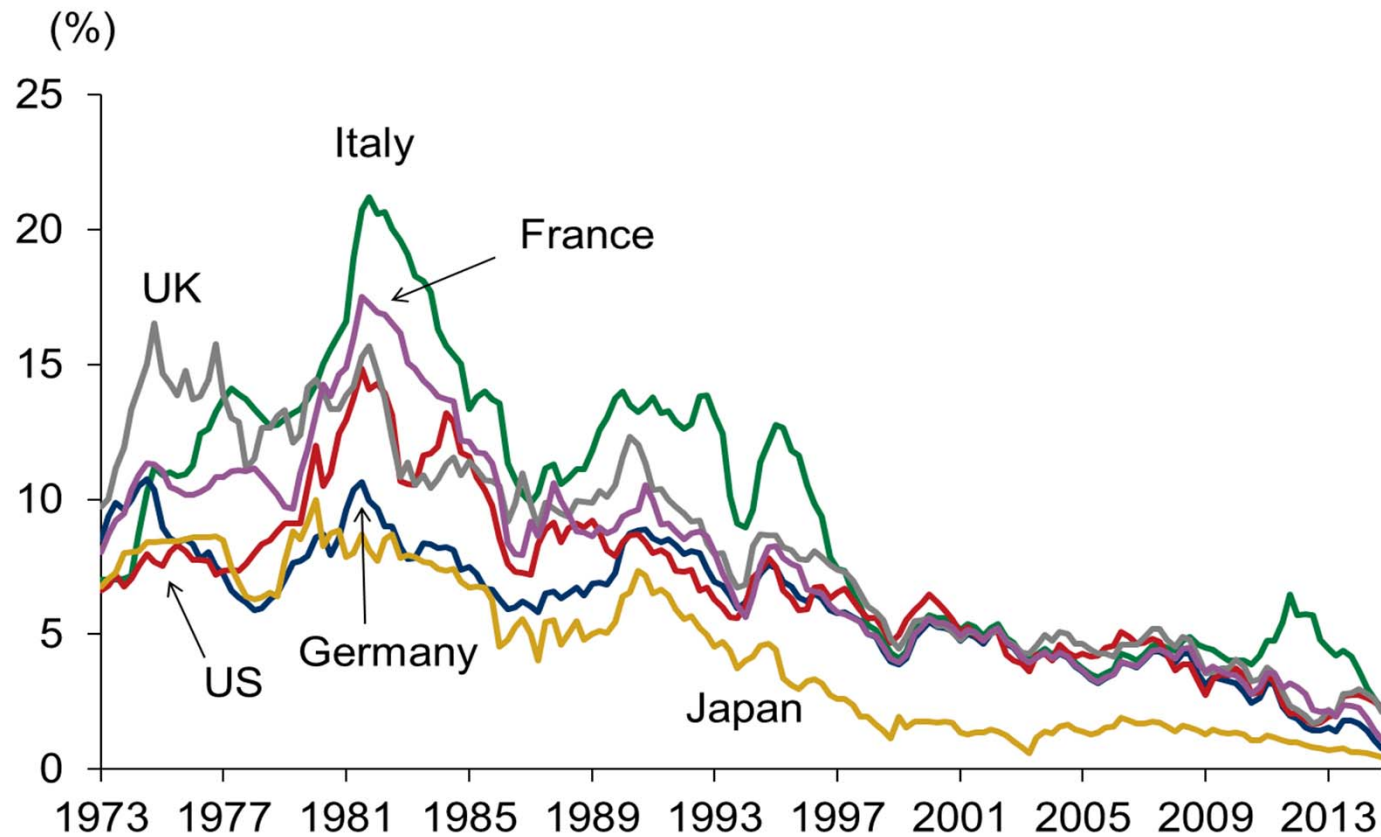
## Foreign Exchange Reserves



Source : Oxford Economics/Haver Analytics

# Cause 4b: safe assets swallowed by QE

## 10 year government bond yields



Source : Oxford Economics/Haver Analytics

# Inflation target hike: prevention, not cure

- ECB/Fed/UK/Japan failing to hit current target.
- Some favour announcement of target hike now as a method of stimulus.
- Expected inflation up, real rates down, demand up, inflation up.
- Ordinarily, requires a short-run *cut* in rates or some other stimulus to achieve long run *increase*.
- May simply entrench view that cb's cant achieve targets and can't control inflation.
- My view: this is to prevent next crisis, not cure current one.

# Problems with raising the target

- Aggravates costs of inflation!
- Credibility loss through 'moving goalposts' (but remember credibility loss through losing control of inflation)
- Indeterminacy [Ascari-Sbordonne, Kara-Yates].

# **AUTOMATING DISCRETIONARY FISCAL STABILISATION AT THE ZERO LOWER BOUND**

# Reforms to enable discretionary fiscal policy

- Discretionary fiscal policy: using tax rates or spending to stabilise the business cycle.
- Distinct from 'automatic stabilisers': tendency for tax revenues to fall and social security spending to rise to dampen cycle.
- Discretionary changes costly, cumbersome, and prone to political economy problems.
- But zero bound changes the calculus.

# Fiscal councils

- Wren-Lewis in UK, and others, have proposed fiscal councils.
- Delegated, appointed, independent bodies running fiscal policy like a monetary policy committee.
- For many, this is a delegation to technocrats too far.
- Expansion of sphere of activity of Fed, ECB, BoE has provoked hostility on right and left.
- Full fiscal delegation might be counterproductive, even if you think it economically correct, and is anyway politically infeasible.



# UK's Office for Budget Responsibility

- Staff of 30 or so, inc only 4 full-time economists.
- Advisory board [economics], and oversight board [governance].
- Independent of, but with service level agreements with finance ministry [HMT], revenue collection agency [HMRC].
- Comments on long run fiscal sustainability.

# My proposal: limited delegation at the ZLB.

- Away from the ZLB, fiscal policy set as normal, entirely independently of central bank.
- Near or at it, Council on Fiscal Policy called by central bank to advise on optimal mix of monetary and fiscal policy.
- Comprises: OBR, BoE, HMT.
- Power only to recommend.
- Minutes public.

# Mechanics of a UK/ZLB fiscal council meeting

- Central bank identifies missing stimulus, and consequences of not replacing it.
- OBR turns this into deficit plan, including trajectory to rebuild balance sheet.
- HMT decides whether to accept; and makes remaining political choices about how to implement the deficit plan.

- Make fiscal expansion at ZLB more 'rules-based'.
- Commitment allows for more vigorous expansion.
- De-politicise fiscal policy.

# Alternative routes to more monetary stimulus

- Institutional reform to money to permit negative interest rates.
- Helicopter money.
- These may not simply be alternatives, of course. They may be needed in addition.

# **NEGATIVE INTEREST RATES**

# Negative interest rates

- Bound to rates was thought to be about zero, save for costs of cash management.
- Recent moves by cbs in Denmark, Sweden, Switzerland, Japan are revising the floor lower.
- Still, ultimately, at some point, negative rates wd cause move into cash and disintermediate banks.
- Some see recent bank share price difficulties as reflecting influence of negative rates.

# How negative rates harms banks

- Interest rates on asset side (banks' income) fall as cb rate goes below zero.
- Interest rates on liability side (banks' funding source) can't fall so far. Nominal illusion? Political economy of bank charges post the crisis? Existence of cash alternative? All 3?



# Cash taxes/abolition to permit –ve rates

- Abolition of cash wd in principle permit digital balances to earn negative rates [nominal illusion aside].
- Smartphone technology in principle wd permit taxing of banknotes [serial number recognition...] tho costly.
- But neither would overcome nominal illusion, except perhaps painful history.
- In interim, no smooth transmission of rates.

**HELICOPTER MONEY**

# Helicopter money

- Milton Friedman's thought experiment of dropping physical cash from helicopters.
- Modern version: cb sends a cheque to all households.
- Or govt cuts taxes, sells bonds to cb to finance, cb credits govt account with reserves, then cancels the bond.

# Helicopter money

- For some, like Adair Turner, seen as a first resort.
- Was proposed as 'People's Quantitative Easing' by Corbyn, standing for leadership of UK Labour Party.
- For me, a last resort.
- Once this genie is out of the bottle, hard to ensure fiscal discipline in the future.
- Perhaps Japan, with D/GDP at 250%, is at this juncture.

# **INTERNATIONAL DIMENSIONS TO THE CRISIS**

## Two international policy challenges/failures

- Capital flows and prudential regulation.
- Liquidity trap infection and policy coordination.

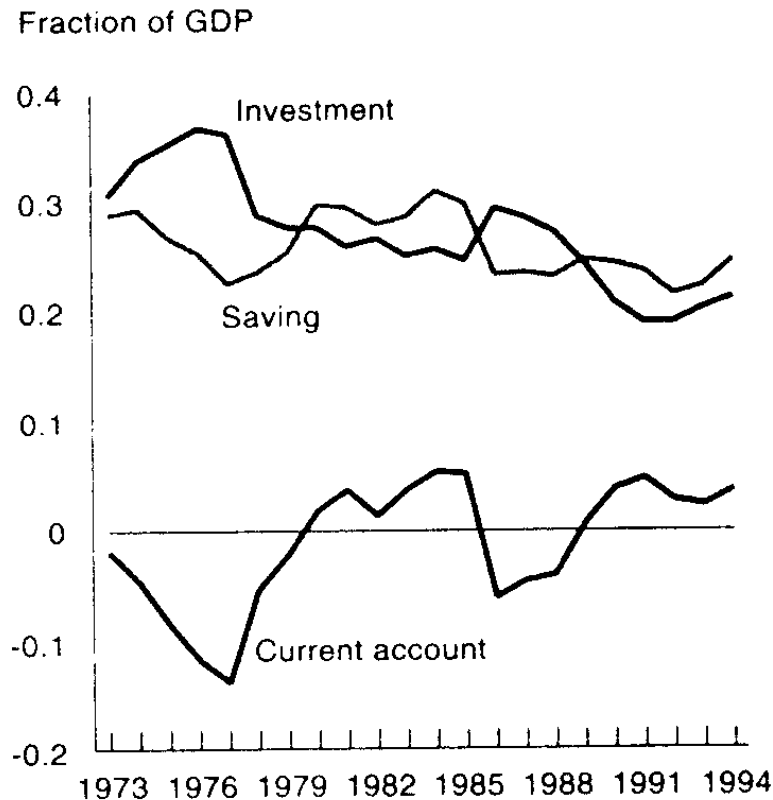
# **UPHILL CAPITAL FLOWS AND PRUDENTIAL REGULATION**

# Capital flows and the crisis

- Capital flows in frictionless, rational expectations, international business cycle models always good.
- But some see the financial crisis in the West as being caused by the uphill flows.



# Norway's North Sea 'imbalance'



**Figure 1.2**  
Norway's saving-investment balance, 1973–94. (Source: OECD)

Norway discovered North Sea Oil in the 1970s.

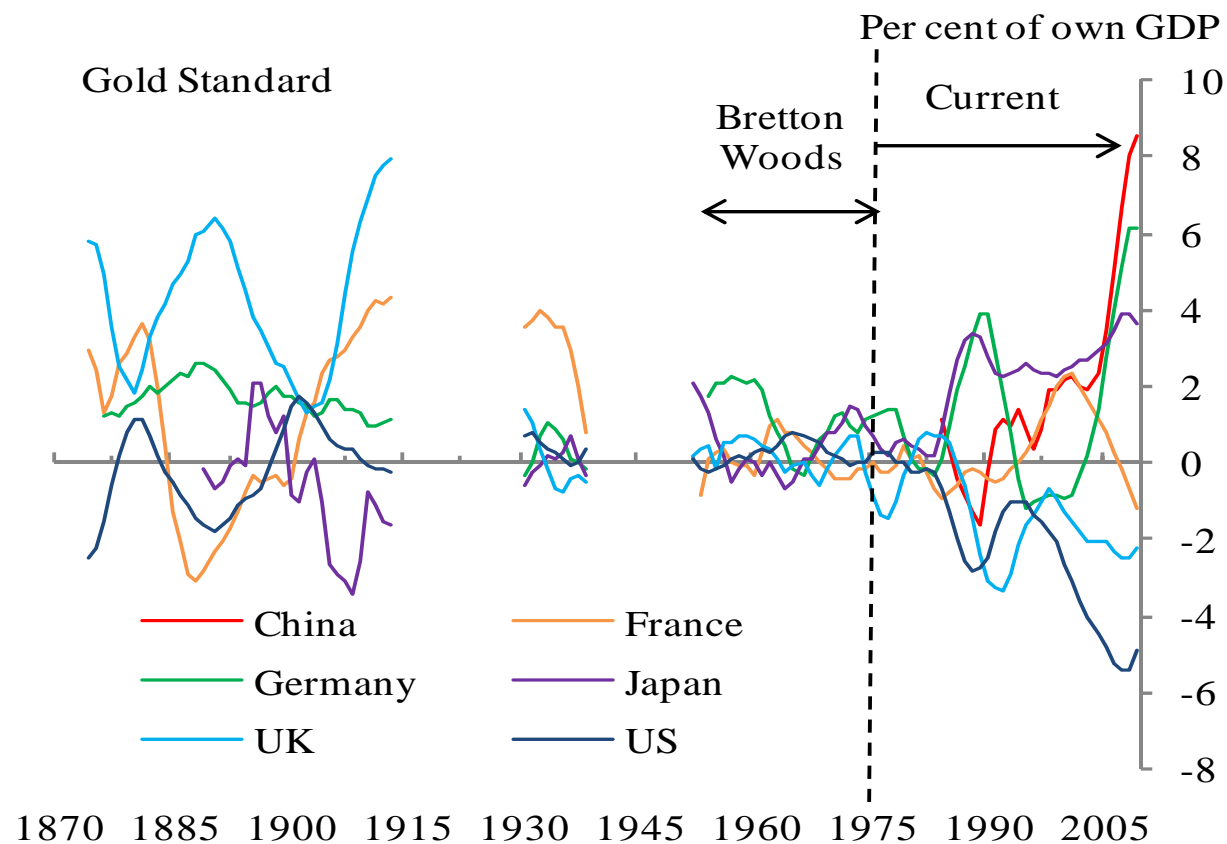
Borrowed massively to build the infrastructure and technology to extract it.

And, potentially, borrowed for consumption against future windfall.

Perfectly rational, forward-looking behaviour.

Graph stolen from Obstfeld-Rogoff.

# Current account imbalances in context



Source: Bush, Farrant and Wright.

# Capital flows confound simple growth model

- Normal neoclassical growth story:
  - Capital flows ‘downhill’, to lower income countries where  $K/L$  lower, and marginal returns to capital higher.
  - Process of convergence to common  $Y/L$ ,  $K/L$
- But for 2-3 decades US/UK/EZ ran current account deficits.
- Inclusive of risk, returns higher even though  $K/L$  much higher.

# Why capital flowed uphill

- Many EM countries have considerable political risk.
- Some also have ill-defined property rights.
- And even aside from that there are the risks of sudden stops and the consequences of local policy responses.
- Hence capital flows uphill.

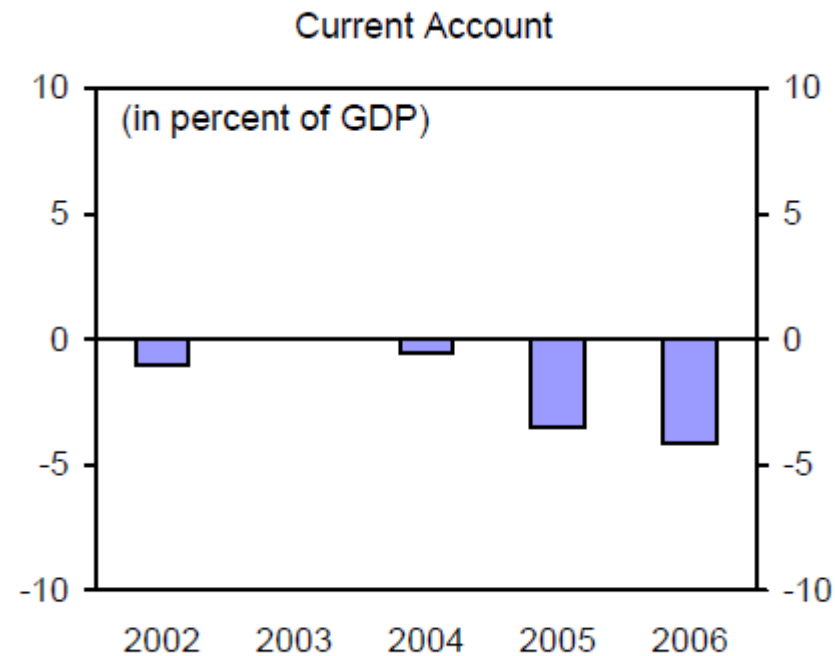
# Uphill flows + the crisis

- Flow of capital uphill prompts innovation to manufacture wealth storage technologies...
- Eg securitisation of mortgages.
- Process happens too quickly + on too large a scale for Western prudential regimes to keep up.
- Leveraged Western intermediaries over-extend given hidden risk in the system.

- First best: EM countries develop more secure property rights, reduce political risk, so that capital accumulation speeds convergence in  $K/L$  and  $Y/L$ .
- Second best: allow capital to flow uphill but ensure proper prudential regulation so that Western financial risks not magnified.
- Third-best: outright capital controls.

- Uphill capital flows manifest as expansion in wholesale interbank funding by local Western banks.
- EM banks take deposits from EM private sector, lend to banks in West.
- Classic example is Ireland.

# Irish current account imbalance

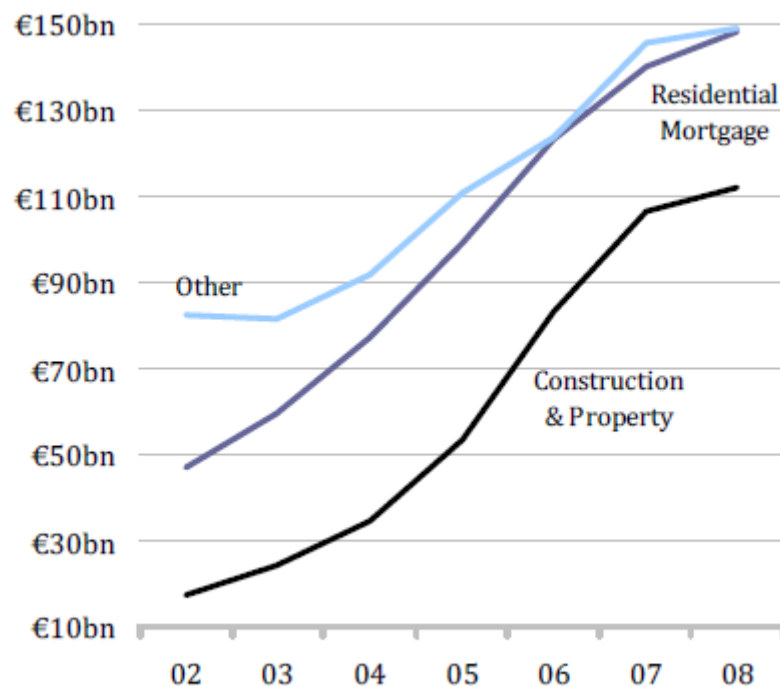


Source: IMF Article IV on Ireland, 2007



# Commercial property lending in Ireland

**Figure 2.4:**  
**Private Sector Credit 2002-08**



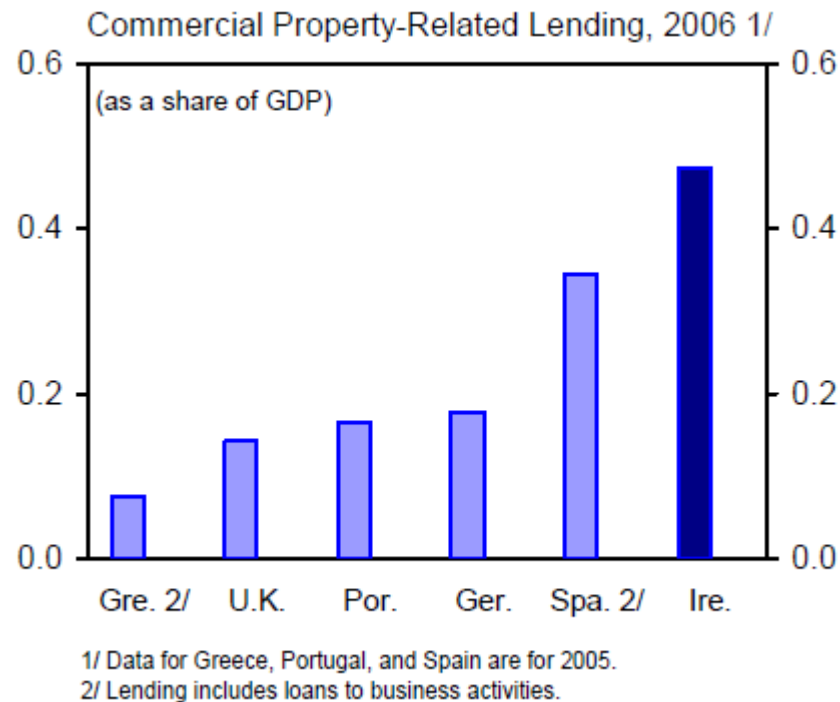
Source: Central Bank of Ireland

Commercial property lending by Irish banks growing very rapidly.

Commercial property is historically even more volatile and asset than residential.

Source: Commission of investigation into the banking sector in Ireland, 2011

# Commercial property lending in Ireland and other countries



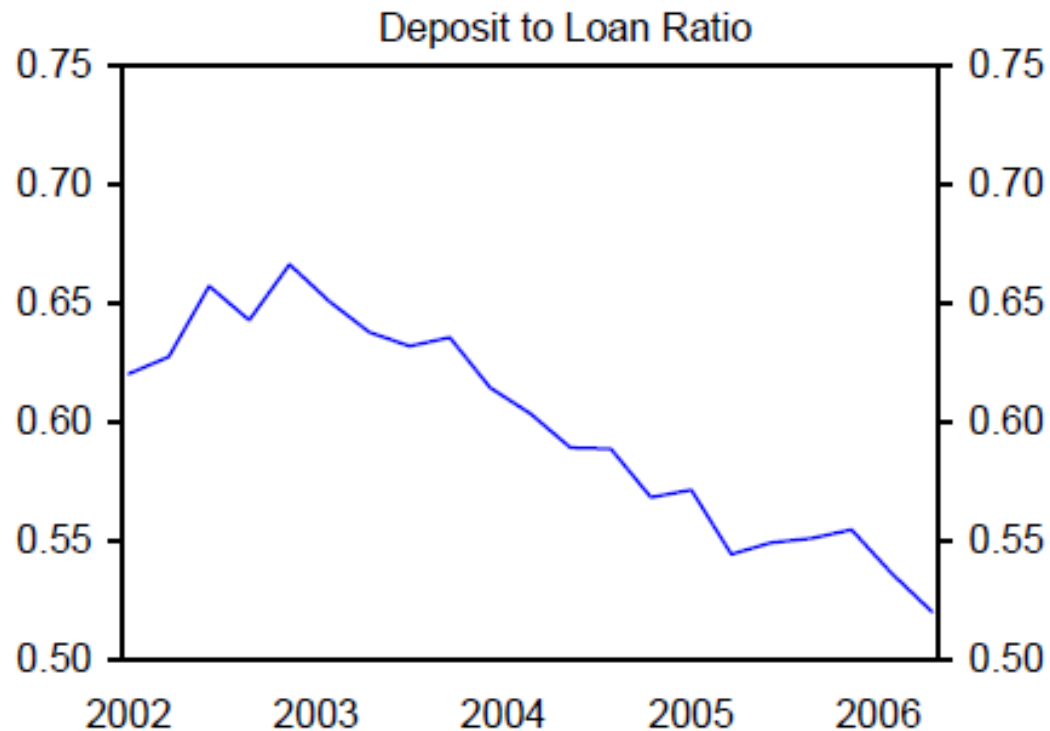
Exposure to commercial property in Ireland as % of GDP much greater than other troubled countries!

Points to potential burden on taxpayer if the bank was to be bailed out to rescue bad commercial property loans.

Potential turned into reality.

Source: IMF Article IV on Ireland, 2007

# Bank wholesale funding in Ireland



At the same time as running a risky loan book, the counterpart to the large current account deficit was a reliance on wholesale rather than deposit funding. Which can quickly melt away. And did.

Source: IMF Article IV on Ireland, 2007

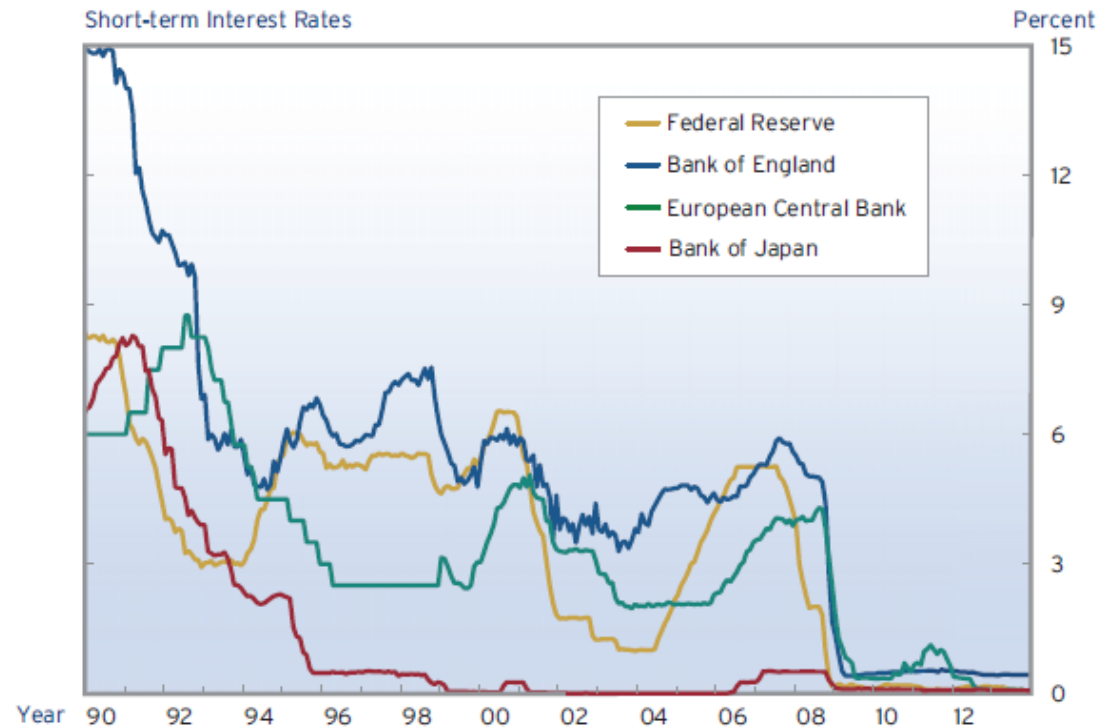
# Prudential regulation as capital controls

- Raise proportion of funding via equity for given amount of risk.
- Restricts wholesale interbank, international funding.
- International savers forced to buy equity in Western banks, not 'safe' wholesale debt.
- Effect: change relative risk calculus for international investors, and stem flow uphill.

# **LIQUIDITY TRAP INFECTION AND POLICY COORDINATION**

# The zero bound becomes a reality

FIGURE 1. The ZLB: Not Just an Academic Concern



*Sources:* Board of Governors of the Federal Reserve System (2013); Organisation for Economic Co-operation and Development (OECD; 2013).

# Liquidity trap and escapes are infections

- Caballero et al (2015)
- One country's liquidity trap can prove infectious.
- Escaping also infectious: fiscal expansion in one country beneficial everywhere.
- Opposite of 'beggar thy neighbour' problem in conventional, pre-crisis international sticky price business cycle models.

## Other int. co-ordination failure stories

- Loose Fed policy in the early 2000s caused global expansion of 'liquidity'. [Taylor]
- Combined with PBOC managing under-valued Chinese currency.
- Fed failing to internalise EM balance sheet risks in calculating how much and when to hike [Shin, BIS].



# Policy coordination unlikely

- Domestic objectives and philosophies diverge too much.
- Institutions for coordination unlikely to emerge.

# Recap

- Pre-crisis consensus that low inflation targets were responsible for the miracle of the great moderation.
- That zero bound would not be encountered, and fiscal policy not needed to stabilise the macro-economy.
- Financial crash prompts us to rethink.

## Recap 2

- Higher inflation target to make more room away from the zero bound, as a preventative measure.
- Encoding of automatic/cb sponsored discretionary fiscal stabilisation at the zero bound.
- More thought into more exotic alternatives like –ve rates and helicopter money.

## Recap 3

- Prudential regulation tightening will act as a means of international capital controls.
- International monetary and fiscal policy coordination more desirable now, with post-crisis hindsight.
- But no more feasible than it was before.

# Sources

- ['Monetary policy at the zero lower bound', John Williams, \(2014\).](#)
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- ['Have we underestimated the likelihood and severity of zero bound events', Chung \*et al\* \(2011\), FRBSF working paper 2011-01.](#)
- ['Sovereign doubts', The Economist, 28.9.2013](#)
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- ['On the sources of macroeconomic stability', Garry Young, Bank of England Quarterly Bulletin \(2008\)](#)