Lecture 1
Central bank mandates and independence

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Disclaimer

The views expressed in this presentation, and all errors and omissions, should be regarded as those solely of the author, and are not necessarily those of the Bank of England or Qatar Central Bank.

Course Admin

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- Thursday: 12:00 - 14:00 (London)
  - 12.00 - 13.00 (approx.) - lecture
  - 13.00 - 14.00 (approx.) - lab
- Weeks 1-4, then reading week, then 5-8
  - Apr 11 - Jun 6
- Lecturer: Rhys Bidder
  - Rhys.M.Bidder@kcl.ac.uk
  - LinkedIn page here

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- Asynchronous materials
  - Early each week, notes will be uploaded
  - Not necessarily strictly tied to that week's topic
  - Often used for more advanced or technical topics
- Software
  - We will be using Matlab (setup notes provided on Keats)
  - Eventually we will install a plugin called Dynare
  - **Ideal:** Install Matlab (and Dynare) on your own computer
- Interaction
  - Not many of you so can email me directly
  - There is also the discussion board (use as default?)

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- Labs
  - Used to get some hands-on experience
  - Programming for programming's sake (prep for final weeks of course)
  - Also, to get experience with datasets and to solidify concepts
- Practice problems (?)
  - Optional practice problems (short)
  - Not graded but I will provide answers
  - Likely augmented by guided discussion topics

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Assessment (more details on Keats)

1. Written report
   - 4000 words, split between two questions
   - 4k includes 2*400 executive summaries
   - Conceptual and (likely) some data manipulation
   - Set after week 6, 4 weeks to complete
2. Written report
   - Dynare/Matlab programming
   - Solve, simulate, analyze a model
   - Set at end of term, 2 weeks to complete

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Readings

- Will mainly upload PDFs or provide links to notes/blogs/articles
  - Blogs/articles/lectures will be around the same level
  - Technical notes provided by me will be somewhat more formal
- Have also secured funding for two textbooks
  - *Monetary Policy, Inflation and the Business Cycle* (Galí)
  - *Monetary Theory and Policy* (Walsh)
  - A bit difficult (esp. Galí) but good to refer to sections
- Programming
  - Will upload example code and videos
  - Have uploaded doc with links to Matlab learning resources

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Attitude

- Be friendly, respectful and encouraging to others
- Everyone asks questions where others know (or think they know) the answer - no big deal...
- This is my first time on this course too!

Inflation targeting

Evolution of nominal anchors

High (and variable) inflation is costly and there is no long run benefit from it in terms of superior real activity

- Natural for the central bank to pursue low and stable inflation
- This does not, *per se*, require an explicit inflation target
- Other 'nominal anchors' may be used
- Going back to the 80s and early 90s, monetary policy frameworks may have emphasized money growth, or maintaining a fixed exchange rate with more inflation-credible countries
- Inflation targets were certainly less formal, if they existed at all

Evolution of nominal anchors

Questions:

- Remembering the quantity equation (MV=PY), what might have led to problems with tuning the money supply to achieve a certain amount of inflation?
- Why not just let M grow at a pre-programmed rate and do nothing else?
- What is the rationale for pegging an exchange rate? Why might that be problematic?

Emergence of inflation targeting

Following New Zealand (1990), Canada (1991) and the UK (1992) inflation targeting spread widely...

Spread of inflation targeting

COUNTRY	INFLATION TARGETING ADOPTION DATE	TARGET INFLATION RATE AT TIME OF ADOPTION	COUNTRY	INFLATION TARGETING ADOPTION DATE	TARGET INFLATION RATE AT TIME OF ADOPTION
New Zealand	1990	1 – 3	Philippines	2002	4 +/– 1
Canada	1991	2 +/– 1	Guatemala	2005	5 +/– 1
United Kingdom	1992	2 (point target)	Indonesia	2005	5 +/– 1
Australia	1993	2 – 3	Romania	2005	3 +/– 1
Sweden	1993	2 (point target)	Serbia, Republic of	2006	4 – 8
Czech Republic	1997	3 +/– 1	Turkey	2006	5.5 +/–2
Israel	1997	2 +/– 1	Armenia	2006	4.5 +/–1.5
Poland	1998	2.5 +/– 1	Ghana	2007	8.5 +/–2
Brazil	1999	4.5 +/– 2	Uruguay[1]	2007	3–7
Chile	1999	3 +/– 1	Albania	2009	3 +/– 1
Colombia	1999	2 – 4	Georgia	2009	3
South Africa	2000	3 – 6	Paraguay	2011	4.5
Thailand	2000	0.5 – 3	Uganda	2011	5
Hungary	2001	3 +/– 1	Dominican Republic	2012	3–5
Mexico	2001	3 +/– 1	Japan	2013	2
Iceland	2001	2.5 +/– 1.5	Moldova	2013	3.5–6.5
Korea, Republic of	2001	3 +/– 1	India	2015	2–6
Norway	2001	2.5 +/– 1	Kazakhstan	2015	4
Peru	2002	2 +/– 1	Russia	2015	4

Adoption of inflation targeting. *Source:* IMF (2012)

Inflation targeting: Key elements

Formally, an IT regime comprises:

- Choice of underlying price index
- Published target for growth in the index over a specified interval
- How misses are regarded
- Response to misses / accountability
- Assertion of primacy of the inflation target

In practice, almost universal features are:

- High or complete degree of instrument independence for CB
- Establishment of an inflation forecasting process, combined with policy communication enhancements and transparency

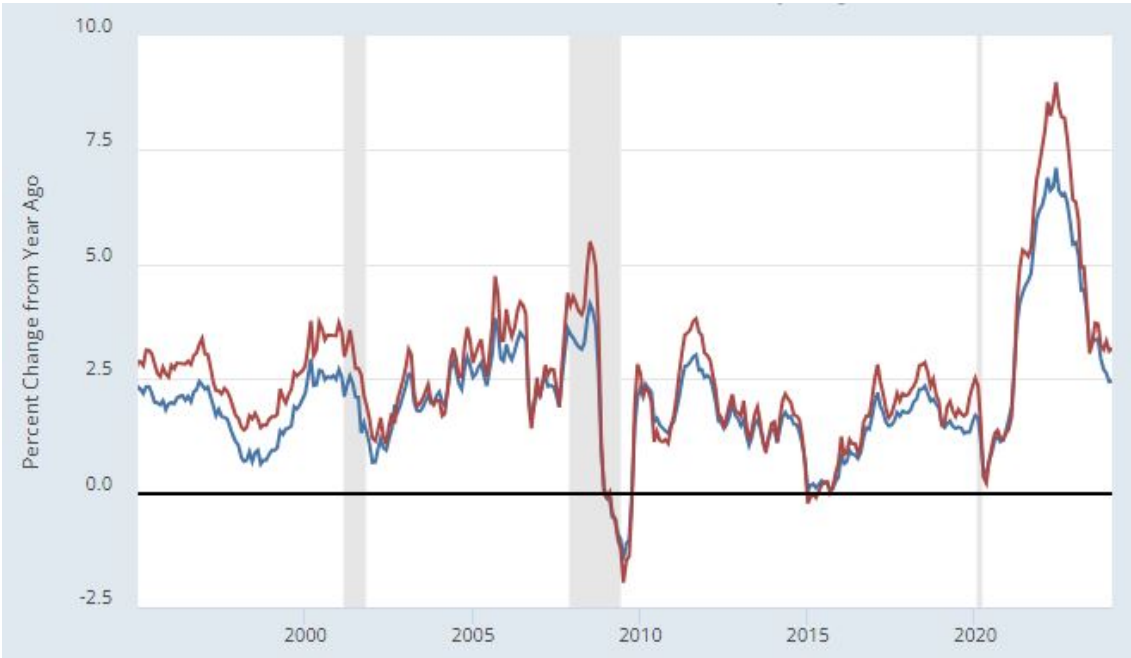
This (uploaded) reading gives an excellent summary

Underlying price index

Choice of underlying price index

- Various options (CPI, PCE, HICP, GDP deflator)
  - Typically a broad (and frequently reported) index of consumer prices
  - Could use a core measure (excludes volatile prices of food/energy) but complex to communicate
- Most sensible indices will move together at low frequencies
  - See UK ONS page here for discussion of different indices
  - See debates about CPI vs PCE in US
  - Occasional communication issues when one index deviates from another at short horizons
- Central bank may be goal-independent and set its own target, but frequently government sets it
  - *CB sets:* Chile, Sweden ECB, Fed...
  - *Gov sets:* Norway, UK, South Africa,...
  - Also examples of collaborative model

Underlying price index



PCE inflation (Blue) and CPI inflation (Red). *Source:* Bullard (2022)

Target choice

Target for rate of change in price index over a specified interval

- What rate?
  - A sensitive question right now!
  - For a long time 2% was the 'default' with anything above 3 or 4% rare
  - Imprecise but sensible rationales when introduced (Tony discussed)
  - Will discuss more when we talk about 'falling r^*'
- What width of period?
  - Makes sense for it to be a whole year
  - Avoids seasonality and high frequency noise
  - UK: '12-month increase in the CPI'
- When does that period start?
  - Typically a reference to targeting inflation *'over the medium term'*
  - Acknowledges lags with which policy affects prices
  - Hard to know the current state of the economy (revisions, breaks,...)
  - Long lags of influence *and* understanding $\Rightarrow \approx$ two year horizon (?)

Question:

- What are possible implications of the ‘medium term’ horizon feature?

Flexible inflation targeting

- The allowance for medium term return of inflation to target are part of 'flexible inflation targeting'
  - Supported by scope for CB to justify even slower return, if shocks are especially large/persistent
  - Avoids excessive real activity (growth and unemployment) volatility
  - Especially useful in the case of a sequence of large *supply* shocks
  - Silvana Tenreyro's departure speech from BoE is a good read on this
- Tony discussed the 'inflation nutter' approach to fixing inflation bias
  - Getting inflation back to target ASAP is clearly suboptimal
  - Doubly so when supply shocks are at play
  - **But** there is a risk, especially with supply shocks, of inflation expectation deanchoring
- This is where the presence of an explicit target (ideally) gives extra room to accommodate such shocks
  - But recent experience suggests the anchoring has its limits...

Flexible inflation targeting

Question:

- Why are supply shocks so scary for central banks?

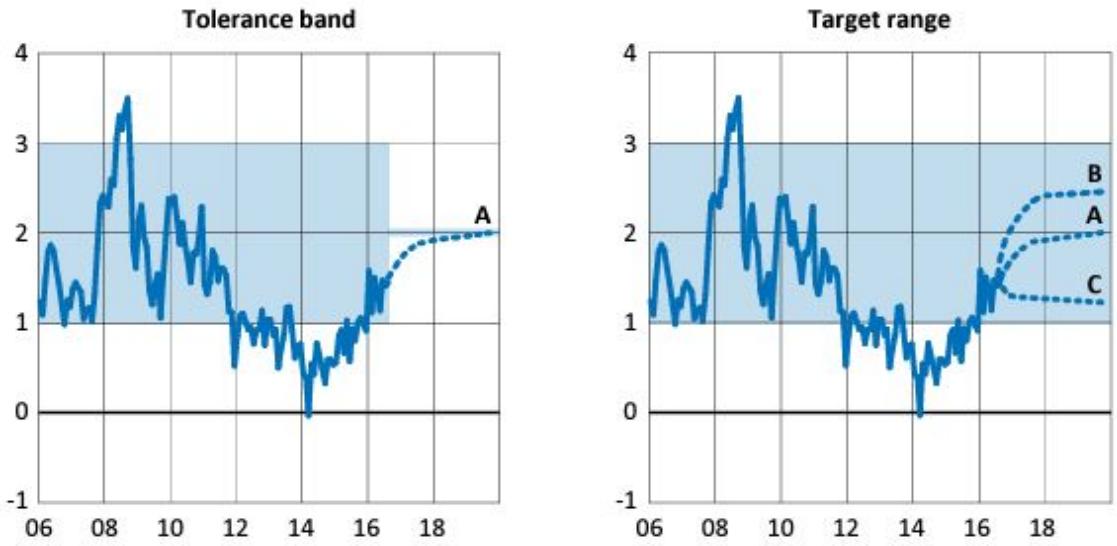
What is a miss?

How misses are regarded

- It is virtually impossible to hit a point target (even with rounding)
  - Misses will (almost always) happen
- Responses:
  - Use a range of values instead (rare - but exists - see Australia)
  - Retain the point target, but set up 'tolerance bands' for judging substantial misses (very common)
  - Combination? Old ECB target was 'close to but below 2%' (confusing and often mocked!)
- If used, tolerance bands typically symmetric
  - ECB now has this - UK's has always been this way ($+/-1\%$)

Caveat: Some people distinguish tolerance band targets from point targets where misses of a certain size trigger an accountability mechanism (this seems like semantics to me!)

What is a miss?



Point target (+tolerance) vs Target 'range' Apel and Claussen (2017)

Question:

- Why might a range be / not be desirable?

Response to misses

What happens in the case of misses?

- Small *ex post* misses, basically nothing
- Small *ex ante* misses, eyebrows raised but depends on situation
- Large *ex post* misses, there will be consequences (maybe?)
- Large *ex ante* misses, will be *very* controversial - 'unacceptable' in normal times

Response to misses

Let us consider the 'large' ex post misses

- UK: If miss $> 1\%$, must explain why to Chancellor in an 'open letter' and formulate plan to return
- Open letters quite widely used - but parliamentary hearings more common (among industrialized countries, at least)
- ECB and Fed (perhaps not *strict* inflation targeters) are very independent and I can't find in their documentation any formal response required in case of misses (though presumably they would be grilled in their usual interactions with European Parliament / Congress)

Communications, committee appearances, public/transparent nature of process, and clarity of target allow 'soft' (though important) accountability from public - **technocratic fear of failure (and a sense of shame) is an important motivator**

Open letters

- Open letter (January 2024) to the President of the Philippines, from Gov. Eli M. Remolona, Jr (here)
- Open letter (June 2023) to the Chancellor of the Exchequer, from Gov. Andrew Bailey (here)

Open letters

Given past experience of inflation volatility, it is likely, even allowing for the change in policy regime, that the MPC will have many opportunities to restore the lost art of letter writing to British life

- Mervyn King (1997)

Primacy of inflation target

Assertion of primacy of the inflation target (Fed?)

- Other objectives *are* allowed
- But explicitly *'subject to'* (as in UK) or *'without prejudice to'* (as in ECB) inflation goal
- Perhaps accompanied by another goal that arguably should not be in tension (see Fed's dual - actually triple - mandate)

Other important features

In practice, almost universal features are:

- High or complete degree of instrument independence for CB
  - As already mentioned, common for CB not to set target
  - But important CB chooses **how** to hit that target (tools, strategy...)
  - Separation of political economy from technical skills
- Establishment of an inflation forecasting process, combined with policy communication enhancements and transparency
  - Control lags imply that policy is inevitably driven by bringing inflation to target *in the future*
  - Credible forecasts benchmarked against academic/private sector views $\Rightarrow$ accountability and credibility
  - Helps anchor inflation expectations over the forecast horizon

Communications and transparency

Long list of common components of communication strategy:

- Press conferences, speeches, outreach, official decision statements, minutes (with lag), videos, monetary policy reports...
- Increasing emphasis on 'layering' communications to reach not only technicians, but the general public
  - Accessible speech from Andy Haldane on these issues - which includes a great timeline in table 1
  - Fun note from the ECB
- Monetary policy reports are key to informed debate and transparency
  - Good examples from SARB and BoE
  - Explanation of state of economy and outlook
  - Forecasts for various key series but, most importantly, **inflation**
  - Often contain **fan charts** (simple note here on construction)

Monetary policy report

Let's have a look at the SARB October 2023 report...

Revisiting price stability mandates

Price level targeting

What is price level targeting?

Simplest case: Announce that policy (established in t_0) will pursue inflation such that

$$P^*_{t+\tau} = P_{t_0}(1+\pi^*)^\tau$$

or (see math note for log tricks)

$$\log P^*_{t+\tau} = \log P_{t_0} + \tau \log(1+\pi^*)$$

or (using lower case for log price level and using more log tricks)

$$p^*_{t+\tau} = p_{t_0} + \tau\pi^*$$

Price level targeting

$$p^*_{t+\tau} = p_{t_0} + \tau\pi^*$$

Aim to achieve average inflation of π^* over the medium-long term

- Price index should be kept on/close to a line (in logs) with constant slope, starting from the price level at which the policy regime begins
- Slope is equal to the desired inflation rate

But, isn't that the same as inflation targeting?

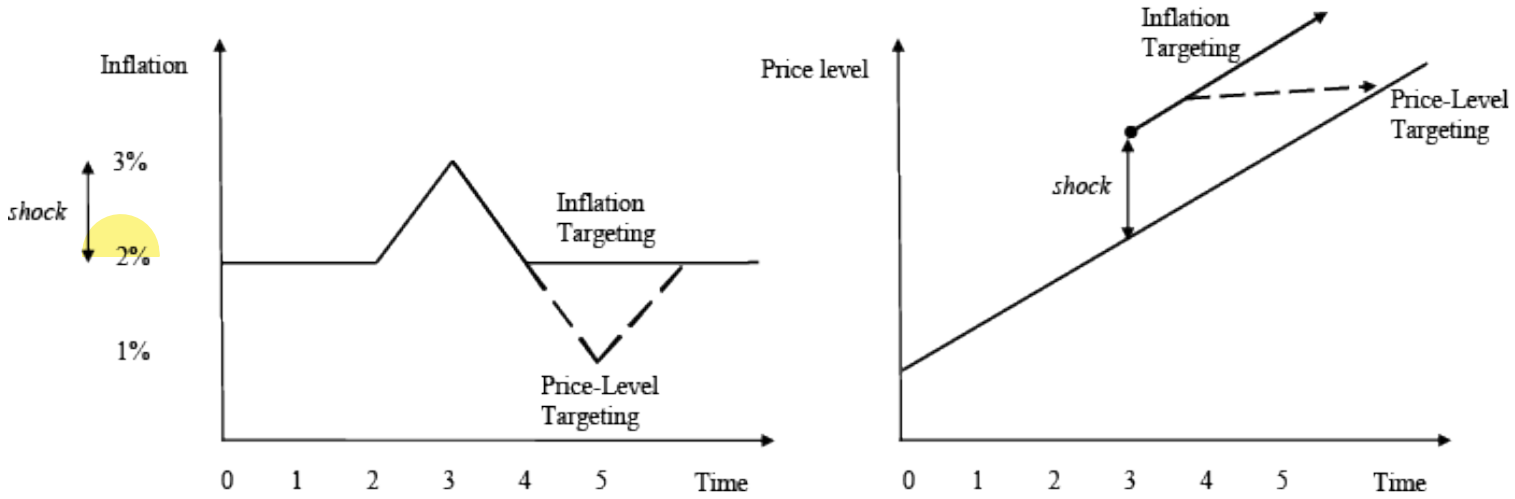
- No.
- It's the price line that is the target, not the *change* in prices (inflation) from any future period onward

Price level targeting

Implications:

- **Inflation Targeting (IT):** You ignore past misses
  - If currently undershooting or overshooting p^*, then CB aims for $\pi = \pi^{ast}$ next period
  - Always 'looking forward'
- **Price Level Targeting (PLT):** You make up for past misses
  - If currently undershooting (overshooting) p^*, then CB aims for $\pi > \pi^{ast}$ $(\pi < \pi^{ast})$ next period
  - Somewhat 'backward looking'

Price level targeting



Price level vs inflation targeting. *Source:* Minford and Hatcher (2014)

Price level targeting - Arguments in favor

Why do some people support it?

- In some theoretical models it comes closer than IT to 'optimal' monetary policy
  - See references in nice Bullard presentation (beyond scope of course)
  - But variants of IT performs well (at least, in the absence of ZLB)
- Perhaps has more intuitive connection to a concept of price stability - aiding long horizon planning
  - But note that it implies time varying short run inflation target

Price level targeting - Arguments in favor

Why was support relatively high in recent (pre-COVID) years?

- Persistent undershooting of inflation
- Fear of ZLB and experience of difficulty of leaving it

We will discuss ZLB and unconventional policy in the coming weeks but here note:

- Even if you hit the target in good times, occasional bad times (especially if hit ZLB) likely imply $\pi < \pi^*$
- Implies, overall, that **average inflation is below** π^*
- There is the concern (see John Williams for various speeches and notes on this) that this could **de-anchor** $E[\pi]$ **downwards**
- Note the importance of asymmetric risks to inflation for this argument - implicitly the ZLB is the one people have in mind

Price level targeting - Arguments in favor

But why not make sure the target is hit in bad times too? **Easier said than done!**

- CBs are not familiar with, or confident in the power of, unconventional methods
  - Downsides of large balance sheets (even if only political) are emerging
  - Many think effectiveness is limited to particular (disrupted markets) situations
- A big part of policy during the GFC was to try to raise expectations of *future* inflation
  - Ask BoJ how hard that can be!
- There was a hint of Fed willingness to 'overshoot' inflation after leaving ZLB, by holding rates 'lower for longer'
  - But very awkward with a 'simple' inflation target as you are implicitly saying you will miss the target intentionally
  - Will they follow through on the promise? Credible *ex ante*?

Price level targeting - Arguments in favor

Plausibly an explicit price level target will enhance credibility of overshooting

- Growth, inflation and interest rates remained very low after the GFC 'recovery'
- Another big demand contraction would likely have caused a return to ZLB and low, possibly negative, inflation
- Thus, it was feared that we might to enhance forward guidance tools before needing them again

But...

Price level targeting - Counterarguments

There are also some counterarguments to switching to PLT

- **Trivial one:** We've solved the problem of low inflation!
- Unclear if r^* is rising though, so it could return

Price level targeting - Counterarguments

More substantive (?) concerns:

- Inflation targeting has performed well for a long time and changes to policy would be disruptive and perhaps hard to communicate
- Not immediately obvious that people prefer reduced long run price uncertainty to shorter run inflation certainty
- Some types of shocks (supply shocks that raise inflation but suppress output - such as an oil shock) arguably shouldn't be responded to if they are transitory as many (not all) energy shocks are
  - See Bernanke article making this point
  - See this SF Fed note for importance of supply shocks
- Might it be more difficult to attain credibility in good times?
  - Will people tolerate high inflation because of past failures?

Average inflation targeting

Biggest reason for not adopting PLT fully?

- CBs have the option of a hybrid version
- Can take the 'best bits' and blend with IT

This is essentially what the Fed did in 2020

- Some people refer to the approach as 'flexible average inflation targeting' (FAIT)
- *Arguably* it is also now enshrined (though less assertively) in the ECB's updated strategy (see pt. 6)

Average inflation targeting

To maintain the symmetry of its inflation target, the Governing Council recognises the importance of taking into account the implications of the effective lower bound. In particular, when the economy is close to the lower bound, this requires especially forceful or persistent monetary policy measures to avoid negative deviations from the inflation target becoming entrenched. **This may also imply a transitory period in which inflation is moderately above target.**

ECB monetary policy strategy statement (emphasis mine)

Other suggested reforms

Some other - less widely supported - ideas have been mooted

- Fix inflation targeting by raising the target!
  - Tony discussed this
  - There is some logic as clearly the ZLB appears a greater risk
  - But could be horribly disruptive to credibility
  - Can we really say that 4% or 5% is 'price stability'
  - Arguably FAIT fixes *some* of the concerns with the ZLB
  - **Personal opinion:** Absolutely cannot be done in the current environment, emerging from an inflationary burst!
- Nominal GDP targeting
  - Won't discuss here - but happy to offline/in discussion

Looking beyond nominal anchors

Arguably some 'problems' with IT are not fixed by any of the above

- Excessive focus (?) on price stability, to exclusion of financial
  - Will discuss in week 5
  - Fixable without changing the nominal anchor?
- With **flexible** IT and hybrid IT-PLT it seems unlikely that any mandate change would be truly transformational
  - All the approaches give CBs a lot of flexibility and judgment in the short-medium run
  - All of them have credibility issues (and most non-IT are not well tested)
- Much of the heyday of IT seems to have coincided with good luck
  - Small (especially) supply shocks and downward trends in inflationary pressure (China)
  - Debt-laden countries, lower growth and larger shocks $\Rightarrow$ tricky time, regardless of particular monetary regime

Personal opinion: Flexible inflation targeting with overshooting allowed seems a good approach

Central bank independence

Pressure on central banks

In recent times it has been suggested that central bank independence has come under threat

- Perhaps not obvious in formal rule changes, yet
- More subtle changes - and concerns about the future. . .

Recalling inflation bias lectures

Recall from Tony's lectures

- No long run tradeoff between inflation and unemployment
- Nevertheless, possibly a short run tradeoff with surprise inflation
- Governments controlling monetary policy would be tempted to inflate for SR gain
- Dynamic inconsistency understood by public, leading to inflation bias
- Delegating to credible central bankers thought to be one response
- But pointless if completely controlled by government...

Classic readings: Kydland and Prescot (1978), Barro and Gordon (1983) - also Walsh textbook Ch. 6

Recalling inflation bias lectures

The rationale for delegating powers to independent central banks evolved mainly from the experience of the 1970s. At that time, policymakers believed that there was a stable trade-off between unemployment and inflation, whereby monetary policy could achieve permanently higher employment at the cost of slightly higher inflation. The trade-off rested on the notion that an increase in the money supply could boost aggregate demand and stimulate employment, while keeping inflation expectations well anchored. This policy was revealed to be time-inconsistent. Over time, commitments to control inflation at a later date lost credibility. The public came to anticipate the behaviour of monetary policy and quickly embedded expectations of higher inflation in their price setting and wage bargaining. The trade-off between unemployment and inflation disappeared.

Mario Draghi, Lamfalussy Lecture, 2016

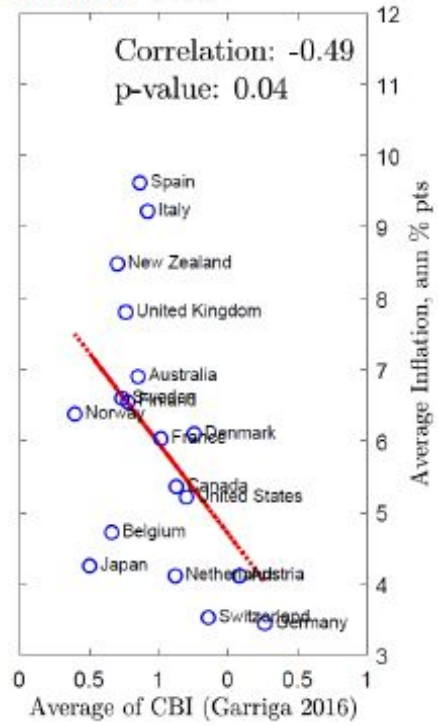
CBI long thought 'a good thing'

With a credible central bank inflation could be lowered and stabilized

- Without significant deterioration in real activity or its variability
- Often regarded as a key element of 'the Great Moderation'
- Generally accepted as successful, though at low inflation rates correlation between CBI and inflation performance weakens (not surprising)

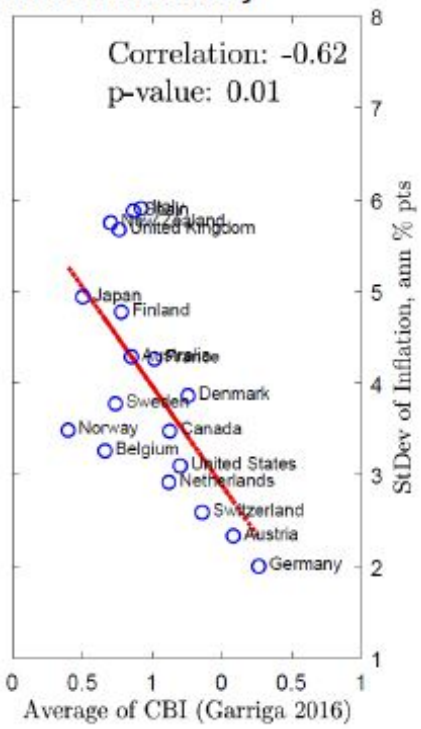
Recalling inflation bias lectures

Chart 4: Independence and Inflation



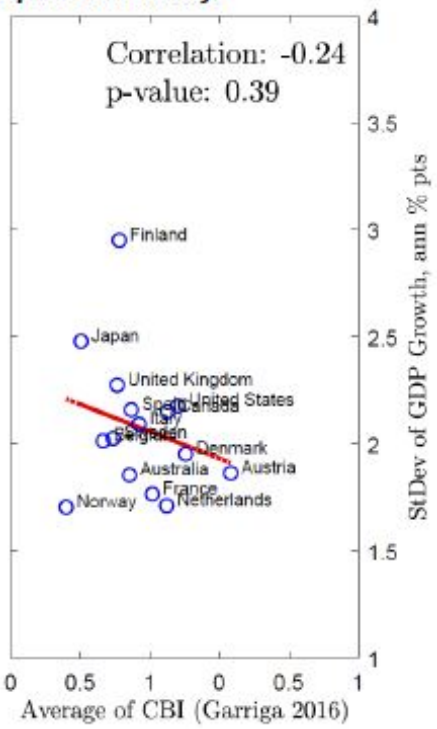
Source: Bank of England

Chart 5: Independence and Inflation Variability



Source: Bank of England

Chart 6: Independence and Output variability



Source: Bank of England

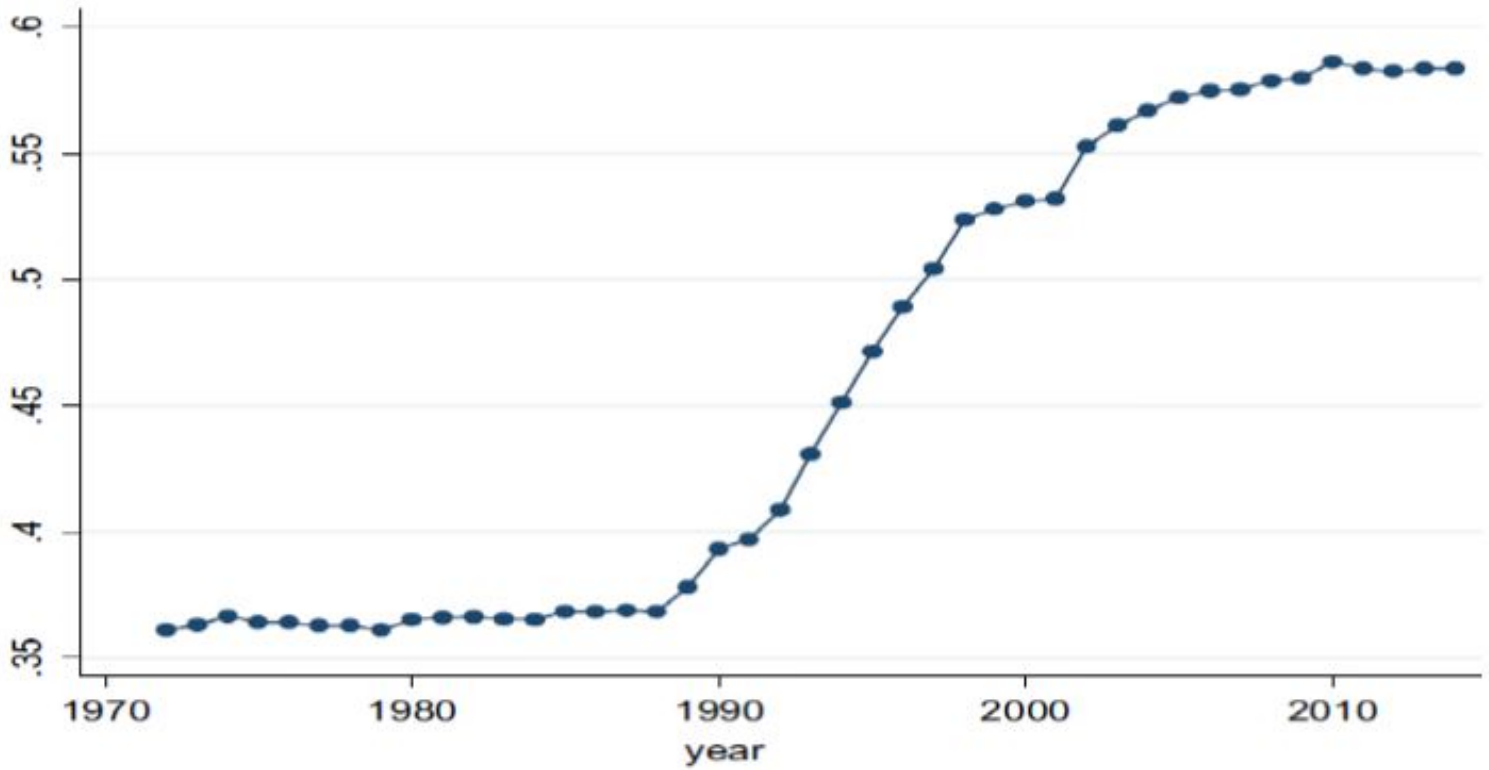
CBI and macro performance, 1970-1999. CBI measured based on Garriga (2016).
Source: Haldane (2020)

CBI long thought 'a good thing'

An effective policy regime prevents a bad outcome, such as high inflation, emerging in the first place, eliminating any reduced-form correlation between the policy regime or action and the eventual macro-economic outcome. The impact of policy is, in this sense, unobservable from reduced-form correlations

Andy Haldane, What has CBI ever done for us?, 2020

Enhancements in independence over time



Average central bank independence over time. *Source:* Blejer+Wachtel (2020)

What is central bank independence?

Question?

- How might one define central bank independence?

Pillars of CBI

Key elements of independence (see Haldane (2020))

- Quasi-constitutional independence
  - May be literal (ECB/Bundesbank) or *de facto* (BoE - see recent Liz Truss debacle)
  - Note that there are still powerful accountability and transparency requirements

- Institutional independence
  - How the practice of monetary policy is delegated
  - Many 'independent' central banks are *goal dependent* - they do not set their own goals (e.g. inflation target)
  - ECB and Fed are very independent and can define 'price stability'
  - Most vital element is to be *instrument independent* - was vital in the ability to switch to unconventional policy

Pillars of CBI

- Personal independence
  - Who appoints whom?
  - Committee structure and role of Governor
  - Tenure length (ideally fairly long)
  - Nervousness over finance ministry appointees (+ weak non-experts)
- Financial and economic independence
  - Very hot topic - will discuss at greater length in wk. 5
  - Central banks need to fund their activities - possibly a lever of influence
  - More prominent since unconventional monetary policy / large BS
  - Always a worry over 'fiscal dominance' or 'monetary financing' of debt (see Polish controversy at the moment)

Measurement of CBI

Various CB independence (and transparency) measures

- Nice summaries in ECB (2020) (secs. 3/4 especially) and IMF (2022)
- Cukierman *et al* (1992) is influential (on which others are based)
- Bodea and Hicks (2015) and Garriga (2016 - since updated) are more recent attempts - and see the new measure from the IMF

Measurement of CBI

Typically these measures weight several individual indices capturing different aspects of independence

- Let's look at Cukierman *et al* (1992)

Cukierman et al (1992)

Variable number	Description of variable	Weight	Numerical coding
1	Chief executive officer (CEO)	0.20	
	a. Term of office		
	Over 8 years		1.00
	6 to 8 years		0.75
	5 years		0.50
	4 years		0.25
	Under 4 years or at the discretion of appointer		0.00
	b. Who appoints CEO?		
	Board of central bank		1.00
	A council of the central bank board, executive branch, and legislative branch		0.75
	Legislature		0.50
	Executive collectively (e.g. council of ministers)		0.25
	One or two members of the executive branch		0.00
	c. Dismissal		
	No provision for dismissal		1.00
	Only for reasons not related to policy		0.83
	At the discretion of central bank board		0.67
	At legislature's discretion		0.50
	Unconditional dismissal possible by legislature		0.33
	At executive's discretion		0.17
	Unconditional dismissal possible by executive		0.00
	d. May CEO hold other offices in government?		
	No		1.00
	Only with permission of the executive branch		0.50
	No rule against CEO holding another office		0.00
2	Policy formulation	0.15	
	a. Who formulates monetary policy?		
	Bank alone		1.00
	Bank participates, but has little influence		0.67
	Bank only advises government		0.33
	Bank has no say		0.00
	b. Who has final word in resolution of conflict?[a]		
	The bank, on issues clearly defined in the law as its objectives		1.00
	Government, on policy issues not clearly defined as the bank's goals or in case of conflict within the bank		0.80
	A council of the central bank, executive branch, and legislative branch		0.60
	The legislature, on policy issues		0.40
	The executive branch on policy issues, subject to due process and possible protest by the bank		0.20
	The executive branch has unconditional priority		0.00
	c. Role in the government's budgetary process		
	Central bank active		1.00
	Central bank has no influence		0.00
3	Objectives	0.15	
	Price stability is the major or only objective in the charter, and the central bank has the final word in case of conflict with other government objectives		1.00
	Price stability is the only objective		0.80
	Price stability is one goal, with other compatible objectives, such as a stable banking system		0.60
	Price stability is one goal, with potentially conflicting objectives, such as full employment		0.40

Cukierman et al (1992)

Variable number	Description of variable	Weight	Numerical coding
	No objectives stated in the bank charter		0.20
	Stated objectives do not include price stability		0.00
4	Limitations on lending to the government		
	a. Advances (limitation on nonsecuritized lending)	0.15	
	No advances permitted		1.00
	Advances permitted, but with strict limits (e.g., up to 15 percent of government revenue)		0.67
	Advances permitted, and the limits are loose (e.g., over 15 percent of government revenue)		0.33
	No legal limits on lending		0.00
	b. Securitized lending	0.10	
	Not permitted		1.00
	Permitted, but with strict limits (e.g., up to 15 percent of government revenue)		0.67
	Permitted, and the limits are loose (e.g., over 15 percent of government revenue)		0.33
	No legal limits on lending		0.00
	c. Terms of lending (maturity, interest, amount)	0.10	
	Controlled by the bank		1.00
	Specified by the bank charter		0.67
	Agreed between the central bank and executive		0.33
	Decided by the executive branch alone		0.00
	d. Potential borrowers from the bank	0.05	
	Only the central government		1.00
	All levels of government (state as well as central)		0.67
	Those mentioned above and public enterprises		0.33
	Public and private sector		0.00
	e. Limits on central bank lending defined in	0.025	
	Currency amounts		1.00
	Shares of central bank demand liabilities or capital		0.67
	Shares of government revenue		0.33
	Shares of government expenditures		0.00
	f. Maturity of loans	0.025	
	Within 6 months		1.00
	Within 1 year		0.67
	More than 1 year		0.33
	No mention of maturity in the law		0.00
	g. Interest rates on loans must be	0.025	
	Above minimum rates		1.00
	At market rates		0.75
	Below maximum rates		0.50
	Interest rate is not mentioned		0.25
	No interest on government borrowing from the central bank		0.00
	h. Central bank prohibited from buying or selling government securities in the primary market?	0.025	
	Yes		1.00
	No		0.00

Differences over time and country

(index value from 0 to 1)

	Bodea and Hicks (2015)		Garriga (2016)	
Central bank of	2005	2014	2005	2012
Argentina	0.78	0.73	0.82	0.77
Australia	0.31	0.31	0.35	0.35
Brazil	0.25	0.25	0.17	0.17
Canada	0.47	0.47	0.48	0.48
China	0.69	0.69	0.55	0.55
ECB	0.86	0.86*	0.80	0.80
India	0.25	0.25	0.26	0.26
Indonesia	0.95	0.95	0.83	0.83
Japan	0.44	0.44	0.55	0.55
Korea	0.40	0.40	0.44	0.44
Mexico	0.64	0.64	0.67	0.67
Russia	0.60	0.60	0.64	0.64
Saudi Arabia	n.a.	n.a.	0.42	0.42
South Africa	0.41	0.41	0.43	0.45
Turkey	0.80	0.80	0.86	0.86
United Kingdom	0.58	0.58	0.59	0.59
United States	0.51	0.51	0.40	0.40

Comparing CBI across time and country. *Source:* ECB (2020)

De facto vs de jure

Important point:

- *De jure* CBI (i.e. based on official rules, unambiguous legislation) is difficult to measure
- *De facto* CBI is *even more difficult* to assess
- Arguably, there has been a deterioration in this regard - even if *de jure* deterioration has been minimal
  - Though there are examples of *de jure* deterioration - see Turkey

Reasons for current concern

To be honest, the evidence isn't *overwhelming* that CBI is under threat, but it is certainly being debated

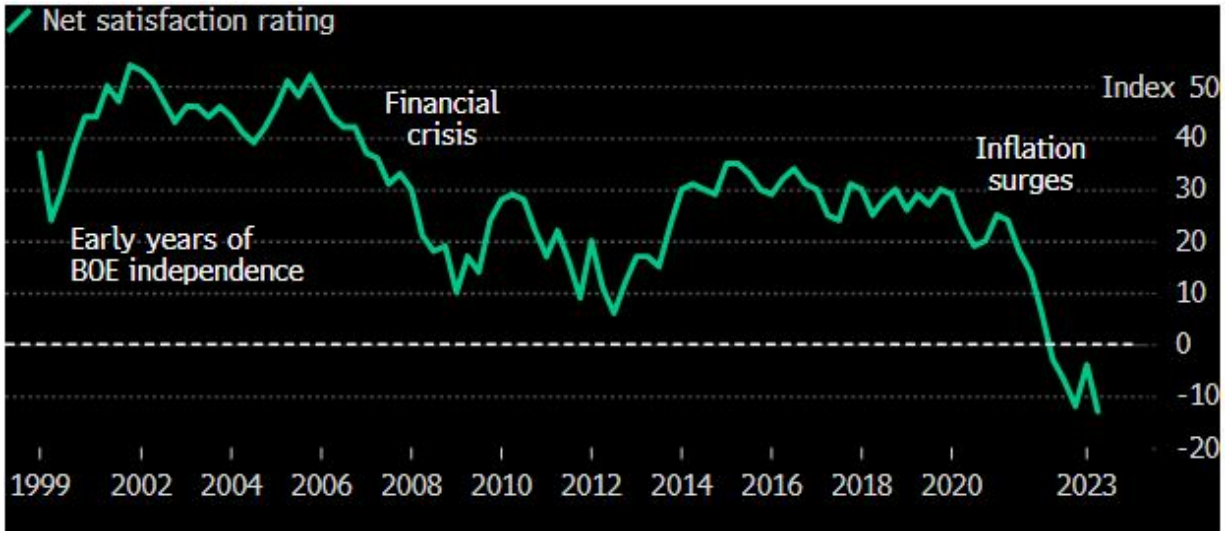
- Why?

Reasons for current concern

Complacency?

- Had low and stable inflation for a long time (until recently!)
- May have forgotten the bad times of inflation bias
- Very difficult series of large shocks with *supply-side* elements (COVID, Ukraine) or (excessive) fiscal stimulus has been partly blamed on central banks
  - Though somewhat reassuring governments were on the side of inflation reduction?

Differences over time and country



Satisfaction with the BoE. *Source:* Bloomberg/IPSOS (2023)

Reasons for current concern

Expansion of activities and tools

- Unconventional monetary policy and emergency credit policies
- Enhancement of in-house financial stability role, stress testing
- Climate policy?
- All of these are much less obviously politically neutral than traditionally 'setting the short rate'
  - Increasing awareness of non-neutrality of traditional policy too

Multidimensionality and complexity raise novel problems

- Part of the reason for IT's success is its simplicity
- Makes accountability much easier - vital for an unelected body
- Ambiguity of other tasks and multidimensions makes the independence model more difficult

Reasons for current concern

Suspicions over connections with financial markets/banks...

> *People are frightened... How do you explain to them that the Fed has spent $2 trillion to help many of the same banks that got us into this crisis in the first place?*
>
> - Sen. Bernie Sanders, quoted in NY Times (2009)

See also the 'End the Fed', 'Audit the Fed' phenomena (and Bitcoin!)

Reasons for current concern

Perhaps the biggest issue is the (arguably) increasingly blurred line between monetary and fiscal policy

- People don't like the sight of the central bank buying lots of government debt!
- Will discuss at length later in the course