

Lecture 4: A Science of Monetary Policy?

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Outline of Arguments

- Gradual movement from doing many things from markets to debt management to one thing - inflation targeting
- Was this the End of Monetary History?
- Realisation of the Game between policy makers and smart economic agents
- Monetary Rules needed to be shown how they would dominate discretion
- Search for fixed points about which we can all co-ordinate
- Problems with the current regime were eventually exposed.

The Central Banking problem

“The essence of central banking is discretionary control of the monetary system. The purpose of central banking has been defined in various ways: to maintain stability of the price level, to keep the economy on an even keel, and so on... The choice of purpose - the object of monetary policy - is not irrelevant to the choice of method: a community might hope more reasonably in some cases than in others to attain its ends by making the monetary system work to rule. And working to rule is the antithesis of central banking. A central bank is necessary only when the community decides that a discretionary element is desirable. The central banker is the man who exercises his discretion, not the machine that works according to rule.”

R. S. SAYERS (1957), Central Banking After Bagehot.

The End of Monetary History?

- A CPI-based inflation target of around 2%
- Set by government but implemented by an operationally independent central bank
- Committee of disinterested experts concentrating on inflation, as an indicator of economic imbalances
- Separation principle in play - with fiscal and financial factors in a box
- Policy actions and explanations directed at influencing people's beliefs
- Belief, even in a cynical age, can still be a powerful weapon.

- Four (Ad Hoc) Periods:

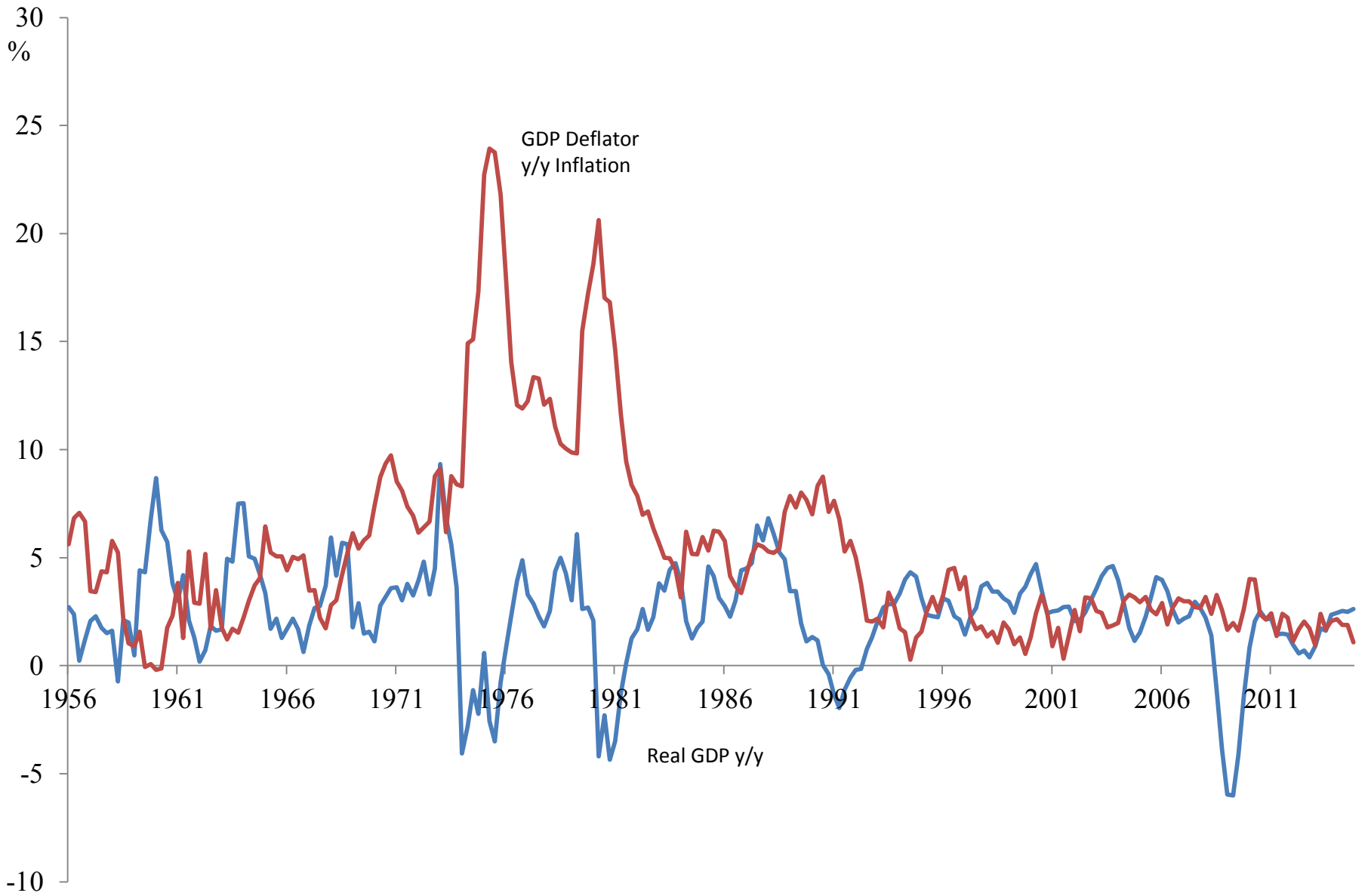
Bretton Woods and post-war 'Golden Period' - 1956-1970

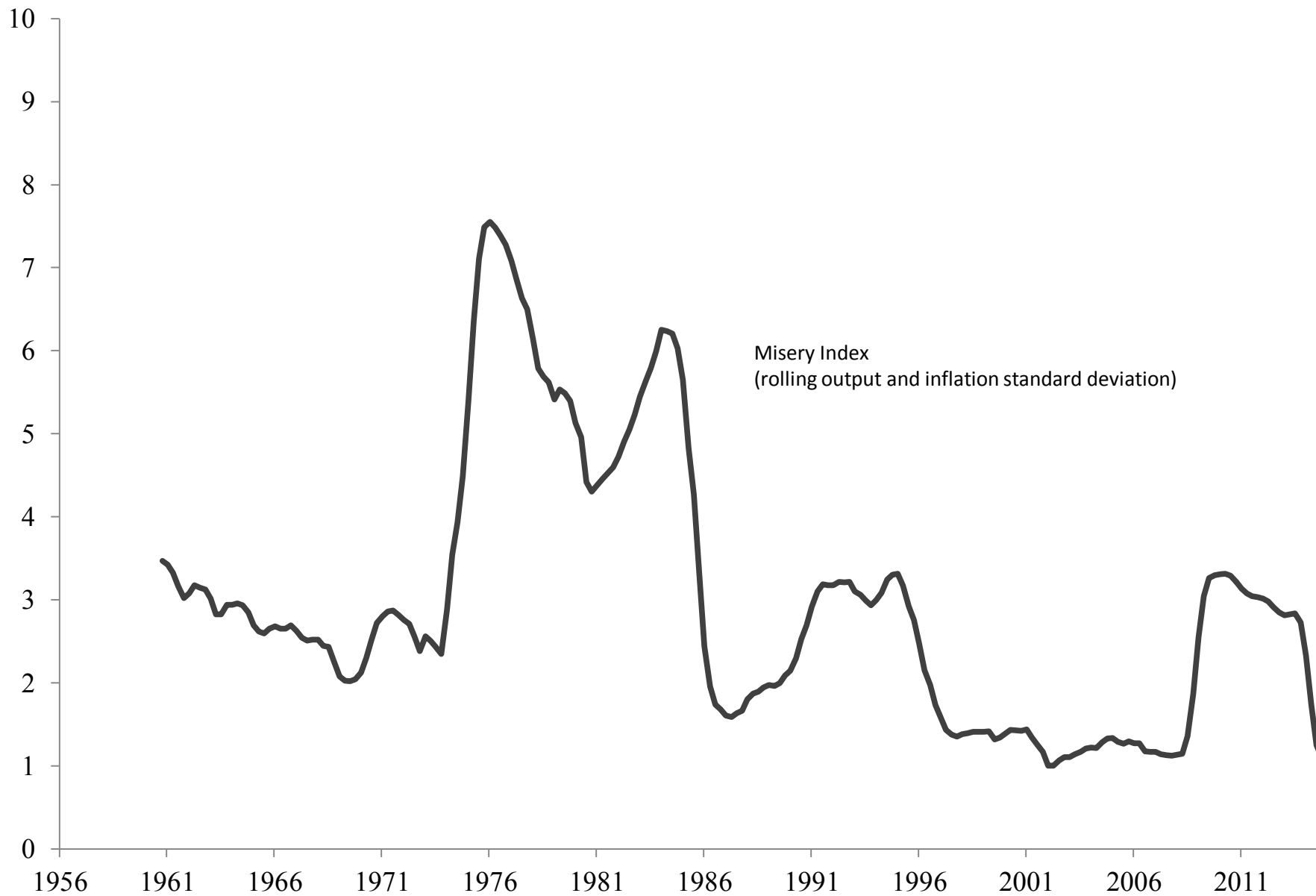
The Loss and Search for the Nominal Anchor - 1971-1992

The Long Expansion - 1993-2007

After the Fall - 2007-2014...

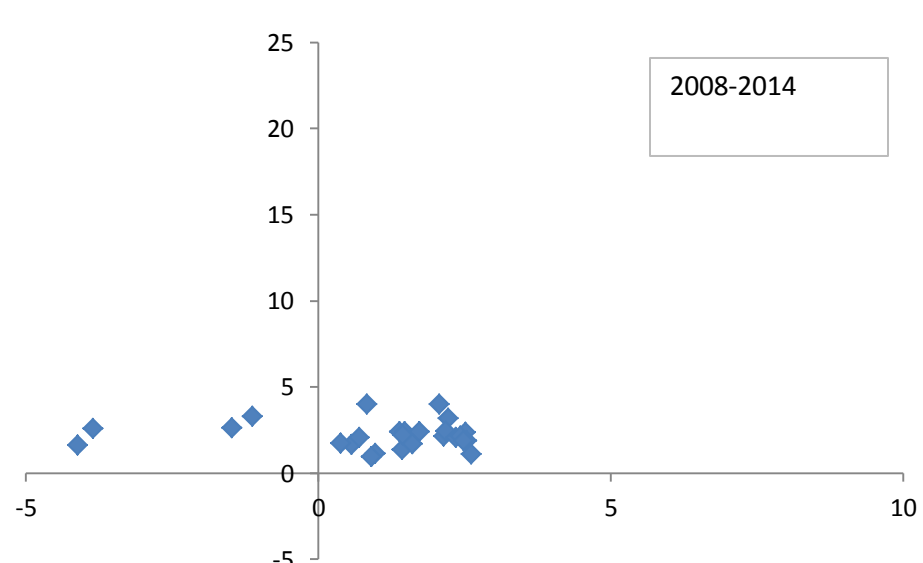
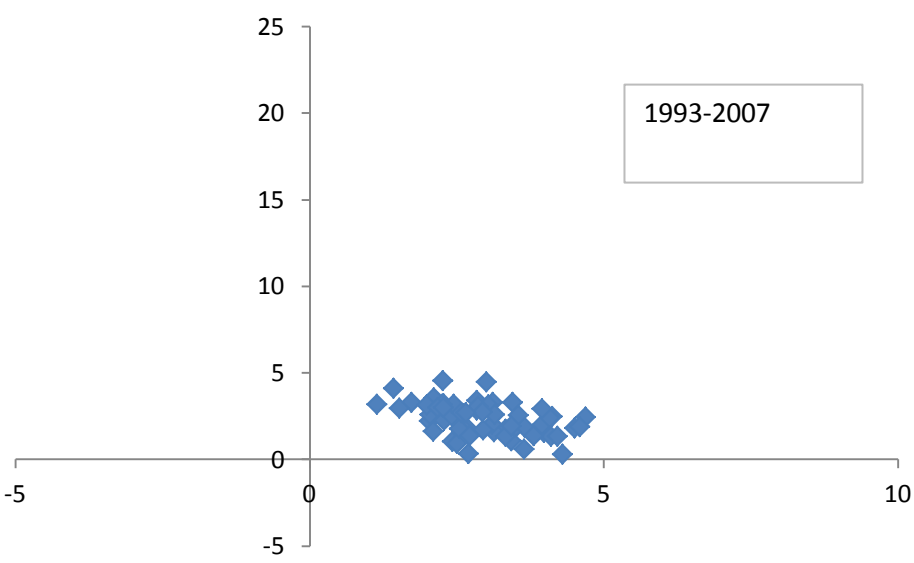
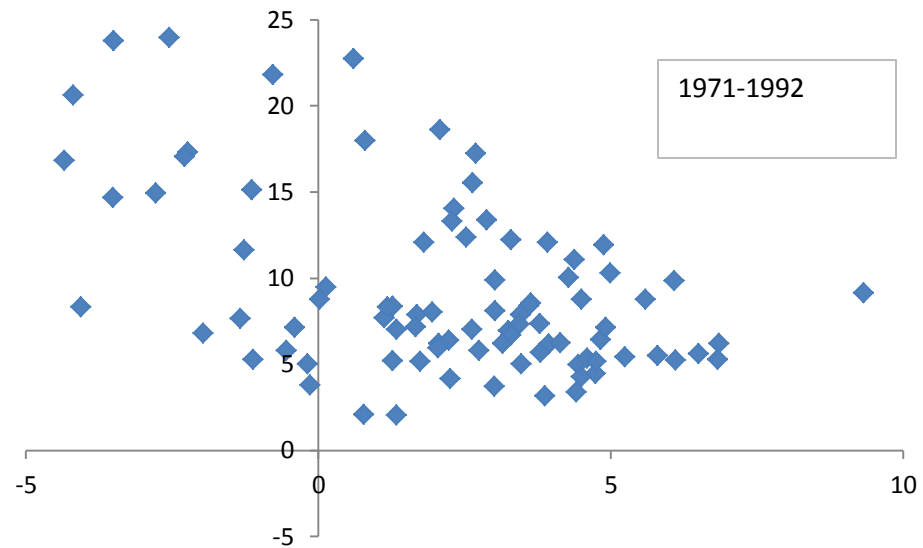
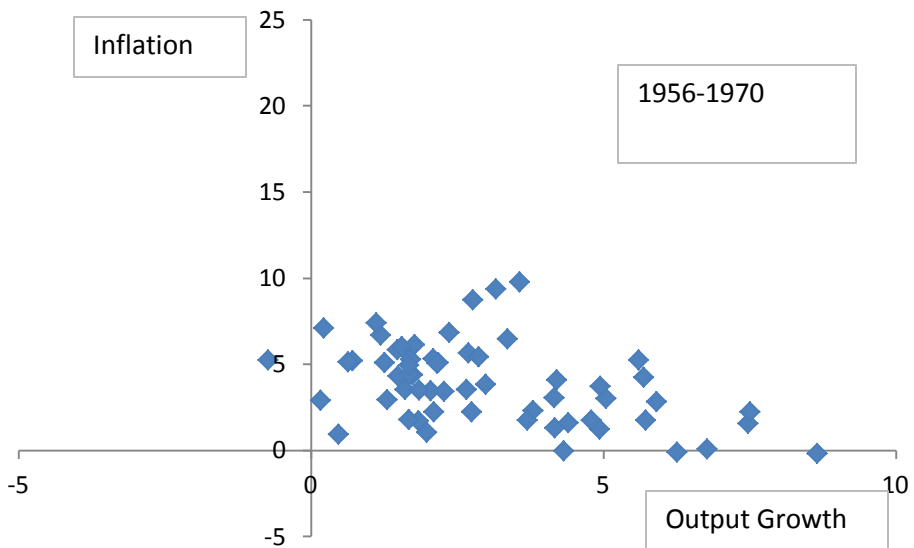
- To examine time series, in measure of welfare and in cross sections
- Just how badly have our policy makers done against the historical record?





Misery Index
(rolling output and inflation standard deviation)

Inflation



David Hume, On Money, 1752

“Money is not, properly speaking, one of the subjects of commerce; but only the instrument which men have agreed upon to facilitate the exchange of one commodity for another. It is none of the wheels of trade: It is the oil which renders the motion of the wheels more smooth and easy. If we consider any one kingdom by itself, it is evident, that the greater or less plenty of money is of no consequence; since the prices of commodities are always proportioned to the plenty of money”

“From the whole of this reasoning we may conclude, that it is of no manner of consequence, with regard to the domestic happiness of a state, whether money be in a greater or less quantity. The good policy of the magistrate consists only in keeping it, if possible, still increasing; because, by that means, he keeps alive a spirit of industry in the nation, and encreases the stock of labour, in which consists all real power and riches.”

The Lucas Costs of Business Cycles

$$U(\bar{c}) = \frac{\bar{c}^{1-\rho}}{1-\rho}$$

where \bar{c} = average consumption and ρ measures risk aversion.

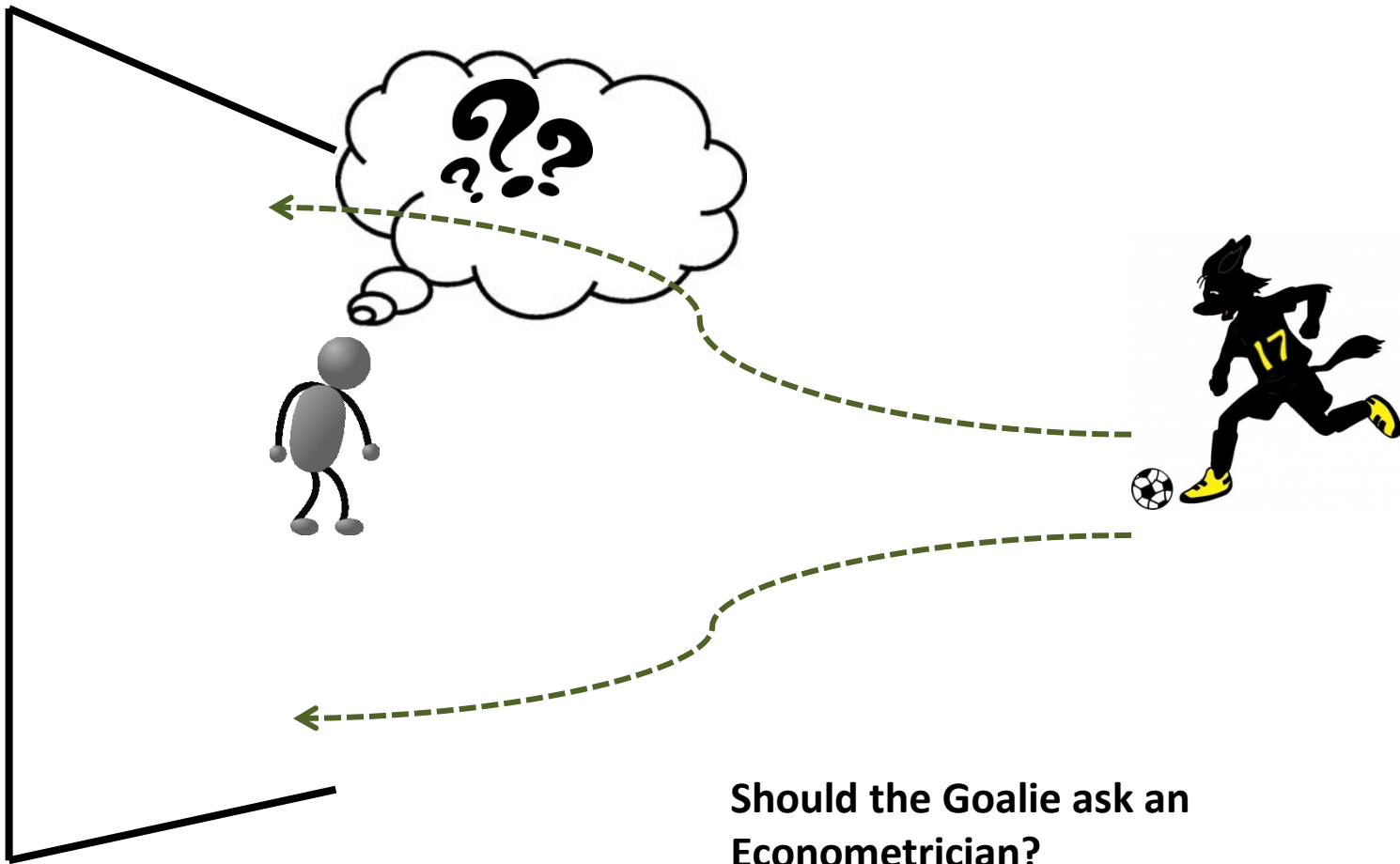
$$E[U(\bar{c})] \approx \frac{\bar{c}^{1-\rho}}{1-\rho} - \frac{\rho}{2} \bar{c}^{-\rho-1} \sigma_{\bar{c}}^2$$

$$\frac{\rho}{2} \left(\frac{\sigma_{\bar{c}}}{\bar{c}} \right)^2 = \frac{4}{2} (0.03)^2 = 0.2\% \bar{c}$$

- If \bar{c} is £25,000 then the costs of business cycle fluctuations is only around £50 per year!

The Lucas Critique

- The policy maker may estimate certain behavioural parameters e.g. how much inflation may flow from a given increase in output;
- If they have some notion of establishing price stability at some implicit level of inflation they may decide to respond to any observed increases in output using their estimates of the responsiveness of inflation to output and of the impact their policy instrument has in output;
- The problem Lucas highlighted was a circularity. The calculation of the optimal response of the policy maker depending on estimates that themselves contained previous responses of policy makers;
- If the policy maker now changed his behaviour, the estimates based on historic behaviour not only would be wrong but the response of the economy may not have the expected effect.



**Should the Goalie ask an
Econometrician?**

Policy Ineffectiveness Proposal

- Efficient Market Hypothesis Influencing Policy
- Monetary feedback rules rely on information sets available to the public
- Cannot then produce information that is "new" to the public and therefore able to influence their plans
- Sargent and Wallace argue that feedback rules cannot "fool" agents into changing temporarily their labour supply
- Implication: make monetary policy something that works by stealth and surprise
- Not an attractive prospect for welfare or common social objectives to play "war games" with households

- Absence of a commitment technology means that government's cannot convince households or investors about the consistency of their stated policies
- Attack on control theory in natural world where games are a more natural analytical framework:
 - 1 Government wants to commit to low tax regime for foreign capital
 - 2 Capital will flow up but this will raise the incentive for the government to change the tax regime
 - 3 forward-looking agents will see this trigger point and not even invest in the first place!
- The credibility problem became central to policy making.

		Central Bank	
		Low	High
Private Sector	Low	Bliss	High Output
	High	Low Output	Inflation Bias

The good equilibrium is unstable because the Central Bank has an incentive to deviate and the private sector can see that

The UK's search for a credible rule

- Post-Bretton Woods - incomes and prices policies
- around the time of the IMF crisis of 1976 the adoption of monetary targets
- MTFS from 1980 with various measures of money
- abandonment of domestic monetary anchor with DM shadowing and then joining the ERM in 1990
- Exit of 1992 started IT I
- Formation of MPC started IT II...what next?

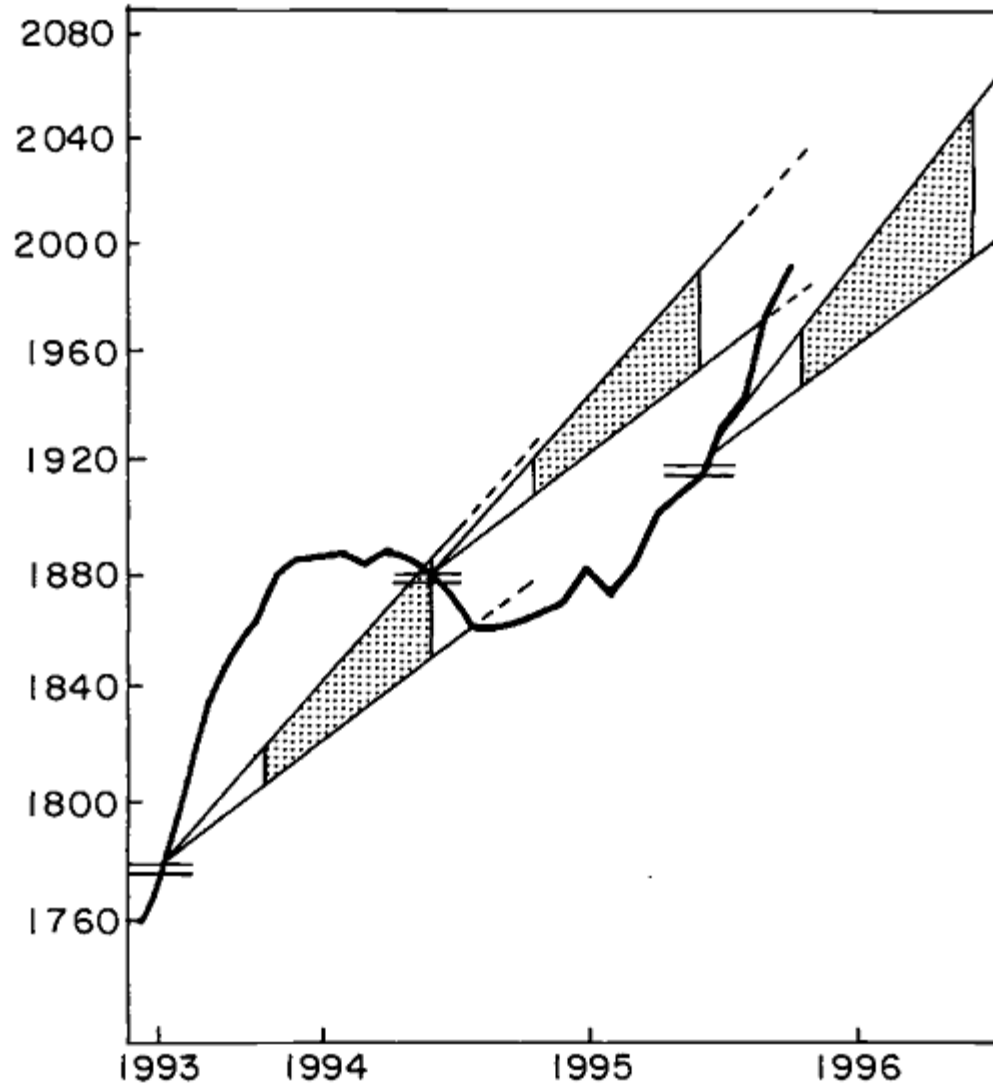


Fig. 10C.2 M3 growth targets

Micro-Founded Macroeconomic Models

- household budget constraints with optimising behaviour in terms of utility maximisation
- firm-level decision rules to maximise profits
- monetary and fiscal that respected the government budget constraint
- study of welfare consequences, equilibrium determination and alternate policy rules under credibility

The NK Model

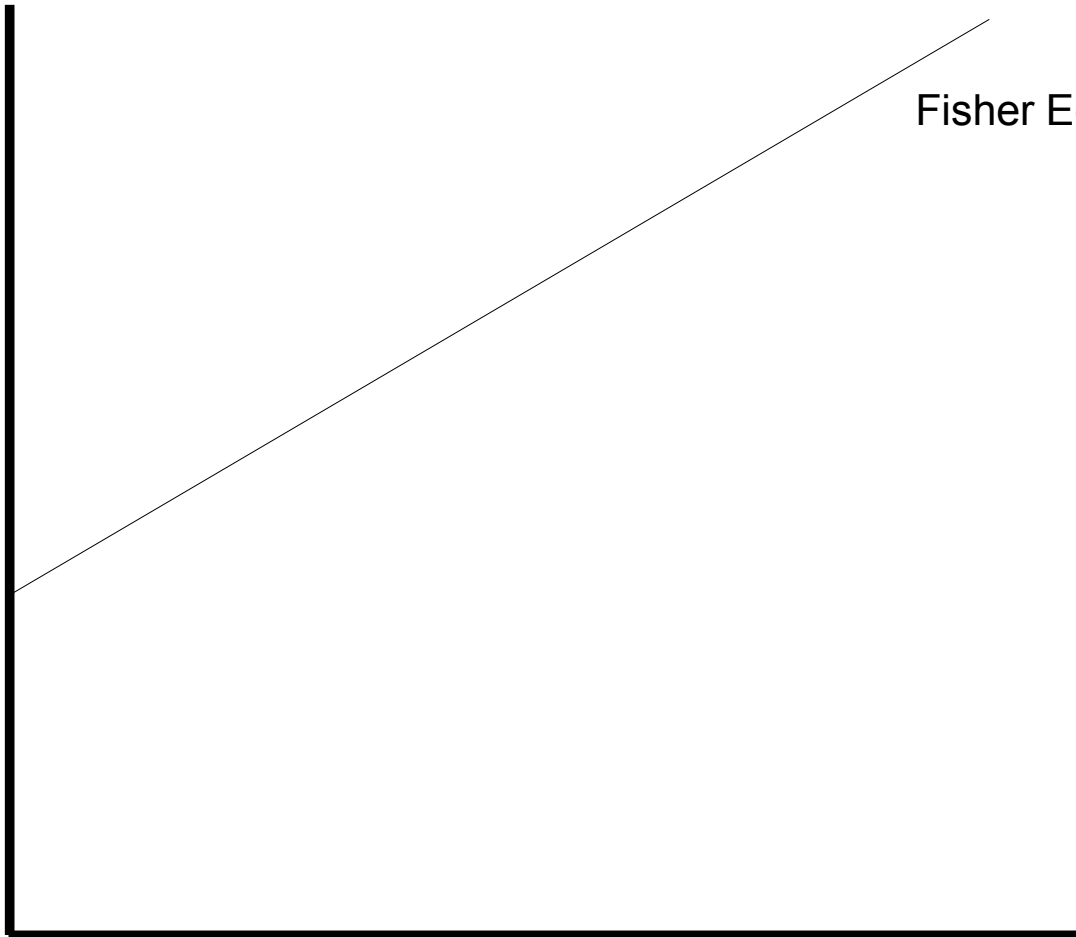
- Monopolistic competitive firms with optimal - profit maximising output prices relative costs i.e. mark-ups
- Sticky prices with firms prevented from changing all prices in every period
- Output gap - output relative to the flex-price level - determined actual versus desired aggregate mark-up
- Forward-looking agents set consumption as a function of the stream of real interest rates
- Inflation is set as a function of the stream of policy rates
- Economy can be buffeted by various shocks to which the policy maker by changing the real interest rate.

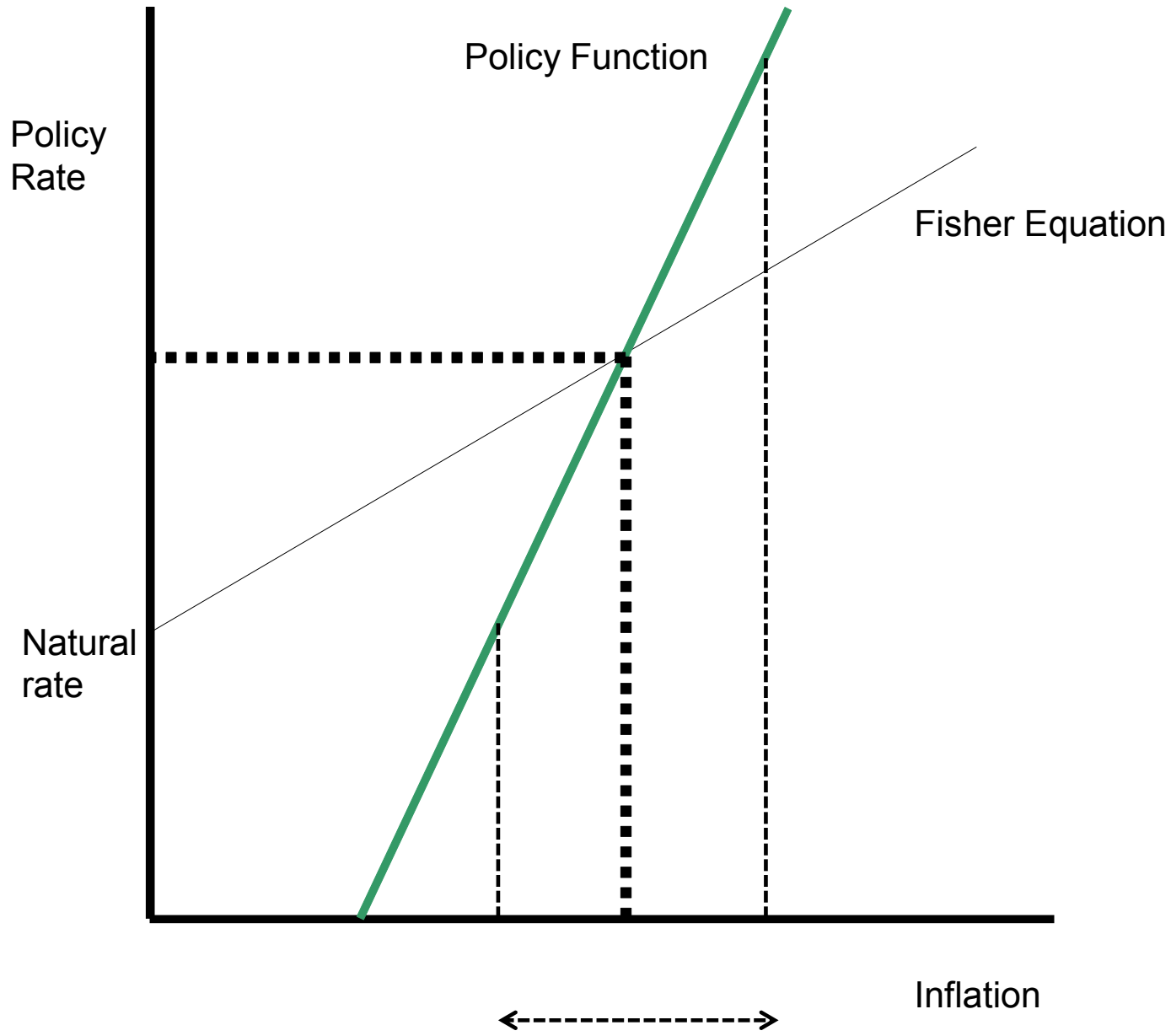
Policy
Rate

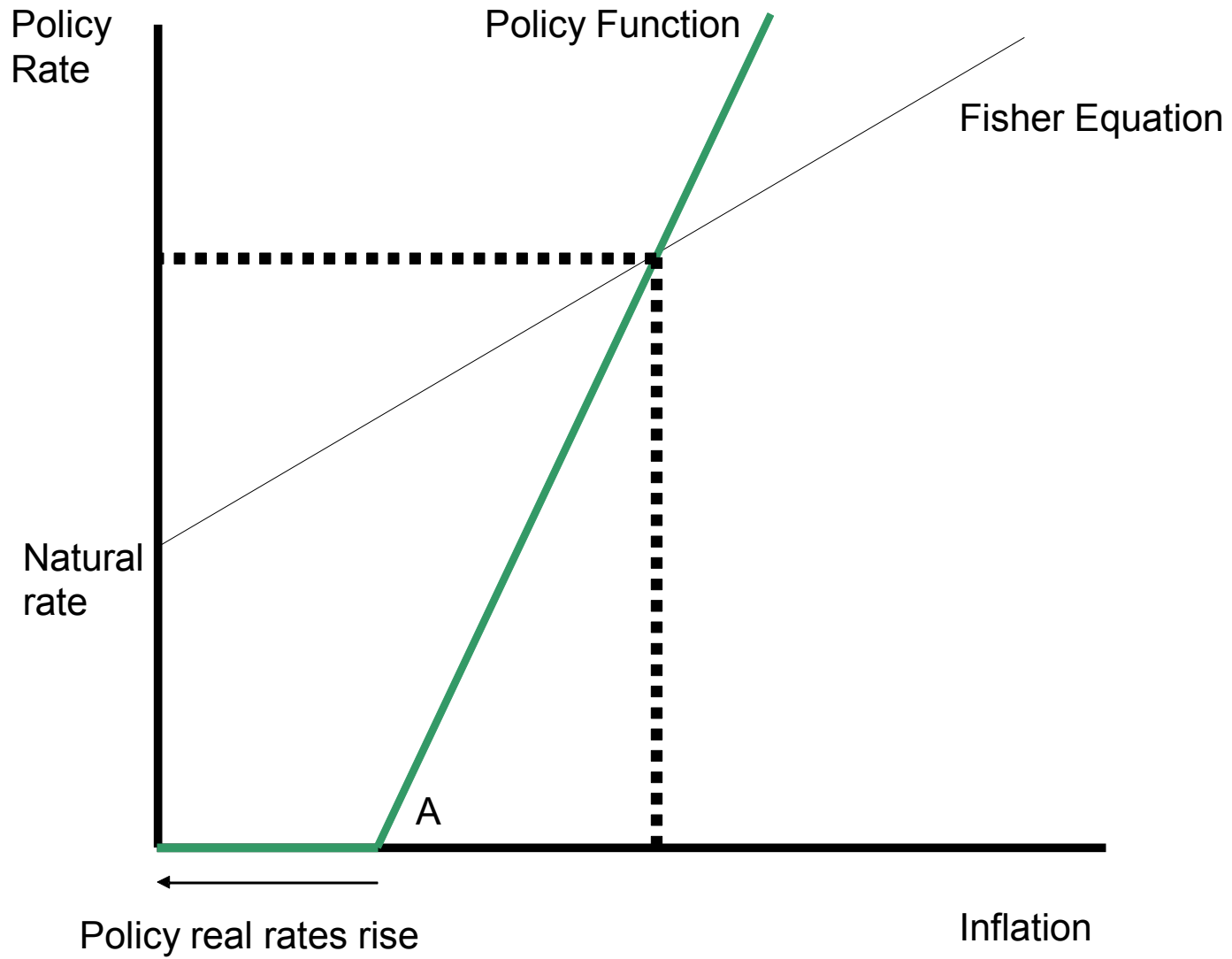
Natural
rate

Fisher Equation

Inflation







Concluding Remarks

- Exactly how bad has these recession been?
- Hard to monetary policy to keep fiscal and financial factors in a box
- Many more policy levers than simply Bank Rate
- But is the intellectual framework in need of fundamental change or not?