Policy Delegation: Inflation Bias and Central Bank Independence

Macroeconomics 2: Monetary Policy

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Introduction

- Observation: (Changes in) monetary policy are inherently redistributive.
  - Borrowers and lenders affected differently.
  - Hence a ‘political’ decision?

- What is monetary policy for?
  - Price Stability?
  - Stable Inflation?
  - Minimize output variability?

- Who should do it?
  - Politicians?
  - Delegated ‘independent’ officials?

Introduction

- Politicians are *democratically accountable*, but:
  - democracy in general doesn't guarantee optimal outcomes;
  - maybe incompetent;
  - maybe susceptible to inflation bias;
  - maybe susceptible to electorally induced volatility.

The Barro-Gordon model

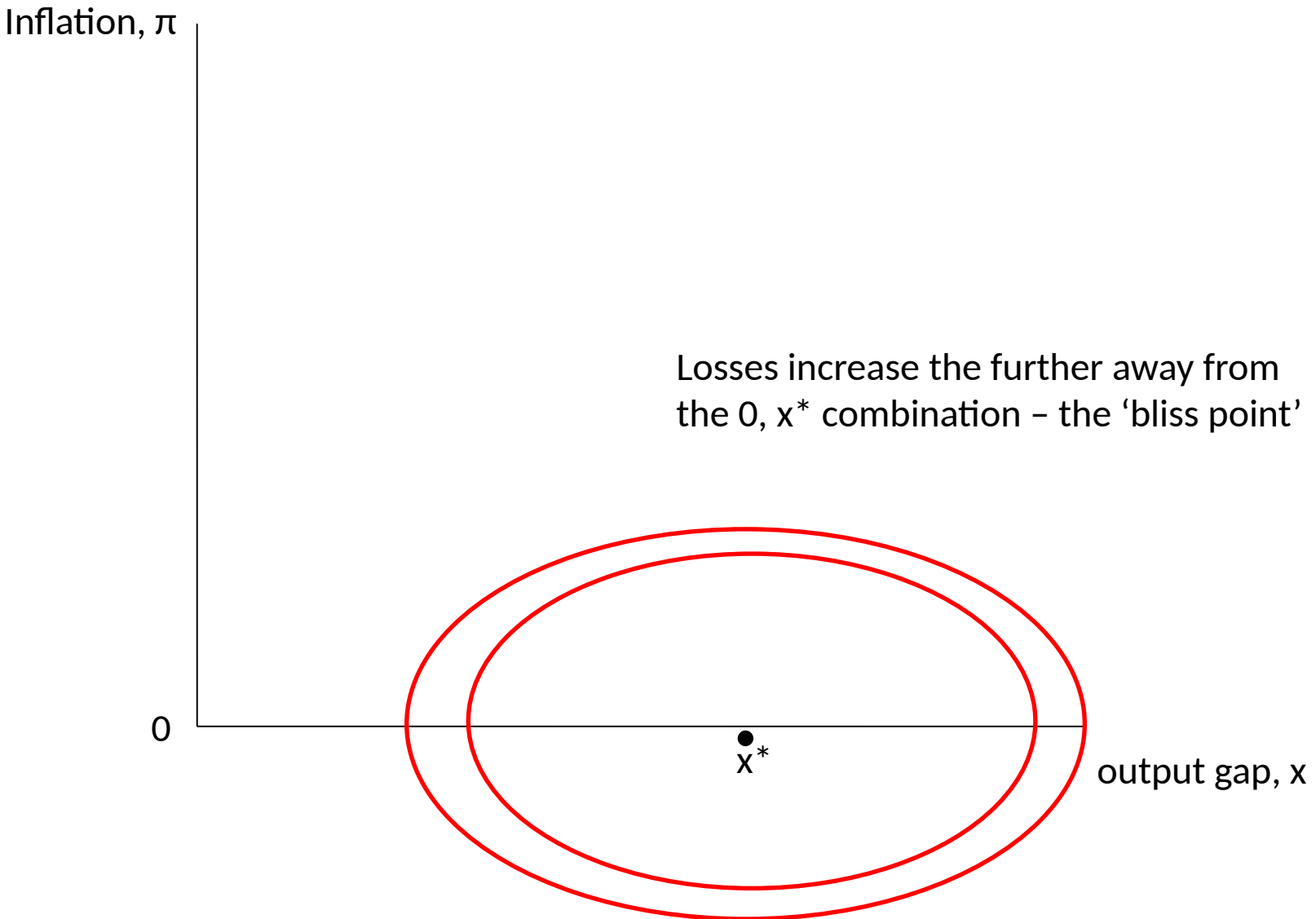
The Barro-Gordon (1983) model of inflation bias

Consider the following very simple set-up where the government's preferences are represented by

$$L^G = \lambda\pi^2 + (x - x^*)^2$$

L^G = the welfare loss to the government, π=inflation, x=output deviation from the natural rate, x^*=targeted output and λ is the government's relative dislike for the deviation of inflation from zero.

Barro-Gordon: the ‘loss function’



The Barro-Gordon model

The ‘constraint’ is the Phillips Curve:

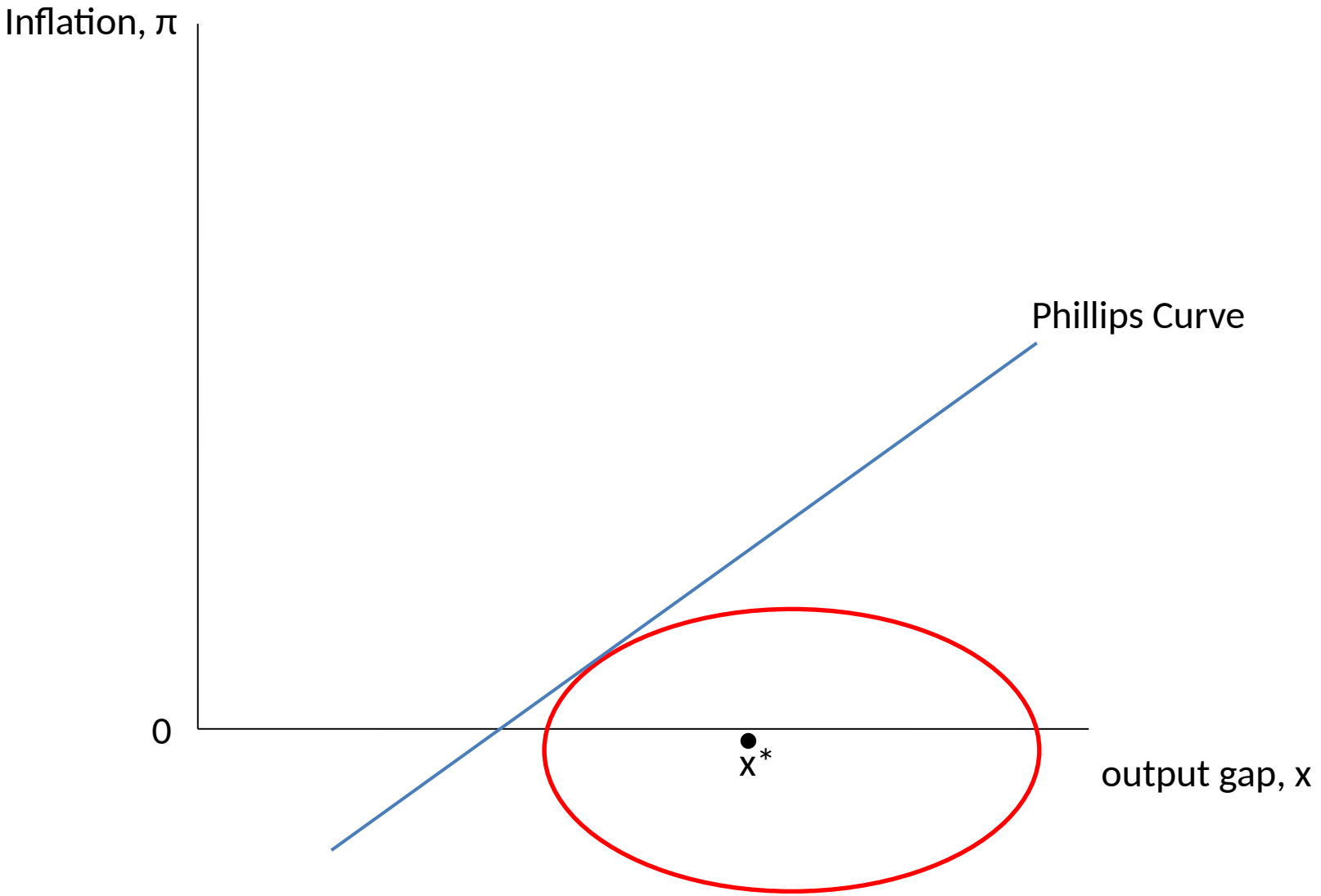
which implies

$$x=\alpha(\pi-\pi^e)$$

where π^e is expected inflation. (Note when expectations are correct, output equals its natural rate.)

Note this is a rewritten form of the Phillips Curve you encountered in Macro 1 (where inflation was on the LHS).

The Barro-Gordon model



The Barro-Gordon Model

Timing – implicit in the Phillips Curve:

(Important!)

Wages are set *before* policy is set. So have to form an expectation of what the policymaker – who here effectively chooses π – will do.

Equilibrium inflation and output

Optimization under ‘monetary policy discrection’ (D) implies;

$$L^D = \lambda\pi^2 + (x\text{-}x^*)^2 = \lambda\pi^2 + (\alpha(\pi\text{-}\pi^e)\text{-}x^*)^2$$

$$\partial L^D/\partial\pi = 2\lambda\pi + 2\alpha(\alpha(\pi\text{-}\pi^e)\text{-}x^*)=0$$

Setting $\pi = \pi^e$ as in the medium run and re-arranging yields;

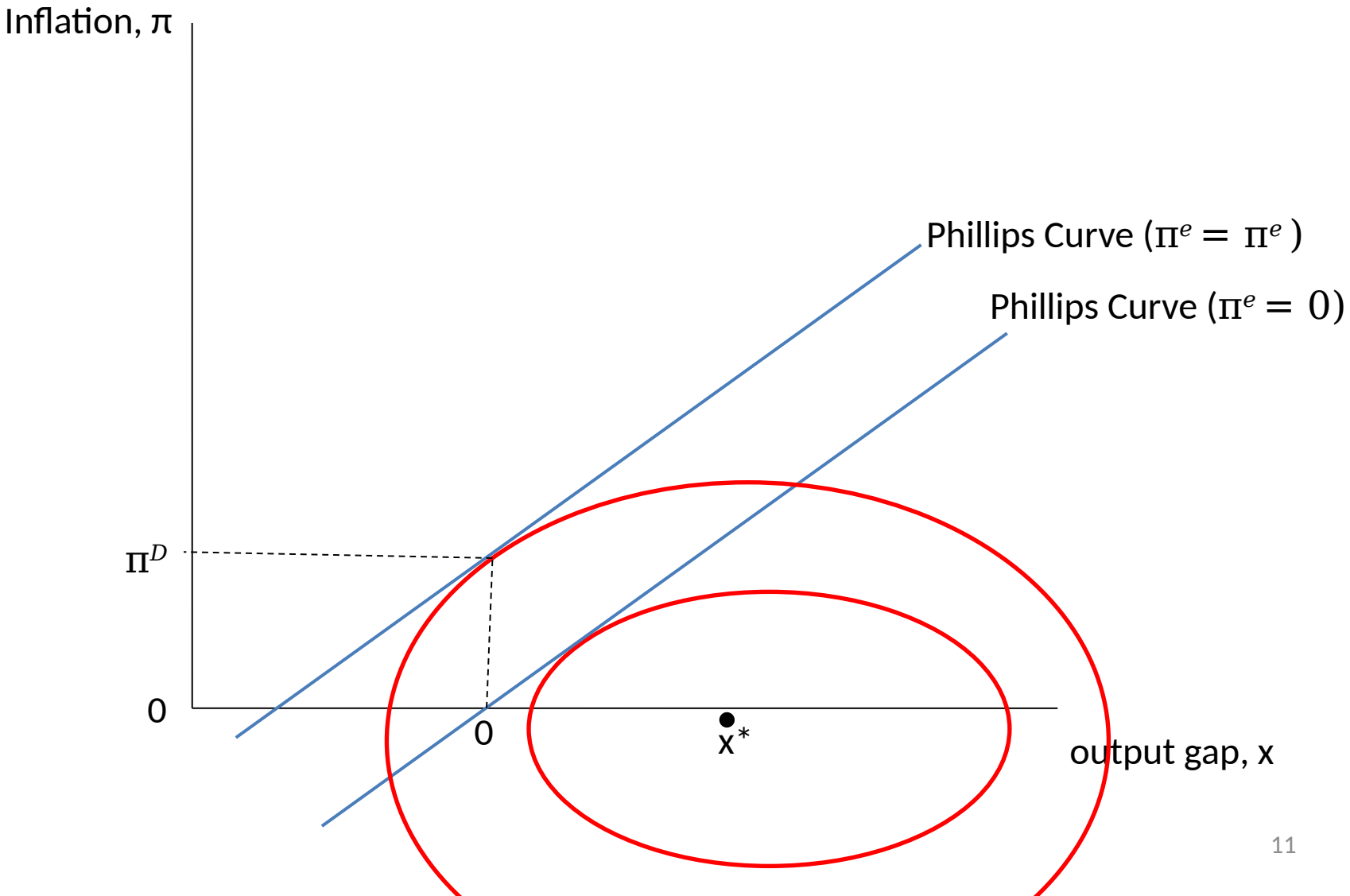
$$\pi^D=\alpha x^*/\lambda,\ x^D=0$$

Note that x = the output gap = 0 in the medium run

Equilibrium inflation and output

The argument that $\pi = \pi^e$ in the medium run is means that the Phillips Curve will adversely shift as the private sector anticipates expansionary policy if inflation is too low.

Barro-Gordon: inflation bias



Inflation Bias

- The source of such a positive inflation bias is the rational expectations – wages are set on wage setters' expectations of the policy-maker's actions not on announcements.

- Such an inflation bias arises from the **time-inconsistency** of 'initially optimal' policies (Kydland and Prescott 1977).