

Time Inconsistency

Time inconsistency refers to the following idea:

- the government has a policy rule;
- the people make commitments, based on an expectation of continuation of the policy rule;
- later, the government can benefit society by changing its policy rule, taking advantage of the commitments made by the people.

From this point of view, an inconsistent policy can benefit society.

Exam Example

An example is an examination in a class. The professor announces that there will be an exam next week (the policy rule). The students study to prepare for the exam (the commitment).

When the exam date arrives, the professor announces to the class that the exam is cancelled (the change in the policy rule). The exam is unnecessary, because the students have already benefitted from their study. The class can proceed to learn new material, and the professor is thankful not to grade the exams.

Rational Expectations

A problem is that soon the students anticipate that the exam may be cancelled. They do not study, and they learn nothing.

Vocabulary

Important concepts for time inconsistency are *rules versus discretion* and *credibility*.

Discretion

If the professor has discretion to cancel the exam, the likely outcome is that the students will not study and learn: if the students study, the professor will cancel the exam. But the students catch on quickly and stop studying.

Rule

If the professor follows rigidly the rule that the exam will be given, then the students will study and learn.

Consequently the rule is better than discretion.

Credibility

To achieve this end, the professor must have credibility from the students that he will indeed give the exam. If he has the discretion to cancel the exam, then to establish this credibility may be difficult.

Expectations-Augmented Phillips Curve

This reasoning also applies under the expectations-augmented Phillips curve. Assume that the government prefers unemployment below the natural rate, even if it must come at the expense of higher inflation.

In this circumstance, then the situation is exactly equivalent to the example of the examination.

If the public has a certain expectation of inflation and the government has the discretion to set policy, then the government will set a more expansionary policy than expected. The economy moves up the Phillips curve: unemployment falls, at the expense of higher inflation.

Long-Run Effect of Discretion

The public soon catches on and raises its expectation of inflation. The short-run Phillips curve shifts up. In the long run, unemployment is at the natural rate, but inflation is much higher.

The overall effect of discretionary policy is negative.

Rule Better than Discretion

On the other hand, suppose that the government can commit itself to a policy rule. In the long run, unemployment is at the natural rate, but inflation is lower than with discretion.

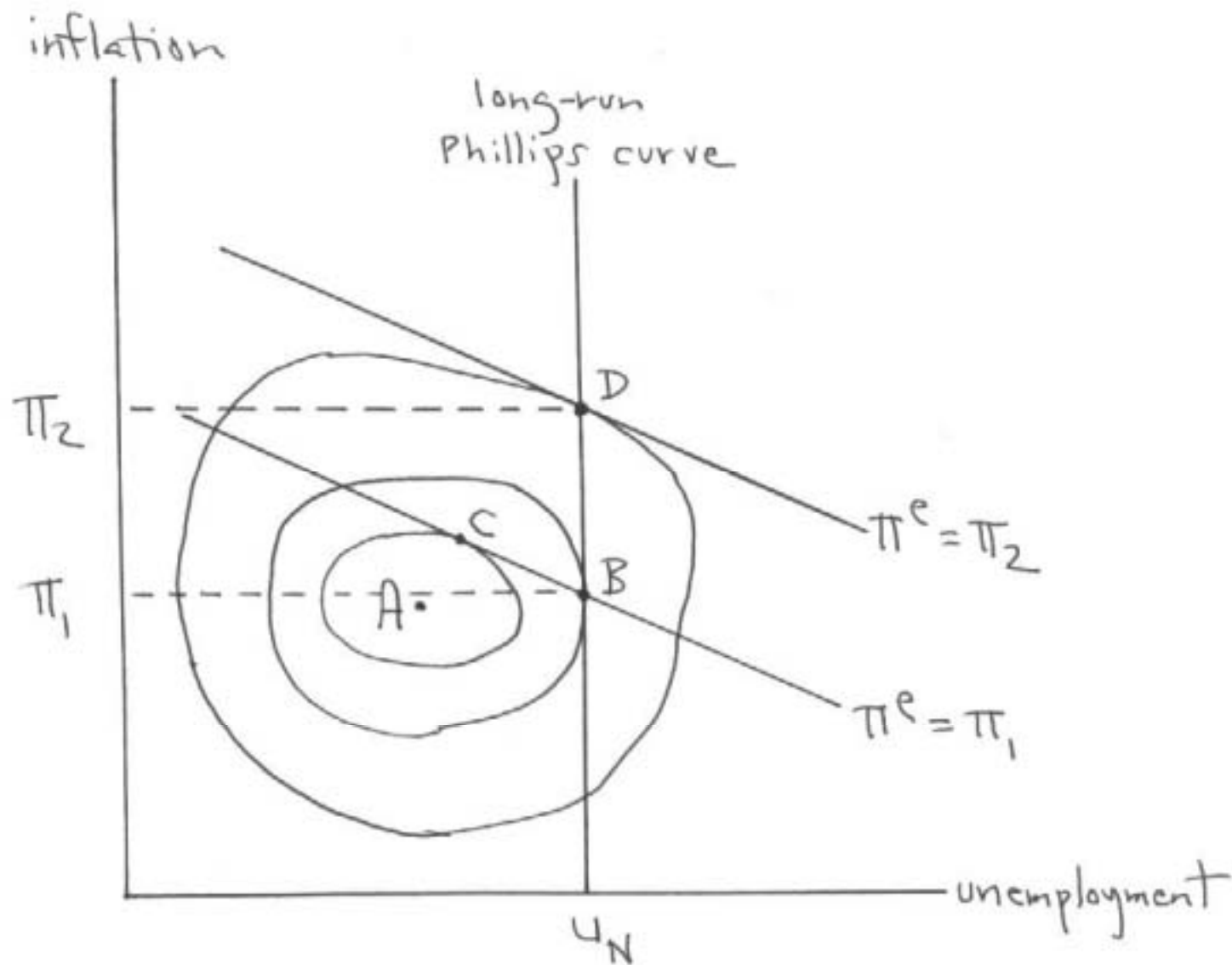
Graphical Exposition

Figure 1 is a graphical exposition of these ideas.

The closed curves are social indifference curves. The optimum outcome is point A, and the outcome is less preferred for movement away from A, in any direction.

The two downward sloping lines are short-run Phillips curves. The higher curve corresponds to higher expected inflation.

Figure 1: Rules Versus Discretion



Short-Run Equilibrium with Discretion

Suppose that the government has policy discretion.

If expected inflation $\pi^e = \pi_1$, then the government will set policy to achieve point C, the highest attainable point on the short-run Phillips curve.

But then inflation is greater than expected, so expected inflation rises.

Long-Run Equilibrium with Discretion

The long-run equilibrium with discretion is point D. The public expects inflation π_2 . At D, the indifference curve is tangent to the short-run Phillips curve, so the government has no incentive to reduce unemployment below the natural rate.

Long-Run Equilibrium with a Rule

A better outcome is for the government to commit to inflation π_1 . The long-run equilibrium is point B, the optimum point on the long-run Phillips curve.

The overall optimum A is not attainable.

Nobel Prize

Kydland and Prescott [1] were awarded the Nobel prize for this analysis.

Critique

Is this model relevant? Can the government indeed achieve a superior social outcome by tricking the people?

References

- [1] Finn E. Kydland and Edward C. Prescott. Rules rather than discretion: The inconsistency of optimal plans. *Journal of Political Economy*, 85(3):473–491, June 1977. HB1J7.