

What is the Phillips Curve?

Worksheet

The Phillips Curve shows an inverse relationship: when unemployment is low, inflation is typically high. $\pi = \pi^* - \alpha(U - U^*)$, where π is inflation, U is unemployment, and U^* is the natural rate.

$$\pi = \pi^* - \alpha(U - U^*)$$

π = Inflation rate (%)

π^* = Expected inflation (%)

α = Sensitivity parameter

U = Unemployment rate (%)

U^* = Natural unemployment rate (%)

Questions

1. The Phillips Curve shows what relationship?

- A) Positive inflation-unemployment
- B) Inverse inflation-unemployment
- C) No correlation
- D) Random correlation

2. In $\pi = \pi^* - \alpha(U - U^*)$, what does α represent?

- A) Inflation
- B) Sensitivity of inflation to unemployment gap
- C) Natural unemployment
- D) Expected inflation

3. If $U < U^*$, what happens to inflation according to Phillips Curve?

- A) Inflation stays constant
- B) Inflation decreases
- C) Inflation increases
- D) Inflation becomes negative

4. The Phillips Curve lost predictive power starting in the:

- A) 1950s
- B) 1960s
- C) 1970s
- D) 1980s

5. Expected inflation is 2%, unemployment is 4%, natural unemployment is 5%, sensitivity is 1.5. Calculate actual inflation.

6. Unemployment rises to 6% (natural = 5%, expected $\pi = 3\%$, $\alpha = 2$). What is the new inflation rate?

7. Current inflation is 5%, expected is 2.5%, $\alpha = 1$, and $U^* = 4\%$. Solve for unemployment U .

8. Define: What does the Phillips Curve show?

9. Define: Which economist discovered the Phillips Curve?

10. Define: What is the Phillips Curve equation?

Answer Key

1. B) Inverse inflation-unemployment — Lower unemployment correlates with higher inflation.
2. B) Sensitivity of inflation to unemployment gap — α measures how much inflation changes when unemployment deviates from natural rate.
3. C) Inflation increases — When unemployment is below natural rate, inflation rises.
4. C) 1970s — Stagflation in the 1970s showed the trade-off broke down — high inflation and unemployment coexisted.
5. $\pi = \pi^* - \alpha(U - U^*)$ $\pi = 2\% - 1.5(4\% - 5\%)$ $\pi = 2\% - 1.5(-1\%)$ $\pi = 2\% + 1.5\% = 3.5\%$
6. $\pi = 3\% - 2(6\% - 5\%)$ $\pi = 3\% - 2(1\%)$ $\pi = 3\% - 2\% = 1\%$
7. $5 = 2.5 - 1(U - 4)$ $5 = 2.5 - U + 4$ $5 = 6.5 - U$ $U = 1.5\%$
8. The inverse relationship between unemployment rate and inflation rate.
9. A.W. Phillips in 1958 (based on UK wage/unemployment data).
10. $\pi = \pi^* - \alpha(U - U^*)$, where π is inflation, U is unemployment, and α is sensitivity.

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