

CHAPTER 16

Inflation and Monetary Policy

Sasan Fayazmanesh

The History of the Phillips Curve

In the **mid 1950s**, **A. W. Phillips**, an engineer from New Zealand, working at London School of Economics, studied the relation between nominal wage rate and unemployment in England from **1862-1957**.

He observed an inverse relation between the two.

That is, as **unemployment decreased, money wages increased** and vice versa.

Summary

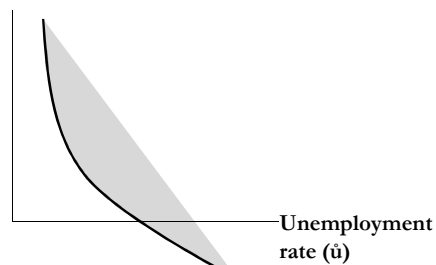
This chapter uses the AD/AS theory, as well as “adaptive expectations” model of the monetarists, to analyze the monetary policies of the Fed.

It also introduces, at the very end, the concept of Phillips curve and the monetarist explanation of it.

I reverse the order by introducing the Phillips curve first.

Original Philips Curve

% Δ in Money Wage rate ($\Delta W/W$)



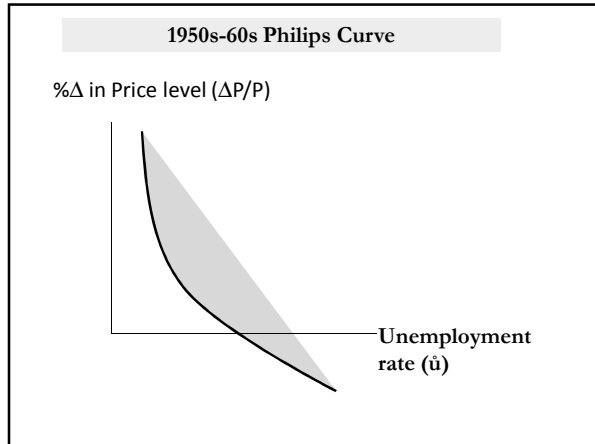
Keynesians and Phillips' Observation

Two Keynesian economists, Paul Samuelson and Robert Solow, in 1960, turned Phillips' observation into a relation between **price level** and **unemployment rate** by assuming that the wage rate is the main determinant of the rate of inflation.

Actually, they used markup theory to argue that the price level change involves a percentage mark-up over the wage rate.

Samuelson and Solow studied the changes in prices and inflation for 25 years post-Depression and suggested that the relation is empirically valid.

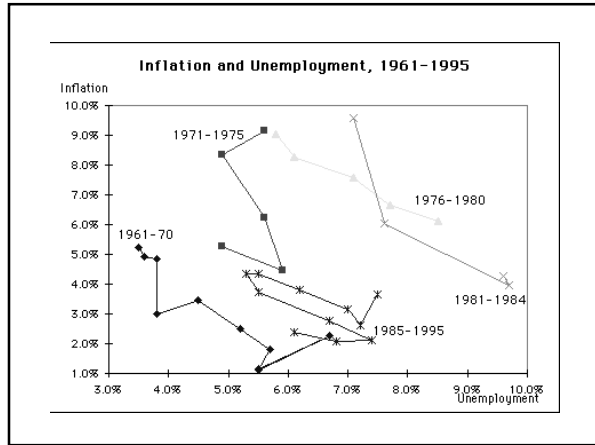
The relation became known as the **Phillips curve**.



Stagflation & Keynesian Dilemma

In the 1970s oil prices quadrupled, inflation went out of control and at the same time there was rising unemployment.

The Phillips curve was all over the place!



Lack of a clear relation between inflation and unemployment caused a turmoil among the Keynesian economists, particularly since the Phillips curve did not have a solid theoretical foundation.

Keynesians scrambled for answers, but found none.

Monetarists and the Explanation of the Phillips Curve: Adaptive Expectations

In the 1950s a group of economists called monetarists, headed by one Milton Friedman at University of Chicago, started to challenge Keynes and Keynesianism.

The challenge was mostly political: the monetarists did not like what they perceived to be Keynes' socialistic ideas advocating government intervention in the capitalist economy.

The monetarists, in turn, liked the neoclassical vision of the economy, the laissez faire concept of the government.

These people were called monetarists because much of the earlier writings of Friedman had turned around the **quantity theory of money** and the "**neoclassical dichotomy**."

The monetarists argued that they could explain why there was no simple Phillips curve in the 1970s.

Their explanation was that due to the wrong fiscal and monetary policies Phillips curve had shifted. The explanation goes something like this:

Short-run Phillips Curve

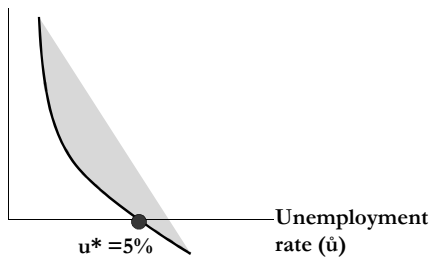
They argued that in the short-run there is indeed a trade off between the inflation rate and unemployment rate.

If the inflation rate is zero, we have a “**natural rate of unemployment.**”

Def. **Natural rate of unemployment** means zero cyclical unemployment.

Short-run Phillips Curve

% Δ in Price level ($\Delta P/P$)



Long-run Phillips Curve

- According to the monetarists, the trade off between the unemployment rate and inflation is only in the short-run.

- In the long-run, the government or Federal Reserve economic policies will cause the Phillips curve to shift.

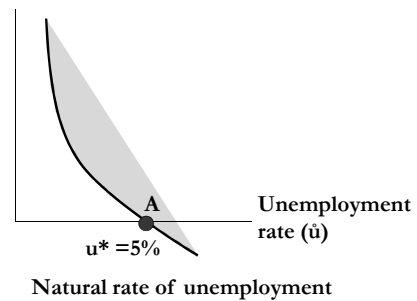
- The ultimate result is higher inflation rate at the same “**natural rate of unemployment.**”

For example, let us say we are at $\Delta P/P=0\%$ and $\hat{u}=5\%$:

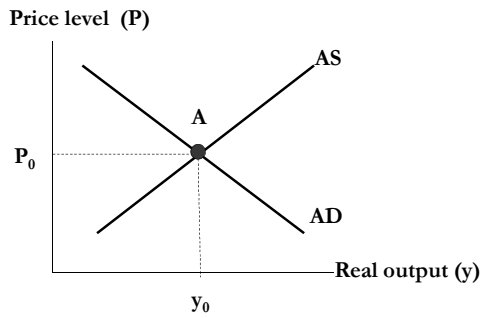
Point A

Initial point: A

% Δ in Price level ($\Delta P/P$)



Initial point in terms of AD and AS

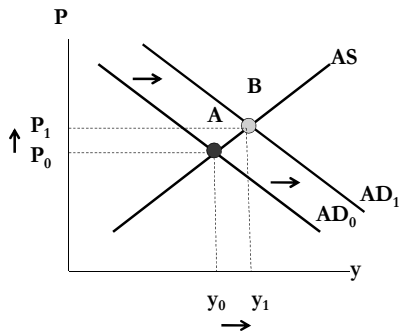


1) A misguided Fed thinks that this rate is not full employment.

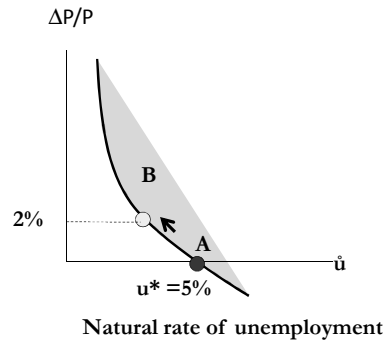
It tries to reduce unemployment below 5% by increasing the supply of money, hoping that interest rates will fall, investment will increase, and output will rise.

2) Aggregate demand in economy rises and unemployment goes down. However, inflation increases.

Monetary Policy



We are at point B

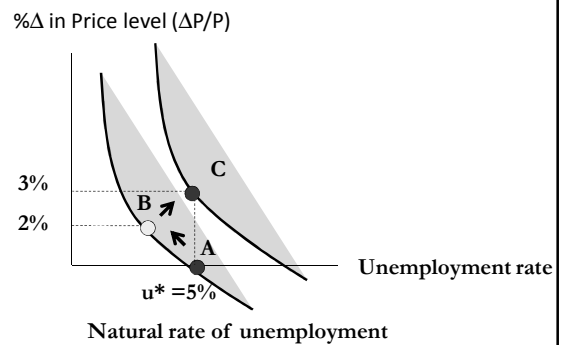


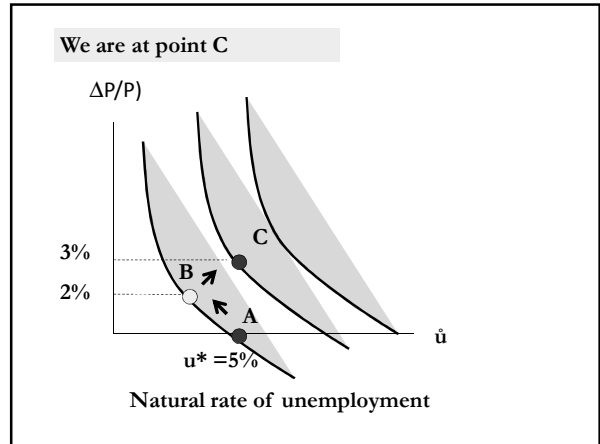
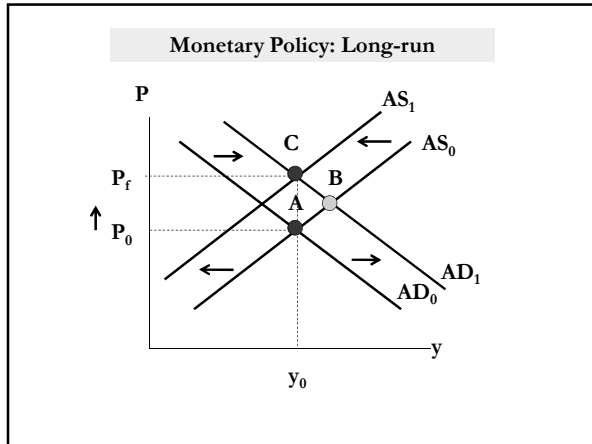
3) Workers don't notice the effect of inflation at the beginning, but then they catch up and ask for **higher nominal wages** to maintain real wages.

4) As real wages increases, profit goes down, production is cut back and unemployment rises.

We are now at c (5% unemployment and 3% inflation).

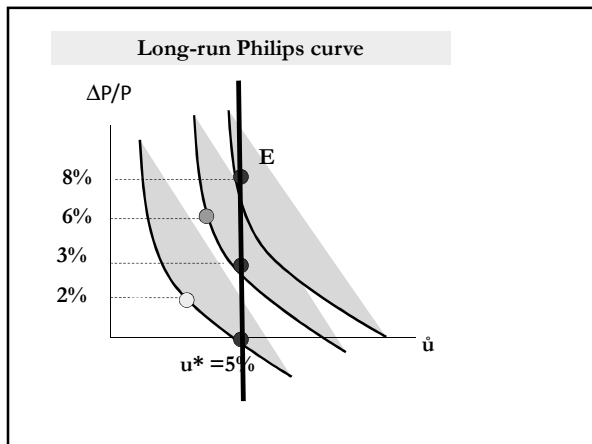
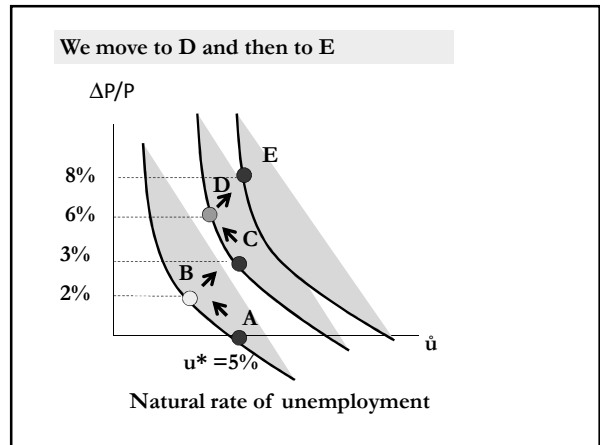
We are at point C: A different Philips curve





5) The Fed once again tries to reduce unemployment and the cycle repeats itself.

In the long run, we keep coming back to 5% rate of unemployment (natural rate) but more and more inflation.



Adaptive expectation

The workers first expect 0% inflation, then 2% inflation, then 3% inflation, etc.

That is, their expectation of inflation is based on past performances [$P^t = f(P^{t-1})$].

This is called **“adaptive expectation.”**

Def. **Adaptive expectation:** When expectations are simply a function of past performances.

Policy conclusion: Adaptive expectation

Fiscal and monetary policies have, at best, a short-run effect on reducing unemployment and increasing output.

In the long-run, these policies economic policies will result in higher inflation rate but the same “**natural rate of unemployment**” and the same output.

Rational Expectation: New Classical Explanation of the Phillips Curve:

In the 1970s and 80s a new opposition to Keynesians arose out of the University of Chicago, the so-called “**new classical**” or “**rational expectation school.**”

This school was the offshoots of the monetarist school, but it was even more to the right.

They argued that:

1) Neoclassical theories, with some minor modifications, were correct all along and that Keynes and Keynesians were dead wrong,

2) **Individuals are rational** in the sense that **they use all available information at their disposal to make decisions.** This means that they will soon learn what is going on and act accordingly.

For example, the workers in the case of Phillips curves can't make the same mistake over and over again.

3) If people are rational, as so defined, then all systematic fiscal and monetary policies would become ineffective.

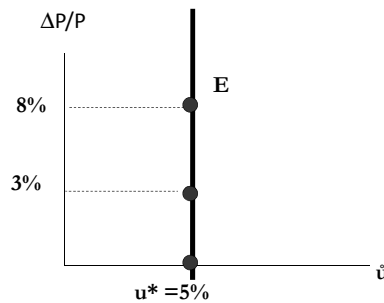
These arguments imply that there is **no short-run Phillips curve:**

The Fed tries to reduce unemployment by increasing the supply of money.

Workers read the story to the end. They, therefore, ask right away for 2% increase in their money wages.

The result is 5% unemployment and 3% inflation immediately, and, therefore, no short run Phillips curve, only the long-run curve exists.

Long-run Philips curve: Rational expectation



Policy Conclusion: Rational Expectation

The policy conclusion is that systematic Fed or government policies will have no effect on the economy.

Only random shocks by the Fed or government can be effective.

But then government can't continuously surprise people.

In the 1980s the "New Classics" became one of the influential schools of economic theory for two reasons.

First, was that the political atmosphere was right.

Second, the arguments were usually presented in highly sophisticated mathematical language, which was very impressive to the layman.

But then in the 1990s, much of what they said was shown to be empirically wrong.