1. How does $\pi^e$ fit into AS/AD Framework?

Last week, we’ve seen how $\pi^e$ affects the IS/LM framework. Now, we want to know how it fits into the AS/AD framework.

You should know that:

$$\pi^e_t = \frac{P_t^e - P_{t-1}}{P_{t-1}} \Rightarrow P^e_t = (1 + \pi^e_t) P_{t-1}$$

Let’s analyze what happens (in the SR) when $\pi^e \downarrow$

2. The Great Depression

Depression: long-lasting recession (= 10 Years).

The Facts:

- Unempl. rate increased enormously (1929-3.2%, 1933-24.9%) and stays up for a long time.
- Output drops enormously. (1931- Output growth rate is -14.7%).
- C falls but C/Y is roughly constant.
- I falls by a lot while i falls.
- Price Level decreased, Nominal Money Stock decreased, in such a way that $M/P$ is roughly constant.
A Remark on the Nominal Money Stock:

So far, in our models, we assumed that $M^s$ corresponds to currency only (under the total control of the Fed).

For this particular case, however, we will consider a more realistic view (we take into consideration the checkable deposits):

\[
\text{Money Supply} = H \times \text{Money Multiplier},
\]

where, $H$ - currency plus banks’ reserves (corresponds to Central Bank money, also called monetary base).

\[
\text{Money multiplier} = \frac{1 + c}{c + \theta}
\]

since $\theta < 1$, then Money multiplier always >1.

where,

\[
c = \frac{\text{demand for currency}}{\text{demand for checkable deposits}}
\]

\[
\theta = \frac{\text{reserves}}{\text{checkable deposits}}
\]

If people only hold currency ($c = \infty$) then Money multiplier =1 and Money Supply is at its lowest level given a fixed Monetary base.

How can the Great Depression be explained with our framework?

Impulses: Probably \( \bar{I} \)

Propagation: Bank Panics, Bankruptcies

(Money Multiplier ↓);

Destruction of Intermediation system for I

\[
\begin{array}{c}
\text{r} \\
\hline
\text{Y}
\end{array}
\]

\[
\begin{array}{c}
P \\
\hline
\text{Y}
\end{array}
\]
Recovery:

- Dramatic increase in M (in the Monetary Base by the Government). (Between 33-41, nominal money increased by 140%, and real money stock by 100%)
- *New Deal*: a set of programs to get the US economy out of the Great Depression.

**Challenge to NAIRU ? (to our adjustment mechanism):**

Yes, because we were supposed to return to the natural rates and we did not for a long time.

3. **Unemployment in Europe**

**The Facts:**

- Until 1970, unempl. rate had been much lower in Europe than in the US.
- European unempl. began increasing steadily in the 1970s.
- In 1994, un. rate of European Union is approximately twice as big as the US one.
- In 1994, un.rate of the European Union was higher than it had ever been since the Great Depression.

**The first explanation:**

The dominant view in Europe today is that high European unemployment is the result of *labor market rigidities*. These put too many restrictions on firms, prevent them from adjusting to changes in the economic environment.

**Examples:**

- Contributions to SS by employers are much higher in Europe.
- It is harder and more costly to lay off workers.
- Unions are much more powerful.
- Unemployment benefits are more generous.
- Minimum wage is high when compared to average wage.

All these are related to our well known variables $\mu$ and $z$.

**Problem with this explanation:**

The abovementioned factors were already in place in the 1960s, when European unemployment was very low.
The alternative explanation:

**Hysteresis** - the dependence of a variable in its whole history.

*Ideas*: The natural unemployment rate is not, as we’ve assumed so far, independent of actual unemployment. Instead, the *natural* rate depends on the history of actual unemployment. In particular, a long period of high unemployment leads to an increase in the natural rate.

**How does actual unemployment affect the natural over time?**

- Increased un. benefits:
  
  High \( u_t \) => Increased Un. benefits => Higher \( u_n \)

- Long-term unemployment:
  
  High persistent unemp. \( (u_t) \) => Increase in Long-term Unempl. =>
  
  => Long term unemployed lose skills and work habits =>
  
  => Employers become reluctant to hire long-term unemployed =>
  
  => If they become unemployable they become irrelevant to the process of wage determination => loss of bargaining power \( (z \uparrow) \).

*Consequence*: Persistent shocks in G, T, M (shifting out AD curve) can have effects on \( u_n \), according to this theory.

**4. Case Against Activist Policy**

So far, we’ve been saying that macroeconomic policy has an important role to play.

However, some argue that policy makers should be restrained. We are going to see why this can be the case.

- **Not Enough Information (Uncertainty and Policy)**

  How much do actually macroeconomists know, before they decide which policy to implement?

  Some examples of problems:

  - Long and variable Lags

    What is the risk that the effects will come too late, when the economy has already recovered?
How long will it take for lower long-term interest rates to affect investment and consumption spending?

- How do the policies affect Expectations?

We don’t know how policy will affect expectations (Phillips curve). We have to predict how people will respond.

**Summarizing:** There is indeed substantial uncertainty about the effects of macroeconomic policies. This uncertainty should lead policy makers to be more cautious to use less active policies. Policies should be broadly aimed at avoiding prolonged recessions, slowing down booms, and avoiding inflationary pressure.

- **Time consistency problems (Interaction between Expectations and Policy)**

One of the reasons why the effects of macroeconomic policy are uncertain is the interaction of policy and expectations. How a policy works, and sometimes whether it works at all, depends not only on how it affects current variables but also on how it affects expectations about the future.

The economy is composed of people and firms who try to anticipate what policy makers will do, who react not only to current policy but also to expectations of future policy.

**Time inconsistency idea:** Optimal for you to make something today but something else can become optimal a few periods later.

**Example 1:** Plane Hijackings

**Example 2:** We know that:

$$\pi = \pi^e - \alpha (u - u_n)$$

**Stage 1:** Fed announces that it will follow a monetary policy consistent w/ zero inflation. Wage setters believe the announcement => $\pi^e = 0$.

If Fed follows announced policy => $\pi = 0$ and $u = u_n$

**Stage 2:** But once there, it would seem like Fed can do better. Now that wages are set (and fixed for a period of time) with $\pi^e = 0$.

If Fed (assume $\alpha = 1$) keeps only $\pi = 1\%$, $u$ will be 1% below natural rate.

Once the Fed decides to do this they incurring in a *time-inconsistency* of optimal policy.
Stage 3: Fed loses credibility and next time people will not be fooled. They will expect higher inflation than the one announced and this will prevent the Fed from achieving its objectives.

Ways to regain credibility: Make central bank independent of the government, specify by law the policies they can adopt.

- An example of a non-convenient policy intervention: The *Expectation Trap*

This is something that can happen if policy-maker is *too responsive*.

Imagine that, for some reason $P \uparrow$

- Without policy intervention, the AS curve will fall back to where it was.
- Policy-makers see a recession $\Rightarrow$ intervene by raising $M \Rightarrow$ Prices increase and we’ve fallen into an *expectation trap*. 