VIII. ECONOMIC FLUCTUATIONS AND MACROECONOMIC POLICY

A. Aggregate Demand and Prices

1. The aggregate demand/inflation (ADI) curve -- graphical representation of the negative relationship (downward slope) between the inflation rate and the GDP gap.

   a. The terms above are defined as follows:

   • Aggregate demand is the sum of spending by domestic households on consumption ($C$), firms on investment ($I$), the government on goods and services ($G$) and foreign households ($X$).

   • The GDP gap is the percent deviation of actual GDP from potential GDP or (actual GDP - potential GDP) / potential GDP.

   • The inflation rate is the percentage change in the aggregate price level.

b. The negative slope of the ADI curve implies that if the inflation rate rises then the GDP gap falls (actual GDP decreases relative to potential GDP).

   • The central bank follows a monetary policy rule that creates a systematic relationship between the interest rate and inflation. The monetary policy rule dictates that if the inflation rate rises then the central bank must increase its interest rate instrument, such as the federal funds rate in the U.S. As a result, a rise in the inflation rate will increase the interest rate.

   • As we saw in section VII, spending by domestic households, firms and foreign households or aggregate demand was negatively related to the interest rate. Furthermore, in the short-run, actual GDP is determined by aggregate demand. Therefore, an increase in the interest rate in the short-run will lower aggregate demand.

   • Putting these concepts together we find that if the inflation rate rises then the GDP gap falls:

     $\uparrow$ Inflation $\rightarrow$ $\uparrow$ Interest Rate $\rightarrow$ $\downarrow$ Aggregate Demand $\rightarrow$ $\downarrow$ Actual GDP
c. Movement along the ADI curve -- a change in real GDP due to a change in inflation shows up as movement along the ADI curve.

d. Shifts (or changes) in the ADI curve -- increases in private or public spending, a decrease in taxes, or a shift to a higher inflation rate target (increase in the money supply) lead to a rightward shift in the ADI curve.

2. The potential GDP line is a vertical line where the GDP gap is equal to zero (actual GDP equals potential GDP).

   a. The potential GDP line is vertical since potential GDP is determined by the factors of production and is thus independent of the rate of inflation.

3. The price adjustment (PA) line is a flat line showing the level of inflation at any point in time.

   a. In the short-run, the price adjustment (PA) line is fixed.

   b. In the medium-run, the price adjustment (PA) line can shift.

      • The price adjustment line shifts upward if the GDP gap is positive (actual GDP is greater than potential GDP).

      • The price adjustment line shifts downward if the GDP gap is negative (actual GDP is less than potential GDP).

4. In the short-run, the economy may be

   a. below potential GDP where the GDP gap is negative.

   b. at potential GDP where the GDP gap is zero.

   c. above potential GDP where the GDP gap is positive.
B. Long-run Equilibrium

1. The road to recovery …
   a. The economy begins in the trough of a recession where actual GDP below potential where the GDP gap is negative.
   b. The price adjustment line shifts downward thus lowering the inflation rate which in turn increases actual GDP.

2. When the party's over …
   a. The economy begins in the peak of an expansion where actual GDP above potential where the GDP gap is positive.
   b. The price adjustment line shifts upward thus raising the inflation rate which in turn decreases actual GDP.

3. The long-run equilibrium
   a. In the long-run, price adjustment returns actual GDP to potential GDP (GDP gap equals zero).
   b. In the long-run, actual GDP is equal to potential GDP which is determined by the factors of production.
   c. In the long-run, any change in one component of aggregate demand is offset by an equal but opposite change in the other components of aggregate demand. Therefore, traditional monetary and fiscal policy do not affect real GDP in the long-run.