

Macroeconomic Definitions -- Dr. Tom McGahagan -- Spring 2005

VII. INFLATION

1. **Inflation** is a general and continuing rise in the price level. It is measured as a percentage change in the price index. (See II for the distinction between inflation and a change in relative prices, as well as details on price indexes.)

2. The **Quantity Equation** ($MV = PQ$) asserts that the money supply times the velocity of money equals the price level times real output.

The Quantity equation also has a percentage change form:

$$m + v = p + q$$

where small letters denote the percentage change in each variable, and the small p or percentage change in price means inflation.

3. The **Quantity Theory** assumes that velocity and real output change only slowly, so that increases in the money supply will give rise to proportionate increases in the price level.

Since the Quantity Theory assumes that the percentage change in V and Q are zero, and with $v = q = 0$ the quantity equation in percentage change form becomes:

$$m = p \text{ or percentage changes in the money supply result in the same percentage inflation.}$$

4. **Demand for money.** The Quantity Equation can be read as a demand for money equation:

$$M_d = k P Q$$

where M_d is money demand and k is the reciprocal of velocity. This means that people will want to keep a certain fraction of GDP (since PQ can be read as Gross Domestic Product) in the form of money.

A demand for money curve can be plotted on a graph; the vertical axis is commonly labeled $1/P$ (the value of money) to have the demand curve slope downwards. But you should remember that the quantity of money demanded is POSITIVELY related to the price level; if groceries rise in price, you must have more money in your wallet to pay for them.

5. **Distributional effects of inflation.**

Because inflation leads to a reduction in the value of money, and because money is used as the standard of deferred payment in debt contracts, unexpected inflation will redistribute wealth from lenders (banks, savers) to borrowers (homeowners, entrepreneurs, the government).

Unexpected deflation will redistribute wealth from borrowers to lenders.

6. **Fisher effect.** If inflation is expected, its distributional effects can be avoided by adding an inflation premium to the real interest rate, and setting

$$\text{Nominal interest rate} = \text{desired real interest rate} + \text{expected inflation.}$$

7. **Wage lag.** Nominal wages may lag behind wages.

Wesley Mitchell argued that the lag of wages behind Civil War inflation increased profits and was a decisive contributing factor to US industrialization after the war.

8. **Stimulating effects of inflation.** Since inflation will increase profits (the real burden of loans falls, and wages may lag behind prices), it is often argued that inflation stimulates economic activity, at least temporarily.

9. **Menu costs** of inflation. The cost of changing prices, either literally as in the case of printing new menus and catalogs, or in terms of lost customer goodwill.

10. **Shoe leather** or **search costs** of inflation. The cost of searching out information on whether prices have risen uniformly in all locations.

11. **Rational expectations.** Since the rationally expected outcome of present or future increases in the money supply would be to raise the expected inflation rate, changes in the anticipated money supply will result in changes in the nominal interest rate which will prevent distributional effects.

Thomas Sargent and **Neil Wallace** stressed that the anticipated money supply was more important than the actual money supply in determining inflation; they also maintain that since the stimulating effects of inflation depend on the redistributive or wage lag effects of unexpected inflation, an expected increase of the money supply will have no real effects ("**policy neutrality**").

12. **Classical dichotomy.** Money does not affect real economic variables; "money is a veil" which hides real economic forces.

13. **Monetarism.** The economic theory, best formulated by Milton Friedman, that changes in the money supply do affect the real economy in the short run, but only lead to inflation in the longer run. Friedman thought that **activist** monetary policy (using changes in the money supply to combat inflation or unemployment) could as easily lead to short-run disasters (such as the Great Depression, which he held was largely due to excessively tight monetary policy) as to successes, and recommended the use of policy rules rather than discretion.