The Classical Model

Introduction

The Classical Model extends the concepts of neoclassical microeconomics to macroeconomics. That is, the conceptual understanding of theory of the firm, theory of the consumer, and supply and demand is applied to aggregate economic activity. Specific points include determining the level of aggregate employment and output, analyzing the effects of changes in the money supply, and considering use of fiscal policy to offset business cycles..

The present version of the Classical Model is largely a post-Keynesian construction that puts the Classical Model in the more mathematically formal language of modern economics.

The Model

The production function is

$$Y = (5 + Tech) N - 0.00006666 N^3.$$

A profit maximizing firm will hire additional labor until the marginal product of labor just equals the real wage rate, making the demand for labor

$$W/P = (5 + Tech) - 0.0002 N^2.$$

The supply of labor is

$$N = 60 (W/P) - 6 (W/P)^2.$$

Solving the last two equations yields the real wage rate and the level of employment.

Aggregate supply is vertical because Y does not depend on P. Given that M and k are fixed, the equation of exchange M = kPY yields an aggregate demand curve. The aggregate supply and demand diagram then determines P. A loanable funds diagram determines the interest rate. Note that the interest rate does not affect Y, W, or P.

Exercises

1. Graph the production function on one diagram and the supply and demand for labor on another diagram. The intersection on the latter chart determines N, which then determines Y. Add the aggregate supply and demand diagram to

determine P.

2. The variable Tech affects labor productivity. Increase Tech and graph the results of a positive technology shock.

3. A tax on labor income can affect the labor supply curve. (See the EconModel Labor Supply Model for details of this analysis.) Increase the tax on labor income, and trace out the effect on production and prices.

4. Monetary policy affects the aggregate demand curve. Increase the money supply, and note the effects on the price level, the wage rate, and the real wage rate. Why does Y not change?

5. Fiscal policy affects the demand for loanable funds via the government's budget deficit. Increase that deficit. Does this cause an increase in Y? What explains this last result?