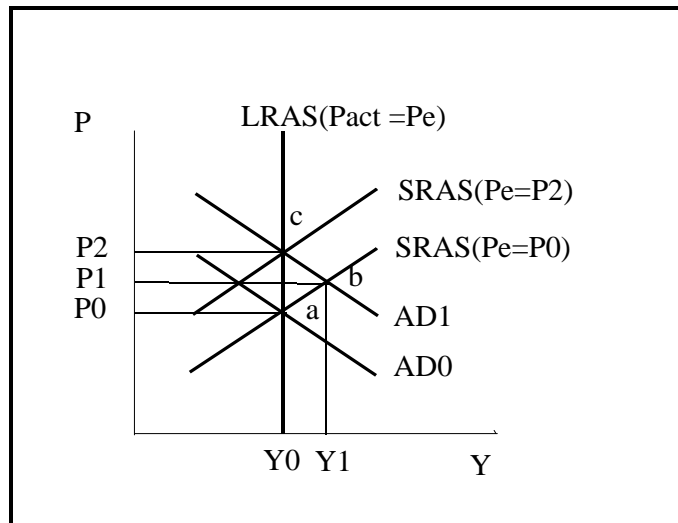


A Basic Macroeconomic Model

We need a basic model to describe how the economy tends to be inherently stable, but often deviates from its long term trend. We can do that with a model with two elements: an aggregate demand and aggregate supply (AD-AS) diagram reflecting the overall economy and a labor market diagram with a supply and demand for labor.

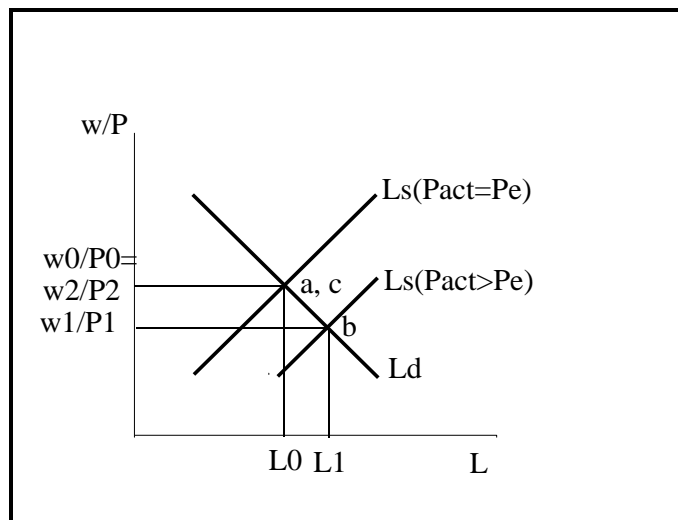
In the AD-AS Diagram, AD slopes negatively because as the price level (P) rises a given money supply buys less output. The AD curve shifts due to major changes in the economy other than price changes such as increases in the money supply, government expenditures, and consumers' confidence.

The long run AS Curve (LRAS) is vertical because the long run output of the system (Y) is dependent on equilibrium in the labor market but not on the price level. The long run at any time reflects the output level to which the system is gravitating and at which the actual price level (Pact) will equal the expected price level (Pe). Just as in microeconomics, we may never get to this long run state because of new intervening forces. The LRAS shifts due to changes in the labor market as there is a positive relationship between labor (L) and income (Y) due to technology, the capital stock and population growth.



There is a short run AS curve (SRAS) associated with each price level. If the actual price level is greater than the one that was expected output increases. Conversely, if the actual price level is less than expected output decreases.

In the labor market, employment (L) is determined by the traditional microeconomic demand for labor (Ld) and the supply of labor (Ls) with both being a function of the real wage (w/P). If the actual price level is higher than was anticipated by the workers, the supply of



labor temporarily shifts to the right. This is due to employers and employees focusing on different price levels. Employers focus on the price of the output while the employees focus on the prices of the basket of goods that they buy. Because of their narrower focus, the employers respond to price level increases before the employees. If in reaction to an increase in AD (and therefore an increase in the price level) the employers offer workers a higher nominal wage that is a smaller increase than prices are increasing, the employees may feel better off ($w_1/P_0 > w_0/P_0$) [the quantity of labor supplied increases] at the same time that the employers feel better off ($w_1/P_1 < w_0/P_0$) [the quantity of labor demanded increases], so an increase in the actual price level causes the supply of labor to shift to the right (at any given price level more labor is being supplied) temporarily increasing employment and output. The inherent stability of the economy is reflected in the basic economic assumptions that output and prices in markets with demand and supply curves similar to those in the labor market tend to equilibrium.

The easiest way to understand temporary deviations from equilibrium is to consider unexpected changes in AD. For example, consider an unexpected increase in the money supply that causes a shift in AD from AD_0 to AD_1 . If output did not increase, all that would occur is an increase in prices. But output usually will increase. More goods are purchased at current prices, so employers increase prices. To induce more workers to want to work more, nominal wages are increased. Because the nominal wage increase is interpreted by the workers as an increase in the real wage, the supply of labor increases from L_0 to L_1 so that the economy and the labor market move from a to b. However, this only occurs because the workers are operating with erroneous information. As their price expectations adjust to reflect the actual changes in prices, the supply curve of labor starts to return to its old position and employment and output return to the long-run equilibrium at c.

What does all of this tell us? First, the economy tends to be inherently stable. Second, temporary shifts in output and employment can occur because of shifts in AD or potentially, but less likely, AS. Third, long term growth in the economy can be illustrated by changes in the labor market. Increases in the demand for labor due to technology and investment increase output and real wages. Increase in the supply of labor due to population growth increase output, but depress real wages. Fourth, changes in the money supply only have temporary effects on the economy and in the long run only effect nominal variables such as nominal wages and the price level.