Effect of an increase in quantity of money in the Classical Model

In Classical model real variables are independent of the monetary variables. Any change in the monetary sector would leave the real variables unchanged. This means that money is neutral in this model. The real variables are national income, Y, the level of employment, N and the real wage rate, w/P where w and P are the monetary variables. The real variables are determined by solving the following three equations:

$$Y=f(N) \qquad (1)$$

$$N_D = f(w/p) \qquad (2)$$

$$N_S = g(w/p) \qquad (3)$$

where $f^{/}(N) > 0$, $f^{//}(N) < 0$, $f^{/}(w/p) < 0$ and $g^{/}(w/p) > 0$.

The condition for equilibrium in the labour market is,

$$N_D = N_S \qquad (4)$$

This condition is satisfied at the point of intersection between the labour demand and labour supply curves. From this intersection point we get the equilibrium levels of employment and the real wage rate. With complete flexibility of wages and prices, there would always be full employment equilibrium. Once the full employment level is obtained we get the equilibrium level of real income by substituting this value of N in the aggregate production function, $Y = f(N)$.

Money is treated only as a medium of exchange in the Classical model. It is generally assumed that a certain proportion (k) of money income is held by people to meet the transaction needs. So the Classical demand function for money is expressed as,

$$M_D = kPY \qquad (5)$$

This demand must match the supply of money, M, which is given by the monetary authority of the country. So the condition for money market equilibrium is,

$$M = kPY \qquad (6)$$

From this equation it should be clear that once Y is determined in the real sector, P will be proportional to M because k is a proportionality constant. If M doubles, then P and w both will double, leaving real wage rate (w/P), N and Y unchanged. This is shown in the following diagram.

The diagram shows that with increase in money supply from M_0 to $2M_0$, P and w would increase from P_0 to $2P_0$ and from w_f to $2w_f$ respectively, w/P remains at the original equilibrium level $(w/P)_f$. The equilibrium values of N and Y are also remaining unchanged at the original equilibrium values.