# Effect of the shift of the Production Function in the Classical System

In the Classical system the equilibrium levels of real wage rate (w/P) and employment (N) are given by the point of intersection between the labour demand curve and the labour supply curve. The demand for labour is a decreasing function of w/P and this function is obtained from the aggregate production function, $Y = f(N)$. The $f'(N)$ function is the labour demand function for the economy. So if the production function shifts upward, indicating an increase in the productivity of labour at each level of employment, the labour demand function would also shift to the right. In the following diagram the original production function is $Y = f(N)$ and the new production function is $Y' = f(N)$. Corresponding to these functions we get $MPL_1$ and $MPL_2$ curves respectively as labour demand functions. So the original equilibrium values of w/P, N and Y are $(w/P)_1$, $N_1$ and $Y_1$ respectively. Here the new equilibrium values of these real variables are $(w/P)_2$, $N_2$ and $Y_2$ respectively. We see that $(w/P)_2 > (w/P)_1$, $N_2 > N_1$ and $Y_2 > Y_1$. The diagram also shows that with the upward shift of the production function and the consequent increase in (w/P) and Y, the equilibrium price level falls from $P_1$ to $P_2$ and the money wage rate also falls from $w_1$ to $w_2$.