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Quiz 6 Static general equilibrium (15 minutes)

Suppose that the economy starts from a competitive equilibrium. Then, the government imposes a *lump-sum tax* on firm. Briefly discuss the following questions

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a) Does the policy affect firm's employment decision? Why?

The firm profit maximization is given by

With tax: $\pi = -W N_d - Tax + zF(K, N)$ | without tax: $\pi = zF(K,N) - wN_d$

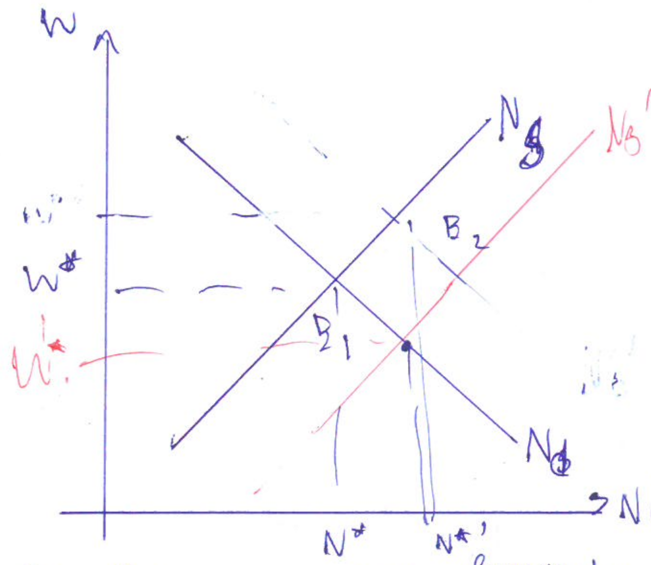
$\frac{\partial \pi}{\partial N} = zF'(K, N_d) - w = 0$ | $\frac{\partial \pi}{\partial N} = MP_N - W = 0$

$W = MP_N$ ① | $MP_N = W$ ②

So, given the firm total productivity, the level of capital equal the firm's employment decision will based on the marginal productivity of labor doesn't change so, the firm employment decision doesn't change too ① = ②.

But the firm total profit will decrease. good

b) How does the policy affect labor market outcome and equilibrium wage?



① => Given the firm labor demand is derive from profit maximization lump-sum tax will don't change any variable cost. The cost of each product per unit will be the same so, the firm $MP_N = w$ still hold

② => The labor supply – the lump-sum tax also effect household dividend income since household own the firm, the increase in firm lump-sum tax will give the household loss dividend income so, If we assume S.E. > I.E. Household will supply more work therefore N_s will shift to the right from N_s to N_s' at any given wage.

③ => Thus. At the equilibrium point at E_2. The firm will hire more amount of labor N'^* and at lower wage. wage W'^*.