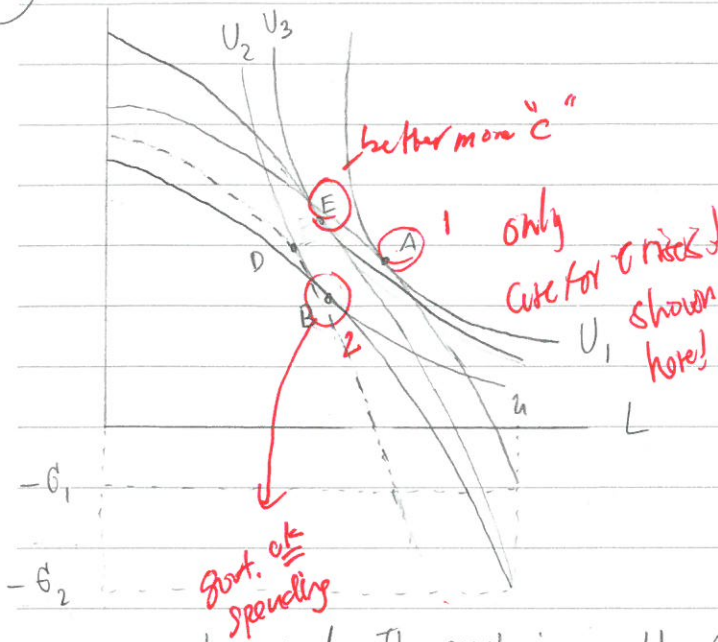


(3)

C



Suppose that the original equilibrium is at point A. When the government decide to increase their spending, the PPF will shift downward. Namely, at time endowment ω , the level of consumption decrease from $-G_1$ to $-G_2$ (increase spending from G_1 to G_2).

The new competitive equilibrium will be at point B, with lower equilibrium real wage. The level of consumption & leisure reduce since both of them are

normal good. The analysis would stop at this point if the government just taxed and do nothing. If, however, the government spending are able to increase the level of technology, the PPF will rotate upward from the consumption level $-G_2$ at time endowment. The increase in technology cause the labor's productivity to increase. For firms, at any given wage level, they will be willing to supply more leisure hour (demand more labor). There will be excess demand in labor, which means that the real wage will be higher than equilibrium wage at point B. For consumers, the effect of wage change can be decomposed into two effects. Firstly, given the same level of utility, the consumer will choose to sacrifice more leisure hour to consume more. The substitution can be expressed from point B to point D.

Secondly, with higher real wage, the consumer will have higher income and prefer to have higher leisure and consumption. That is, the income effect can be expressed from point D to point E. Thus, the new competitive equilibrium is at point E.

Summary of final outcome

- Consumption - In this case, the consumption is higher at point E compare to point A. However, there can be a case where it is lower. The government spending increase cause the consumption to be lower at point B. If there's not enough advancement in technology, an increase in consumption level

It would have been nice if you supplement a figure for the case that C drops!

V. good
good flow of
uniting
concrete!

that
you
draw
that
set
of
the

* point for guarding yourself
against reverse
possibilities
of outcomes!

my suggestion
that

might not be big enough to compensate the loss from increasing government spending

- Output — The level of output increase due to an improvement in technology. The higher government spending affects the final disposable consumption level, not output. ✓

- Leisure — Since we assume that the substitution effect is stronger than income effect, the level of leisure is lower, at point E, compare to B. Thus, leisure reduce compare to the original equilibrium A. That is not always the case. The economy can experience higher leisure level if the technological advancement is significant enough and income effect is stronger.

- Real Wage — From equilibrium A to B, the real wage reduce for certain because both consumption and leisure are normal goods.

There will be excess supply in labor market and drive down real wage.

When the technological improvement occur, the labor's productivity will improve, which cause real wage to be higher due to the higher demand

for labor. Thus, from equilibrium B to E, the real wage is higher.

✓ However, comparing to original equilibrium A, the equilibrium wage, at E, can be higher or lower depends on the change in labor's productivity

If the productivity increase enough, the real wage will increase.

- Welfare — at the original equilibrium A, the level of utility is U_1 . When the government spending increase, the utility reduce to U_2 , at equilibrium B. The technological improvement compensate

those loss, by increasing in government spending, by increasing utility level from U_2 to U_3 . As illustrated in the graph, U_3 is less

than U_1 , which means that the household welfare is lower. However,

the end result can be better if the level of productivity/technology

increase significantly that we can achieve the optimal bundle

in utility greater than U_1 . Moreover, if the household ^{has biased} prefer consumption

more ^{preferences towards consumption}

, when the productivity increase, it could be the case that the total welfare increase from initial equilibrium A. If the household prefer

leisure, the productivity increase could result ^{good} in the lower welfare. ✓