12. (35 pts.) **Make America Great Again.** Donald J. Trump's Presidential platform outlines a substantial tax decrease by reducing tax rates for a large majority of Americans. This tax reduction will be off-set by a substantial reduction in government spending. That is Trump's tax plan is deficit neutral.

   a. (7 pts.) Working with our model developed in Chapter 3, carefully explain the impact of Trump's tax plan on investment and the real interest rate—if at all. If not, please carefully explain why not.

Use loanable Funds equillibrium....

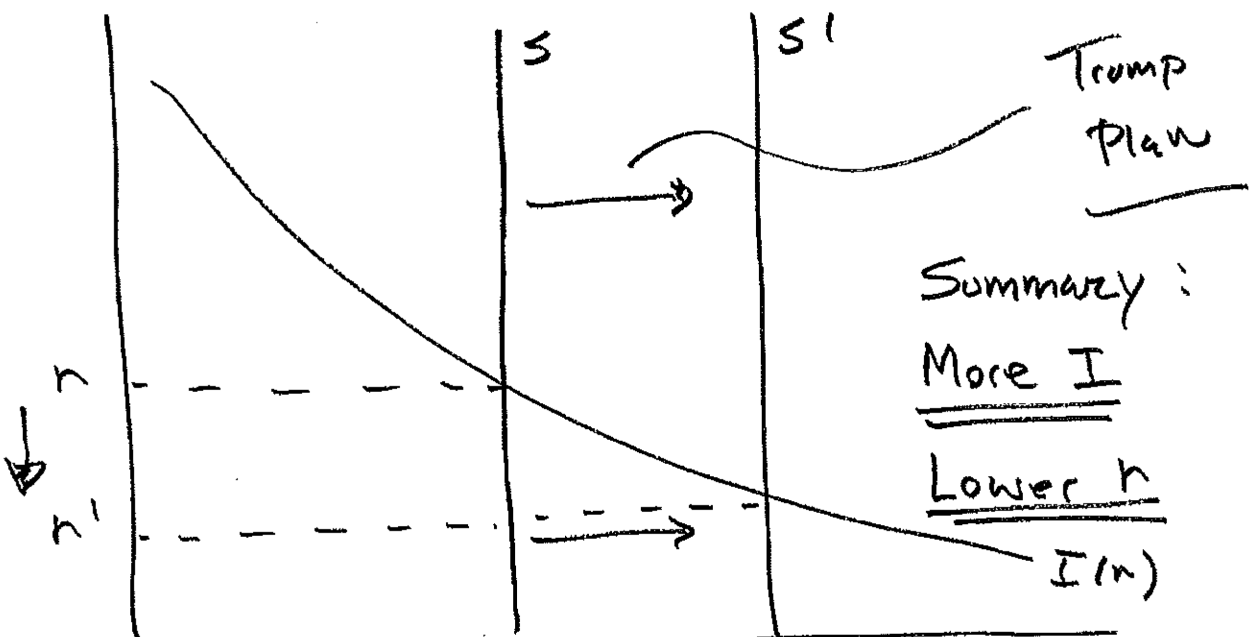
$$\underbrace{Y - T - \overbrace{\beta(Y-T)}^{C}}_{\text{Private Savings}} + \underbrace{(T-G)}_{\text{Public Savings}} = I(r)$$

Private Savings: Increases as Tax burden is allieviated

Public Savings: No Change

Why the reduction in T will be with a reduction in G.

$$\underbrace{\qquad\qquad\qquad\qquad}_{\text{National Savings} \uparrow} = \text{Investment} \uparrow$$



b. (7 pts.) Working with our model developed in Chapter 3, carefully explain the impact of Trump's tax plan on real GDP. If not, please carefully explain why not.

No change

$$Y = F(\bar{K}, \bar{L})$$

K is fixed in Short run / Ch. 3

L is fixed in short run / Ch. 3

If K and L are not changing then GDP or Y can not change...

c. (7 pts.) Given your answers in Part **a.** and Part **b.** carefully explain how Trump's tax plan is changing each expenditure component of GDP.

The expenditure side of GDP is this...

$$Y = C + I + G$$

Trump says this is $\downarrow$

Part (a) argued that $I \uparrow$

$$C = \beta(Y - T).$$

"T" is decreasing, thus Consumption is $\uparrow$

So.....

$C \uparrow$, $I \uparrow$, $G \downarrow$. Trump's plan causes a reallocation of economic activity away from government and into the private sector.

How to verify that GDP does not change using the expenditure side...

$$C + I + G$$

$$C + \Big(\underbrace{Y - T - \beta(Y-T) + T - G}_{\text{This is National savings which = Investment}} \Big) + G$$

$$\beta\cancel{(Y-T)} + (Y - \cancel{T}) - \cancel{\beta(Y-T)} + \cancel{T} - \cancel{G} + \cancel{G}$$

$$= Y$$

Lots of stuff cancells...

Thus GDP does not change.

d. (7 pts.) Consider the following premise: People work more as their after-tax income rises.

Carefully describe how this premise interacts with Trump's plan, if at all. That is describe how will investment, the real interest rate, and real GDP change (if at all). Please provide a qualitative ranking with respect to your answer in Part **a.** and Part **b.**.

There are various ways to get at this, I will illustrate what is easiest...

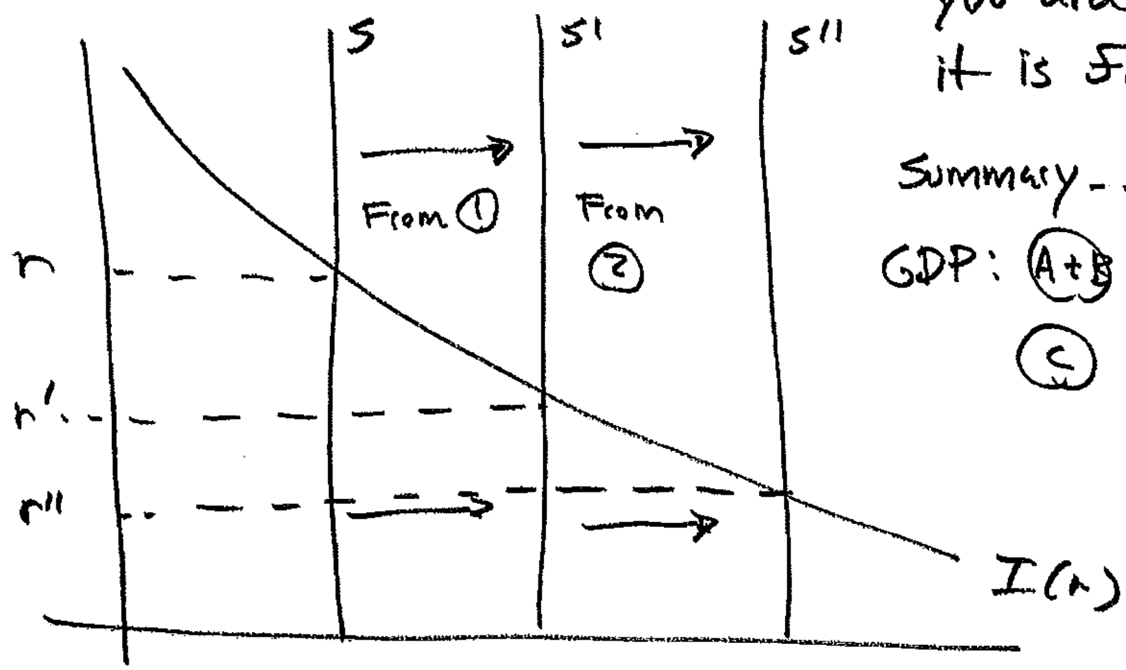
$$\underbrace{Y - T - \beta(Y-T) + (T-G)}_{\text{National Savings}} = \underbrace{I(r)}$$

National Savings will increase for two reasons

1. Lower taxes
2. More people working

more GDP as $Y = F(K, L)$, $L\uparrow$, $Y\uparrow$

It's easiest to assume the I does not change with L, but if you did this then it is fine/good.



Summary------

GDP: A+B No Change

C GDP $\uparrow$

GDP: A+B No Change

C Increases

Investment: A+B Increases

C Increases by more

Real Interest Rate: A+B Decreases

C Decreases by more

Note, this is where holding the investment curve fixed is critical. If it shifts it is plausible that n $\uparrow$.

e. (7 pts.) Speculate how Trump's plan might effect real GDP in the future (within the boundaries of our class material). Be as clear and specific as possible.

The easiest way is to think about how investment today relates to capital in the future

$$K_{t+1} = (1-\delta)k_t + I_t$$

More Capital in the Future

More Investment

$$GDP = F(K, L)$$

So if we have higher K in future, this means more Y in the future.