EE312 Macroeconomics, 2/2019 (Sec. 046402-Sicha)
Chapter 9. A Real Intertemporal Model with Investment (Part 2 - Shocks Experiments)

1. **Current government purchases increase temporarily (G);**

DAE Model	**Intertemporal model analysis**
$G\uparrow\Rightarrow$ *we*, C ?	$G\uparrow\Rightarrow$ *we*, C ? ....
Balance budget Multiplier 1	Balance budget Multiplier 1
Increases in C and Y come as a free lunch! Each dollar spent by the government increases GDP by more than one dollar. We would let the government grow infinitely large, which would make everyone infinitely wealthy.	**Higher government spending and larger output come at a cost — no free lunch!** Government expenditure **crowds out** private investment. Lower future productive capacity. Consumer consumers less and takes less leisure and he or she faces a lower real wage rate.

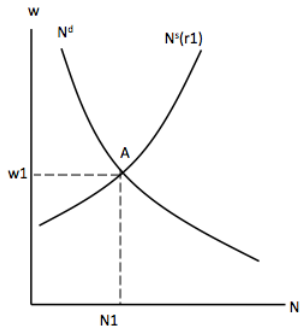
Intertemporal model analysis

Step 2:
$r\uparrow\Rightarrow N^S$shifts (.....)$\Rightarrow w$.....
$r\uparrow\Rightarrow I^d$.....and C^d.....

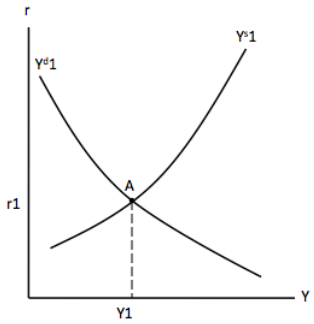
Step 1 :
Y^S : $PV(T)\uparrow \Rightarrow N^S$shifts (.....)
$\Rightarrow Y^S$shifts (.....)
$G\uparrow\Rightarrow Y^d$shifts (.....by .....)
Y^d **shifts more than** Y^s : r .....

- current borrowing (bond sale) .....
- $B + I^d$ shifts to the .....
- PV (T) increases
- Savings ..... shifts to the .....
- The real interest rate increases.

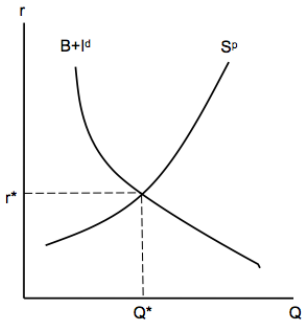
Labour Market



Output Market



Credit Market



2. **A decrease in current capital stock (K)**

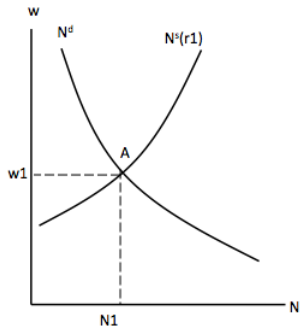
Step 1 :

$K \downarrow \Rightarrow MP_N$... $\Rightarrow N^d$shifts (.....)
$\Rightarrow Y^S$shifts (.....)
$K \downarrow \Rightarrow K'$.....for all I $\Rightarrow MP'K$.....for all I
$\Rightarrow I^d$.....for all r
Y^d shifts (.....)

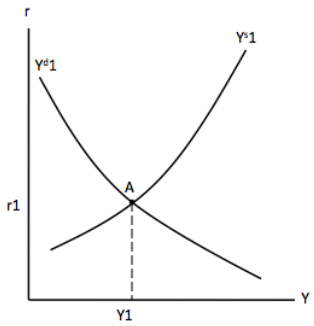
Step 2: $K \downarrow \Rightarrow r$.....
$\Rightarrow N^S$ shifts (.....) $\Rightarrow w$ .....
(A movement on the Y^s curve)

Step 3.
I^d shifts (.....)
$B + I^d$ shifts (.....)
S^p (depends on Y-T)
r.....

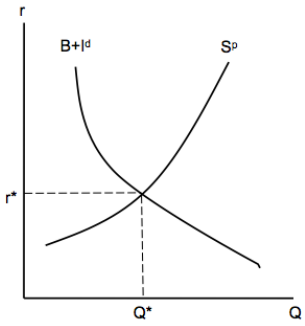
Labour Market



Output Market



Credit Market



- $K \downarrow \Rightarrow MPK'$.... $\Rightarrow I$..... $\Rightarrow r$..... $\Rightarrow I$..... $\Rightarrow$If $I \downarrow$, $K' \downarrow$ — impossible. $K \downarrow \Rightarrow MP_K \uparrow \Rightarrow I \uparrow$
- A decrease in current K $\Rightarrow$ r ...., I.... , w..... , Employment and output ..... (C and ℓ tends to $\downarrow$ because $r \uparrow$)

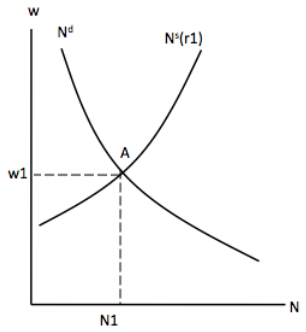
3. **An increase in Current Total Factor Productiviy (Z)**

Step 1 : z $\uparrow \Rightarrow MP_N$..... .
N^d shifts ..... . Y^s shifts ..... , r ....

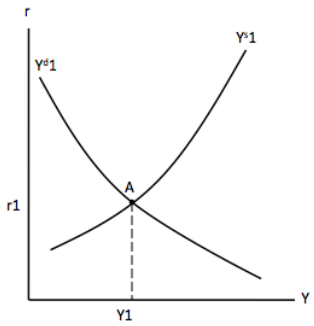
Step 2: r ..... N^s shifts (.....)

Step 3
(Y-T)..... $\Rightarrow S^P$.....

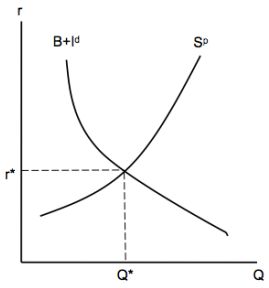
Labour Market



Output Market



Credit Market



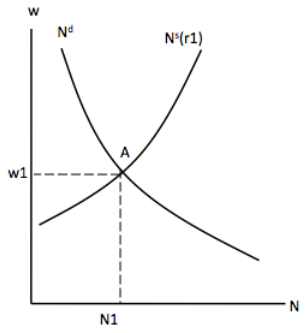
4. **An increase in future Total Factor Productivity (Z')**

Step 1 : $z' \uparrow \Rightarrow MP'_K$..... . I^d .....; Y^dshifts ..... r .....

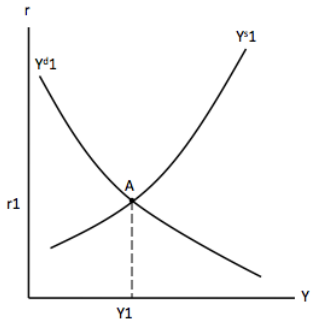
Step 2: r .....N^s shifts .....

I^d.....
(Y-T).....S^P.....

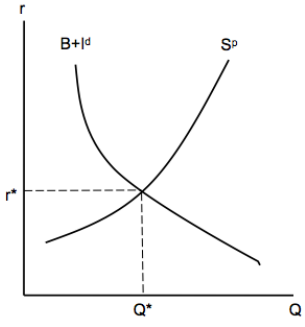
Labour Market



Output Market



Credit Market



- $I \uparrow \Leftarrow MP'_K$, partly offset by $r \uparrow$. $K' \uparrow \Leftarrow$ expected z'. r and Y increases. C may rise or fall due to higher Y but higher r. Employment increases with falling real wage.