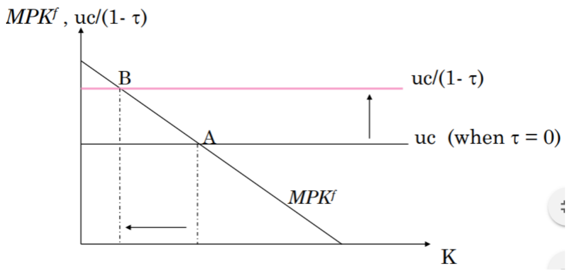
Sample:

Week 4

- National savings
  - National savings will change subject to:
    - Current output, rise
    - Expected future output fall
    - Wealth, fall
    - Expected real interest rate, rise
    - Government purchase, rise
  - What is not consumed will be saved
    - National savings = output (Y) – C^d – G
- Investment demand
  - Firms will demand capital up to where MPK = tax adjusted user cost of capital
    - Higher tax, higher the uc, lower the capital stock demanded



  - Factors that influence K*, which influence investment, I (see formula above)
    - Real interest rate, fall
    - Rise in tax rate, fall in investment
    - Rise in future MPK, shift up the MPK investment rises, I rises
- Investment and stock market
  - *Tobin theory*: right relationship between stock market and investment, companies get their money for capital purchase from issuing shares
    - Boom in stock market = boom in firm investment
    - Correlation between investment fluctuation and stock market fluctutation
    - Tobin's *q*= capital market value of firm/replacement cost of firm capital
      - When *q>1*, profitable for firms to invest
      - *q<1* when replacement cost > market value, not profitable
    - **Conclusion:** better the economy (boom), higher the q, higher the investment
      - Higher MPK, higher future eearnings, higher V and *q*
      - Lower real interest rate, lower uc, higher stock prices, higher V and *q*
      - Lower cost of capital, lower uc, higher *q*
  - Desired investment (I^d) is affected by factors such as real interest rate and MPK

$$I^d = i_0 - i_r r$$

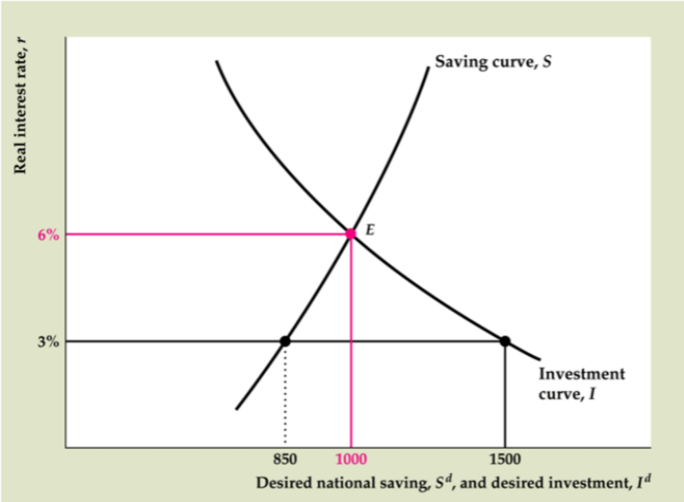
- i_0: include factors other than r such as MPK^f
- $i_r > 0$ (recall, real interest rate is part of the uc)

- Goods market equilibrium

$Y = C^d + I^d + G$

Alternative representation:

- $S^d = I^d$



- Shifts in savings right, increasing it
  - Current output
  - Future output
  - Wealth
  - G
  - Taxes, unless Ricardian equivalence
- Shifts in one shifts the equilibrium interst rate and savings/investments
- Shifts in investment right, increase
  - Must be changes in desired capital stock
  - Lower effective tax rate
  - Higher MPK

Topic 4: long run economy

- Cost of growth
  - Output growth being faster than population growth means that standard of living will rise. GDP capita is a suitable measure
- Growth rate formula
  - $\Delta Y/Y = \Delta A/A + a_K \Delta K/K + a_N \Delta N/N$

A rise of 10% in A raises output by 10%

A rise of 10% in K raises output by a_K times 10%

A rise of 10% in N raises output by a_N times 10%

<u>Week 5</u>

- Total output growth
  - Consists of growths in: labor + capital + total input + productivity
  - Capital and productivity play a more important role over time than labo:
  - *Growth rate formula*: consists of
    - Growth in producvitibty
    - Growth in capital