Econ 1A. Chapter 10. Handout

1. From historical data of RGDP per person, we see that (1) rapid economic growth maintained over a number of years can transform **a poor country** into **a rich one;** (2) slow economic growth or absence of growth can condemn a country to **devastating poverty**. *Many economists have argued that long-run economic growth – why it happens and how to achieve it - is the single most important issue in macroeconomics.*
2. To achieve faster economic growth, one of key factors is **Saving**. **Saving** finances investment ($I = \Delta K$), which brings capital accumulation ($K\uparrow$) and improves the labor productivity. So encouraging saving can increase the growth of capital ($K\uparrow$) and stimulate economic growth ($G_Y > 0$) and ($G_{Y/pop} > 0$) and improve the standard of living, i.e., RGDP per person$\uparrow$. For example, **East Asian economies** have the highest saving rates and highest growth rates.
3. **Financial institutions and markets** play a crucial role in the economy, because they provide the channels through which saving (S) flow to finance the investment (I) in new capital (ΔK) that make the economy grow.
4. **Investment spending (I)** must be financed out of **saving**. In the model of loanable funds market. The flows of loanable funds, i.e., saving, come from three sources: (1) **household saving;** (2) **government budget surplus**; (3) **borrowing from the rest of the world**. This can be seen from the national account.

(1) $Y = C + I + G + (X - M)$

where Y = RGDP (households income), C = consumption, I = investment, G = government purchase, X = export, M = import.

(2) $Y = C + S + T \rightarrow C = Y - S - T$

where S = private saving and T = taxes paid to government – the cash transfer received from governments (such as social security and unemployment benefits).

Substituting $C = Y - S - T$ into (1), we obtain

(3) $I = S + (T - G) + (M - X)$

where

$S + (T - G)$ = private saving + government saving = national saving.

$S + (T - G) + (M - X)$ = national saving + borrowing from the rest of the world = the flow of funds that finance investment (I).

Example: In 2002, we find the following macro data in Country A.

Y = 1,000, C = 850, T = 50, G = 100, X = 100, M = 125.

a. Find S. $S = Y - C - T = 1{,}000 - 850 - 50 = 100$

b. Find (T-G). $T - G = 50 - 100 = -50$ = budget deficit.

c. Find. $(M-X) = 125 - 100 = 25$.

d. Find the flow of funds that finance investment. $S + (T-G) + (M-X) = 100 - 50 + 25 = 75$.

e. Find I. $I = Y - C - G - (X-M) = 1{,}000 - 850 - 100 - (100 - 125) = 75$.

f. Quantity demanded of loanable funds = Quantity supplies of loanable funds = 75 at the market equilibrium.

Exercise: Assume that the economy is open. Answer the following questions.

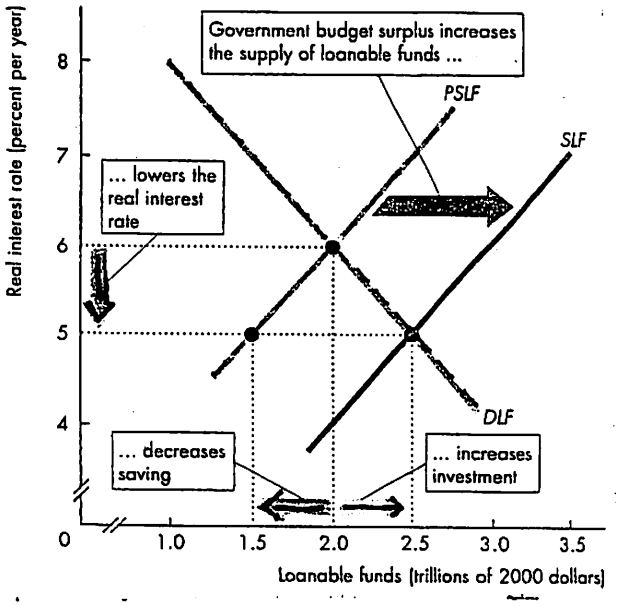
1. X = 125, M = 80, (T-G) = -200, I = 350. Find S.
2. X = 85, M = 135, (T-G) = 100, S = 250. Find I.
3. X = 60, M = 95, S = 325, I = 300. Find (T-G).
4. S = 375, I = 400, (T-G) = 10. Find M-X.

Econ. 1A. Chapter 10. Government in the Market for Loanable Funds

A: A government budget surplus: T – G = 1.0

r	DLF	PSLF	SLF = PSLF+budget surplus
4	3.0	1.0	1.0+1.0 = 2.0
5	**2.5**	1.5	1.5+1.0 = **2.5**
6	**2.0**	**2.0**	2.0+1.0 = 3.0
7	1.5	2.5	2.5+1.0 = 3.5
8	1.0	3.0	3.0+1.0 = 4.0

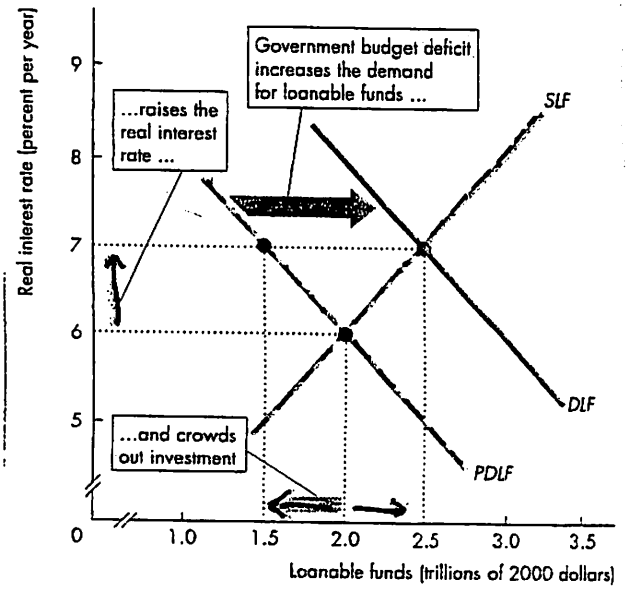
If government budget surplus (T-G)= 1.0→SLF↑→ r=6↓to r=5→ quantity of investment(DLF)=2.5 & quantity of private saving(PSLF)=1.5.



B: A government budget deficit: G – T = 1.0

r	PDLF	SLF	DLF = PDLF+budget deficit
4	3.0	1.0	3.0+1.0 = 4.0
5	2.5	1.5	2.5+1.0 = 3.5
6	**2.0**	**2.0**	2.0+1.0 = 3.0
7	1.5	**2.5**	1.5+1.0 = **2.5**
8	1.0	3.0	1.0+1.0 = 2.0

If government budget deficit(G-T)=1.0→DLF↑→ r=6↑tor=7→quantity of saving(SLF)=2.5 & quantity of private investment(PDLF)=1.5→budget deficit crowds out private investment by 1.5-2.0=0.5.



C: The Ricardo-Barro Effect: G-T = 1.0. ΔS= 1.0

r	PDLF	SLF_0	DLF = PDLF+budget deficit	$SLF_1=SLF_0+\Delta S$.
4	3.0	1.0	3.0+1.0 = 4.0	1.0+1.0 = 2.0
5	2.5	1.5	2.5+1.0 = 3.5	1.5+1.0 = 2.5
6	**2.0**	**2.0**	2.0+1.0 = **3.0**	2.0+1.0 = **3.0**
7	1.5	2.5	1.5+1.0 = 2.5	2.5+1.0 = 3.5
8	1.0	3.0	1.0+1.0 = 2.0	3.0+1.0 = 4.0.

If taxpayers are rational & government budget deficit(G-T)=1.0→ DLF=(PDLF+budget deficit)↑+SLF_1=(SLF_0+ΔS)↑→r=6→ and quantity of saving(SLF)=quantity of investment(DLF)=3.0→ quantity of private investment(PDLF)= 2.0 did not change→ crowding out is avoided.