

Chapter 8 Problems

interest rate
= 10%

Assume people live 2 years: youth (year 1) and adult (year 2). Youths either go to school or work. If they go to school, they earn zero. If they work they earn \$1000. As adults, everyone works. An educated adult earns \$3500 while an uneducated adult earns \$2000. *Tuition fully paid by gov't at \$400.00*

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	Earnings	Earnings
	Year 1	Year 2
A. Earnings profile: no school	\$1000	\$2000
B. Earnings profile: with school	0	\$3500
C. Earnings gain from schooling	- 1000	+1500

costs vs benefits

costs: indirect costs + direct costs

private social (adds in gov costs)

benefits: future + must discount

$1+r$

Private benefits and social benefits

In this case:

private cost = 100

social cost = 1000+400 (individual cost + government cost)

private gain = $1500/(1+r)$

social gain = $1500/(1+r)$

calculate dollar gain & cost

gain of return

net private benefit

Assume: interest rate = 10%

$= 1500/1.1 - 1000$

$= 364$

Private rate of return:

$1500/1+r = 1000$

$r = 50\%$

if interest rate is over 50%, then it is losing money to go to school

net social benefit

$= 1500/1.1 - 1400$

$= -36.36$ (loss)

Social rate of return:

$1500/(1+r) = 1400$

$R = 7.14\%$

Two period model:

Discount of future costs,

NPV calculation:

Interest rate = 15%

$= (\text{gain}/(1+r)) + (\text{gain}/(1+r)^2) - \text{cost}$

Drop of saving rate only effect the saving function, and read everything vertically

Capital waiving line

Solow model:

$Y = C+I$

$$Y = C + S$$

$$\Rightarrow S = I$$

K down due to d

N is positive

SS means K/L unchanged

$$S = n + d$$

Population down \Rightarrow giving a new line, and moving the intersection point along the line
 $s > n + d$, K/L up, Y/L up

COMBINATIONS

N down \Rightarrow K/L up, Y/L up, $s > n + d$

S down \Rightarrow K/L down Y/L down, $S < n + d$

When production line shifts up/down, saving function also shifts up/down

$$\text{Give L: } PF = Y/L = (K/L)^{1/2}$$

$$S(MPS) = 0.25$$

Philippines

Unemployment rate = 2.2%

A majority of people are self-employed, lack of stable job. Unstable job, low quality jobs

Educations high literacy rate 97.5%, education budget:

Universities enrollment rate 43.6%

New education system.

Promote sex education

Hire more teachers

15% of college graduates cannot find steady work

Create more jobs

Build new infrastructure, such as roads, bridges, and ports