

INTRODUCTION – CONSUMPTION AND SAVING

After-tax income an individual earns can be used for either:

- Current consumption
- Saving (for future consumption)



NOTE: Consumption and saving are inversely related - any amount not used for consumption is saved and vice versa

SAVING

Wealth and saving



Definition of individual's wealth: An individual's assets (financial and real) less their liabilities

*Saving adds to an individual's assets, hence increasing wealth



NOTE: There is a stock vs flow distinction between Wealth and Saving:

- Wealth = Stock since its amount is measured at a certain point in time
- Savings = Flow since it is an amount accumulated over a period of time

Reasons for household saving

- Lifestyle saving
 - o Individuals borrow money in periods in their life where income is low (i.e. when young and old)
 - o Individuals save money when income is relatively high (i.e. when middle-aged)
- Precautionary saving
 - o Saving for unexpected events
- Bequest saving
 - o Saving for next generation

Determinants of household saving

- Real interest rates
 - o The higher the real interest rate, the higher the opportunity cost of consuming today instead of saving (and the higher the benefit of saving)
- Demographics
 - o Amount saved nationally is affected by age demographics of the population (lifestyle saving concept)
- Beliefs about future events
 - o Precautionary saving concept

Saving in other sectors

Firms: Retained earnings after deducting wages, costs and dividends is classified as savings

Government: Taxation revenue less expenditure is classified as savings

National saving in a closed economy	
*Closed economy: An economy where no international trade takes place	
National accounting identity:	$Y = C + I + G$ $I = Y - C - G$
Assuming that both C and G are consumption expenditures,	
National saving S:	$S = Y - C - G$
Therefore, in a closed economy, the amount of national saving always equals the amount invested in the economy	
Savings in private and public sectors:	
	$S = (Y - C - T) + (T - G)$
T = taxes less transfer payments by government to private sector	
Private saving (by households and firms) = $Y - C - T$	
Public saving (or budget surplus by government) = $T - G$	

INVESTMENT FOR FIRMS



Definition of Capital Stock: The stock of durable goods that exist at a point in time that can be used as part of the production process



Definition of Investment: New expenditure on durable goods that add to the capital stock (including inventory investment)

Standard relationship between capital and investment	
	$K_{t+1} = (1 - \delta) K_t + I_t$
K = Capital stock	
t = Time period	
I = Investment	
δ = Depreciation	

Cost-benefit analysis of investment

Cost: Interest rate r + Depreciation cost δ
 Benefit: Increased output $y = F(k)$ and revenue = $pF(k)$ where p is the fixed price of goods
 *Assumptions relating to $y = F(k)$:

- $F'(k) > 0$
- $F''(k) < 0$ (as amount of capital increases, output increases at a decreasing rate)
 - o Law of diminishing marginal returns

Profit maximisation equation of firm:

$$\Pi = pF(k) - (r + \delta)k$$

Differentiating Π ,

$$pF'(k) - (r + \delta) = 0$$

Determinants of investment

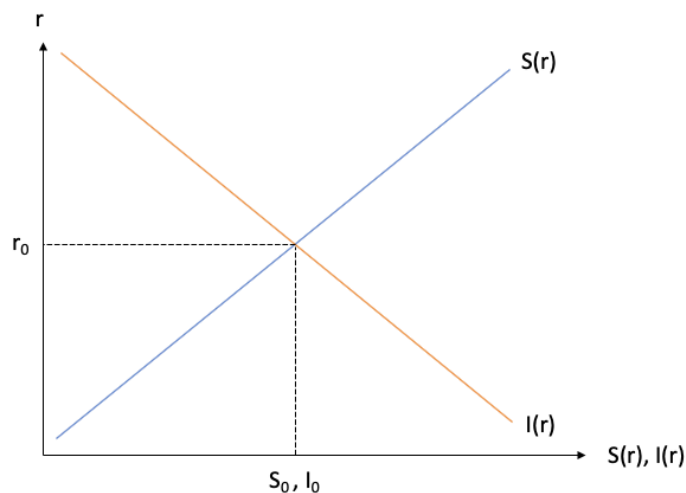


NOTE: Each determinant changes the marginal benefit/cost of investment, hence changing amount invested

Determinant	Changes benefit/cost
Marginal product of capital	Benefit
Output price relative to capital price	Benefit/Cost
Real interest rate	Cost
Rate of depreciation	Cost

MARKET FOR LOANABLE FUNDS

- Some individuals in the economy wish to save, and others wish to invest
- Interest rate adjusts to equate this market
 - o As real interest rate rises, individuals increase saving and firms reduce investment (since firms borrow money to invest which they have to pay back at the interest rate)



NOTE: Determinants for saving and investment shift the curves leftward or rightward, and the real interest rate r adjusts to match the point where the curves interact