

CONSUMPTION, INVESTMENT AND NET EXPORTS

DISCUSSION CONTENTS

Consumption

The Consumption Function

The Average and Marginal Propensity to Consume and Save.

Investment

The Investment Demand Curve

Gross Exports and Gross Imports



CONSUMPTION

Consumption is the amount a consumer spends on the purchase of goods and services.

Consumer spending could be Autonomous (spending irrespective of receipt of income or not) or Induced (spending resulting from increase in income).



- Consumption is impossible without one earning income either through employment or transfers from businesses or government.

- Although, personal income is the most important variable of consumption, it is also affected by personal income taxes which actually reduces the actual amount available for spending (disposable income).

- The relationship between consumption and disposable income however is not a perfectly linear one thus showing that other variables influence the consumers decision to consume.

AUTONOMOUS CONSUMPTION

- The consumption level, when the level of income is zero is referred to as
- AUTONOMOUS CONSUMPTION
- This is possible when the consumer borrows or relies on past savings.
- The slope of the consumption function is the marginal propensity to consume.
- When the consumption function is linear, the slope is constant, thus the marginal propensity to consume is constant

DETERMINANTS OF CONSUMPTION

- personal income
- income taxes
- consumer expectations
- consumer indebtedness
- wealth
- the price level

THE CONSUMPTION FUNCTION

- The consumption function depicts the relationship between Consumption(C) and Disposable Income(Y_d) i.e: $C = f(Y_d)$, *Ceteris paribus*.

It is usually expressed as a positive and linear relationship when all other non-income determinants of consumption are held constant.

- The consumption function shifts when the non-income determinants change.

**TABLE 1: HYPOTHETICAL CONSUMPTION
FUNCTION
FOR AN ECONOMY.**

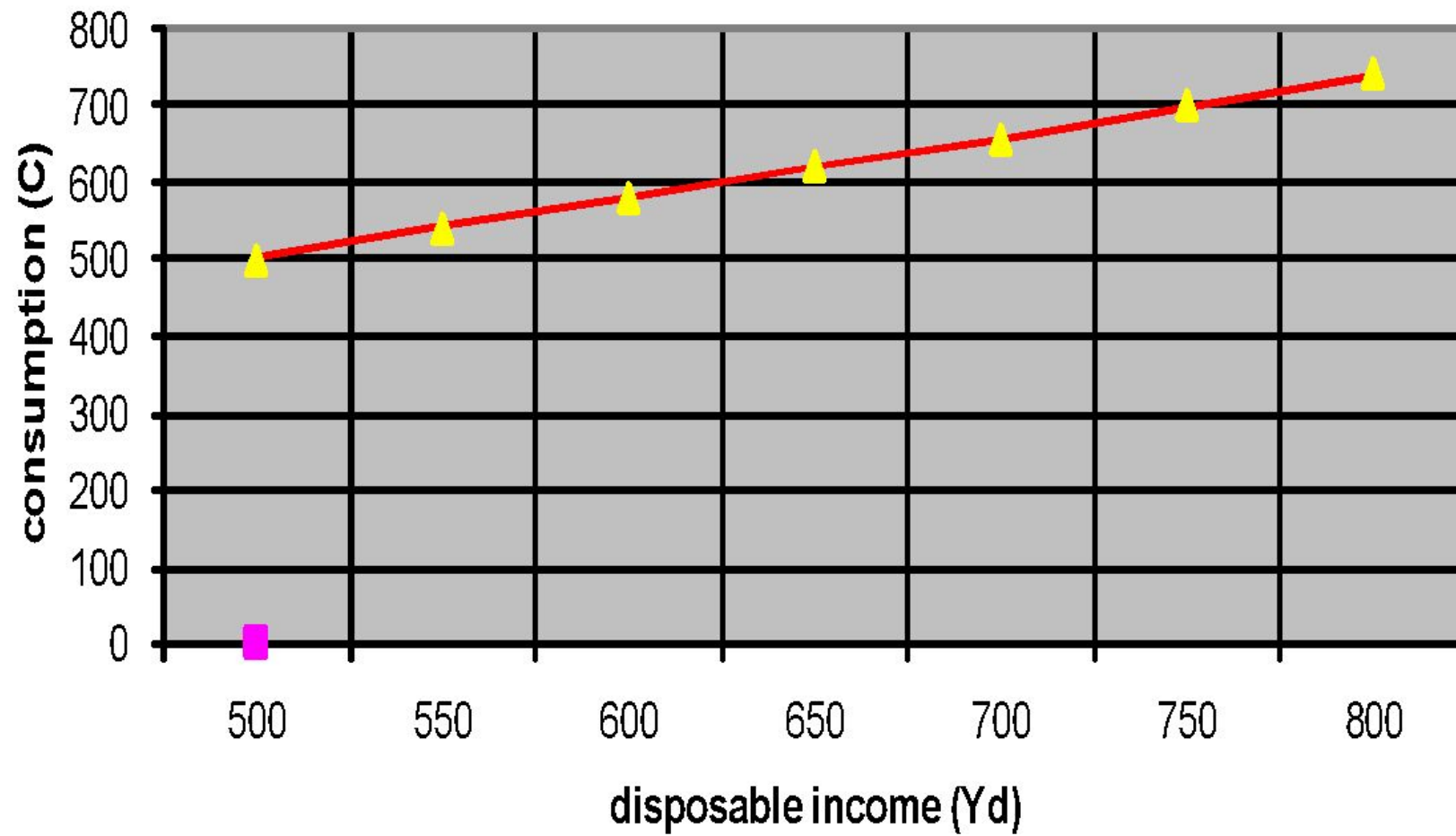
Disposable Income (Y_d) (Billion Naira)	Consumption (C) (Billion Naira)	Savings ($S = Y_d - C$)
500	500	0
550	540	10
600	580	20
650	620	30
700	660	40
750	700	50
800	740	60

The table can also be presented in a graphical form with consumption on the vertical axis and disposable income on the horizontal axis.

The values of consumer saving (column 3) in table 1 is obtained by subtracting consumption from disposable income.

The table initially shows that the consumer spends all his disposable income and as his disposable income increases he saves more.

INCOME-CONSUMPTION RELATIONSHIP



THE AVERAGE AND MARGINAL PROPENSITY TO CONSUME AND SAVE

The ratios used to express the relationship between Consumption , Savings and Disposable income include:

Average Propensity to Consume (APC): this is the ratio of consumption to disposable income at a specific level of income.

$$APC = C/Y_d$$

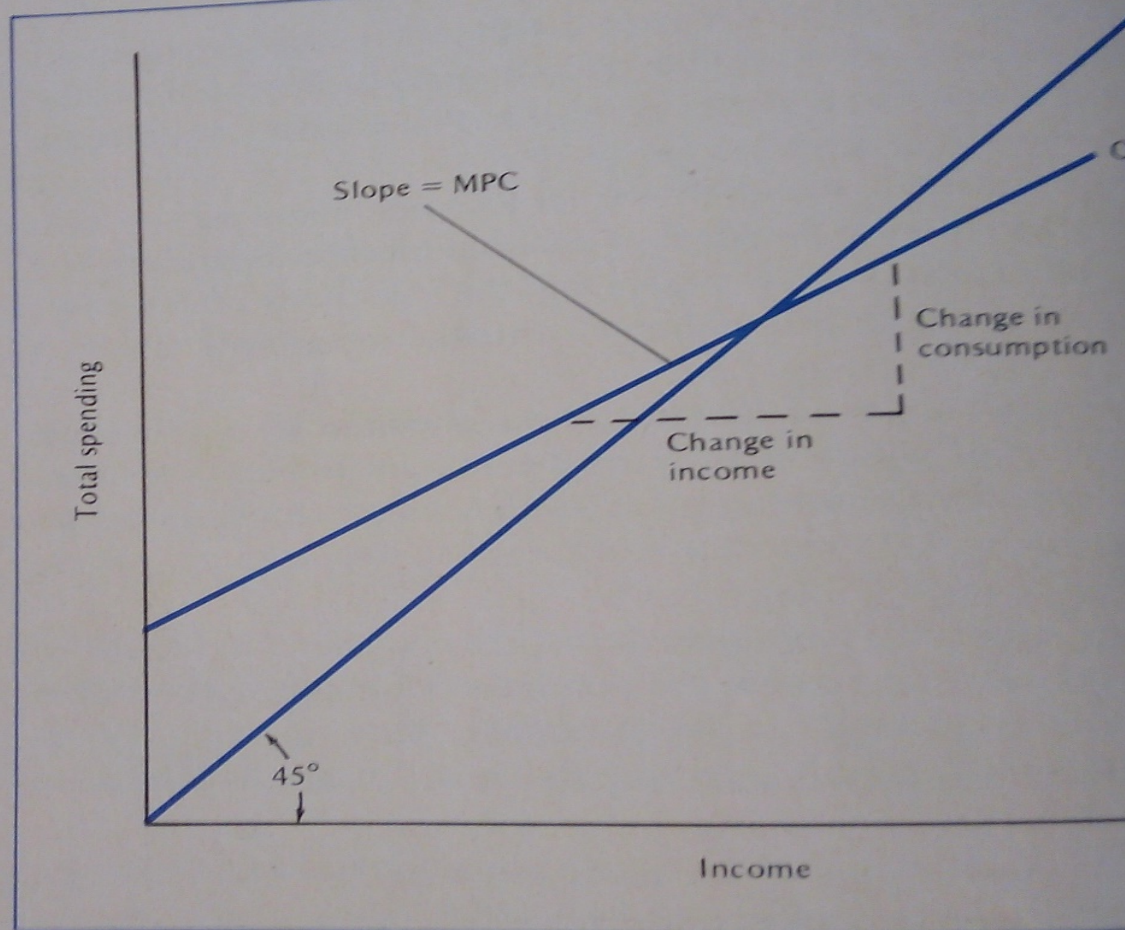
Marginal Propensity to Consume (MPC): this is the ratio of the change in consumption relative to the change in disposable income.

$$MPC = \Delta C / \Delta Y_d$$

THE CONSUMPTION FUNCTION AND 45° LINE

FIGURE 6-8: THE CONSUMPTION FUNCTION

Consumption spending rises with income according to the relationship given by the marginal propensity to consume. A fixed proportion of any increase (or decrease) in income is allocated to consumption spending.



Average Propensity to Save (APC): this is the ratio of saving to disposable income.

$$APS = S/Y_d$$

Marginal Propensity to Save (MPS): this is the ratio of the change in saving relative to the change in disposable income.

$$MPS = \Delta S / \Delta Y_d$$

$$APC + APS = 1$$

$$MPC + MPS = 1$$

**TABLE 2: RATIOS COMPUTED FROM THE HYPOTHETICAL
EXAMPLE IN TABLE 1**

APC (C/Y_d)	APS	Y_d	C	MPC ($\Delta C/\Delta Y_d$)	MPS
500/500 = 1.0	0	500	500	-	-
540/550 = 0.98	0.02	550	540	40/50 = 0.80	0.20
580/600 = 0.97	0.03	600	580	40/50 = 0.80	0.20
620/650 = 0.95	0.05	650	620	40/50 = 0.80	0.20
660/700 = 0.94	0.06	700	660	40/50 = 0.80	0.20
700/750 = 0.93	0.07	750	700	40/50 = 0.80	0.20
740/800 = 0.92	0.08	800	740	40/50 = 0.80	0.20

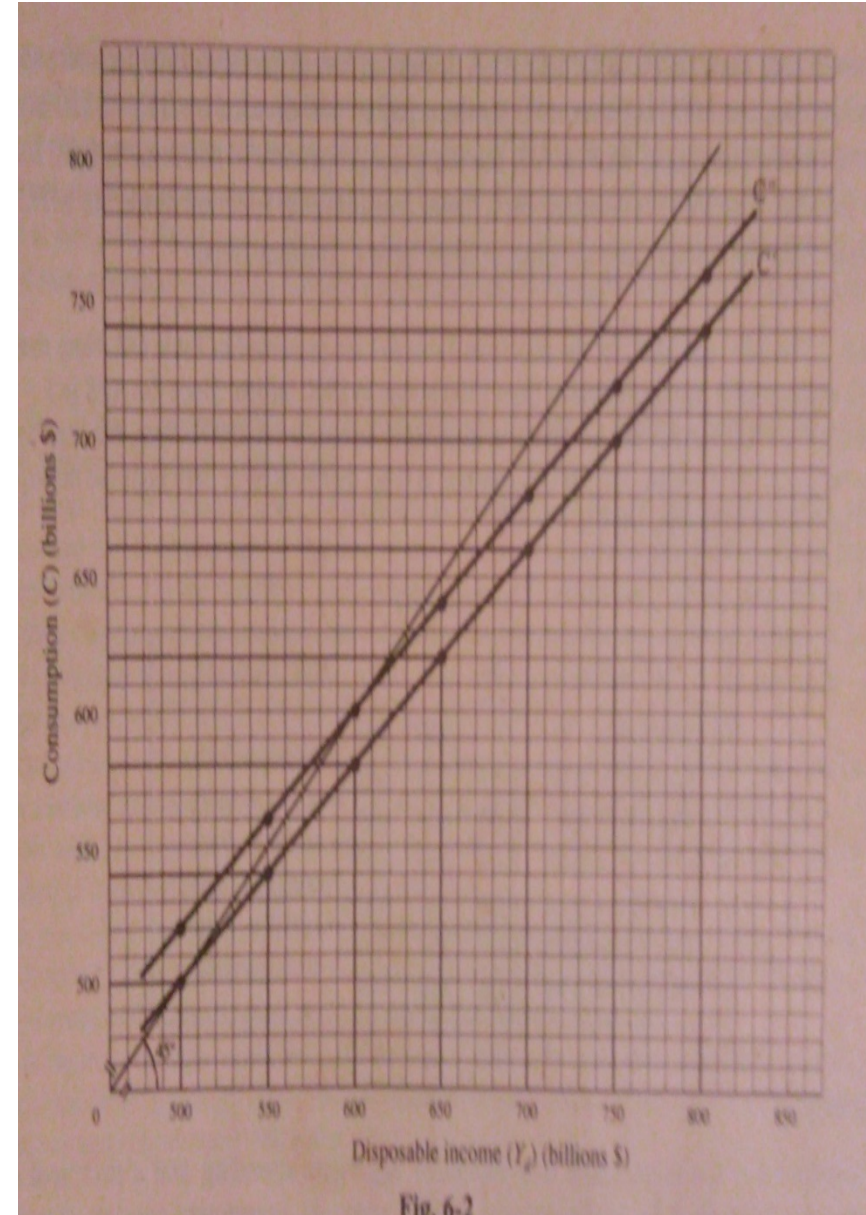
- From Table 2, the *APC* decreases from 1.0 to 0.90 as disposable income increases from N500b to N800b but savings is 8% of the income at N800b.
- The *MPC* is constant throughout at 0.8 while the *MPS* (1-*MPC*) is 0.2.
- Note also from Table that $APC + APS = 1$ and $MPC + MPS = 1$

The data are plotted and the consumption function is labelled C'

- A change in non-income determinants of consumption alters the relationship of consumption to disposable income
- Such changes are depicted graphically by upward or downward shifts of the consumption function
- **THEY ARE CONSUMPTION FUNCTION SHIFTERS**
- Shifts of the consumption function affect the level of consumption and saving

CONSUMPTION

- Should consumers expect an increase in the price level, they are likely to spend more in the current period before prices rise
- An upward shift of consumption function from C' to C'' results in more consumption
- and less saving at each income level

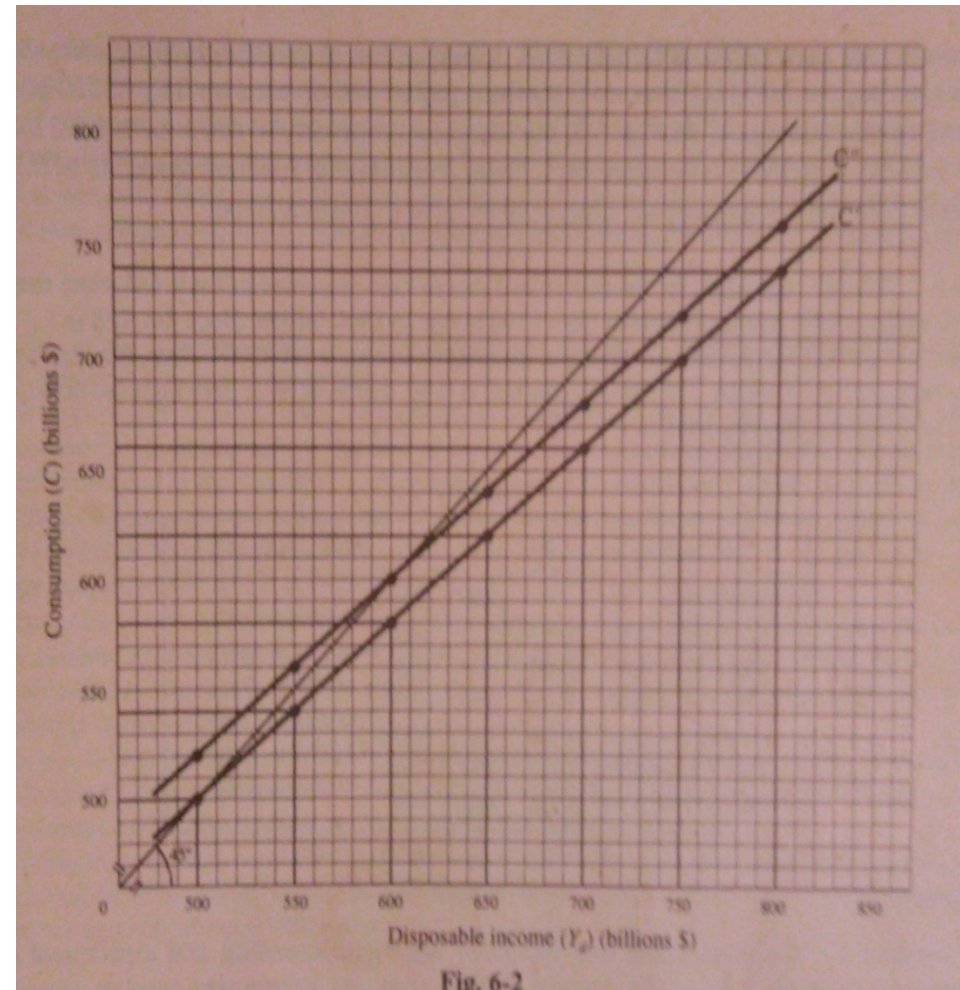


Y_d , C and S, in billions of dollars

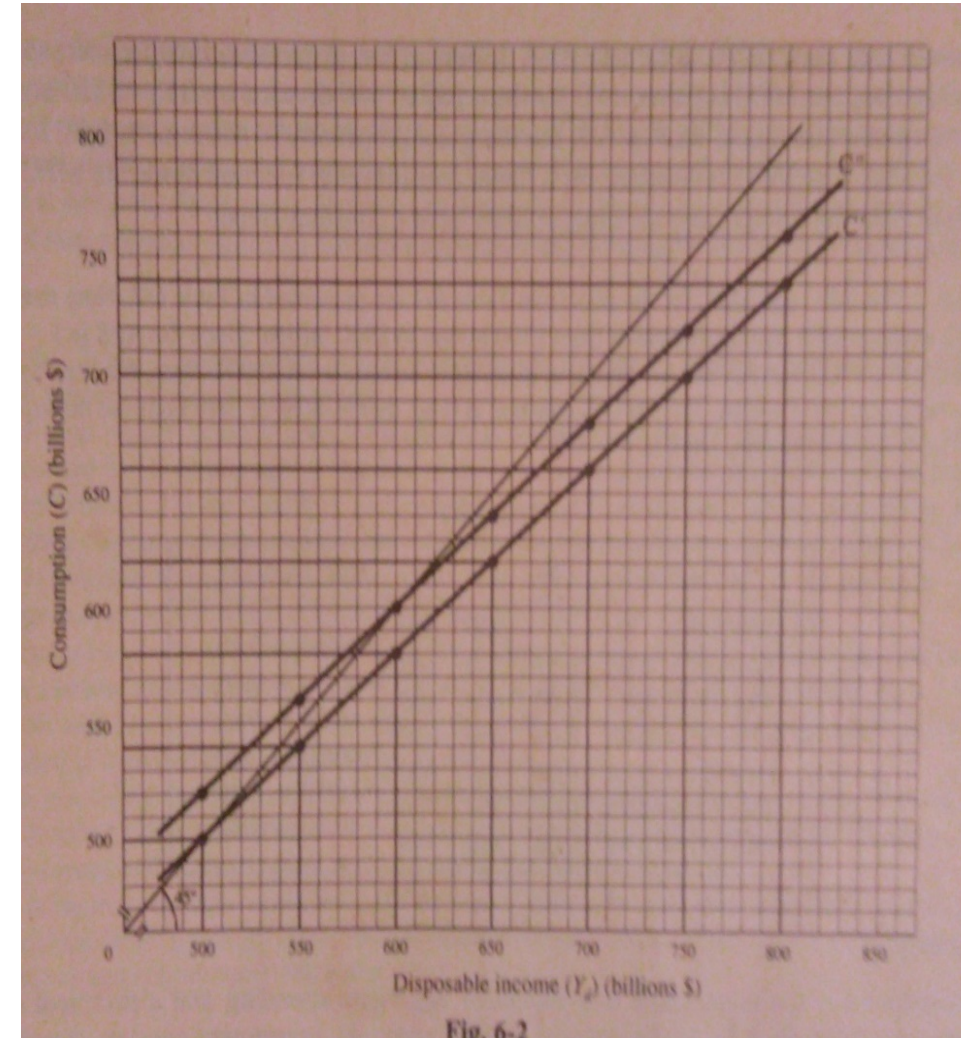
Disposable Income (Y_d) (1)	Consumption C (2)	Saving, $S=Y_d - C$ (3)
500	500	0
550	540	10
600	580	20
650	620	30
700	660	40
750	700	50
800	740	60

- Table indicates that consumers spend their entire disposable income when Y_d is \$500 B and spend less than Y_d at income levels greater than \$500B
- Since disposable income is either consumed or saved, consumer saving (column3) is found by deducting consumption from disposable income
- Consumption and disposable income are plotted and the resulting line is labelled C'.
- The 45° line is equidistant from both the consumption and disposable income axes
- As drawn $C=Y_d$ at each point on the 45° line

- For linear consumption C' , there is only one level of disposable income at which consumer spending equals disposable income.
- That is the point of intersection of the consumption line
- and the 45° line



- Since the consumption line is below the 45° line at disposable income levels above \$500B, it follows that consumers are not consuming their entire income and are therefore saving
- Thus, consumers saving is the distance between
- the consumption line
- and the 45° line at each level of disposable income

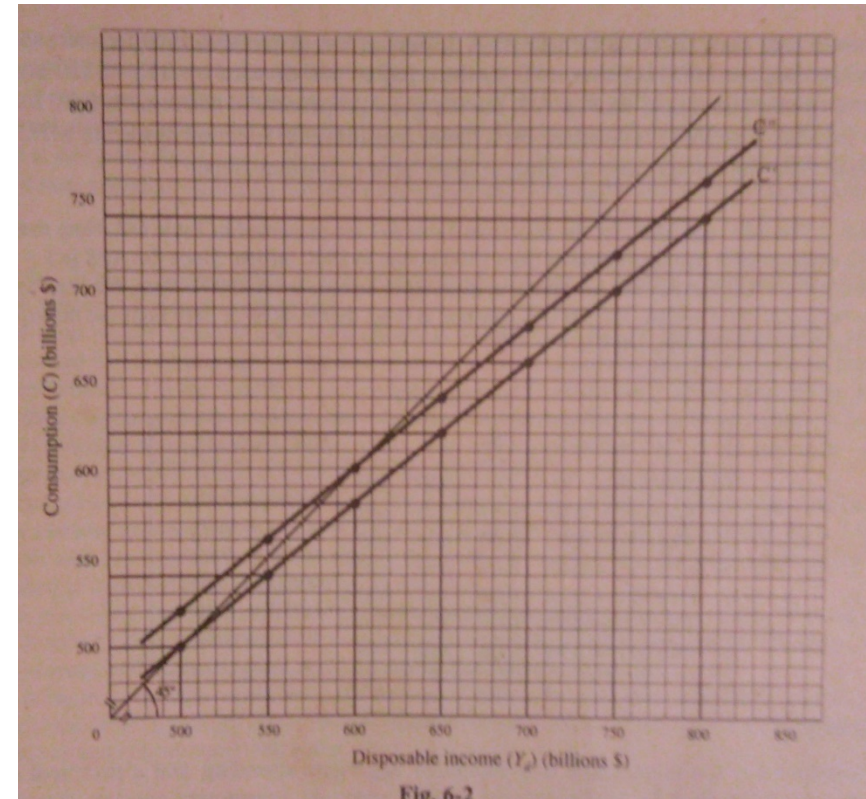


EXAMPLE

- Suppose consumers become more optimistic and are willing to spend their disposable income.
- Such a trend would shift consumption function C' to C''
- We now find that at disposable income \$500B, consumption exceeds disposable income.
- This means the consumers are dissaving

DIS-SAVING

- Consumers can dissave- ie,
- consume more than their disposable income- **by borrowing or by spending accumulated savings**
- Consumption now equals disposable income when Y_d is \$600B,
- for consumption function C'' there is less saving at each level of disposable income than there is for consumption function C'



The average and marginal propensity to consume and save

- Relationship between consumption and disposable income can be presented by several ratios:
- The **average propensity to consume** is the ratio of consumption to disposable income at a specific level of income ie,
- $APC = \frac{C}{Y_d}$
- At specific level of income

- **Average propensity to save** is the ratio of saving to disposable income ie
- $APS = \frac{S}{Y_d}$
- At each income level, $APC + APS = 1$
- For the consumption function in the above Table, the $APC = 1$ and $APS = 0$
- when disposable income is \$500b
- This indicates that consumers are spending 100% of their disposable income

- At disposable income greater than \$500B, the $APC < 1$
- Consumers are now saving and the $APS > 0$

- The **marginal propensity to consume** is the **ratio of the change in consumption relative to the change in disposable income** between 2 levels of disposable income, ie
- $MPC = \frac{\Delta C}{\Delta Y_d}$
- Marginal propensity to save = $MPS = \frac{\Delta S}{\Delta Y_d}$
- From the table, consumption increases from \$500B, to \$540B, when disposable income increases from \$500B to \$550B
- The MPC is thus 0.80, since $\Delta C = \$40B$, and $\Delta Y_d = \$50B$, ie $40/50 = 0.8$

- For the linear consumption function C' , the $MPC=0.80$ for each change in disposable income
- The **MPC is constant for a linear consumption function** since the MPC is the slope of the consumption function
- All straight lines have a constant slope

to

$\Delta C / \Delta Y_d$	$\Delta S / \Delta Y_d$	Y_d	C	$(\Delta C / \Delta Y_d)$
$500/500 = 1.0$	0	500	500	
				$40/50 = 0.80$
$540/550 = 0.98$	0.02	550	540	
				$40/50 = 0.80$
$580/600 = 0.97$	0.03	600	580	
				$40/50 = 0.80$
$620/650 = 0.95$	0.05	650	620	
				$40/50 = 0.80$
$660/700 = 0.94$	0.06	700	660	
				$40/50 = 0.80$
$700/750 = 0.93$	0.07	750	700	

- Note that the APC falls from 1.0 to 0.92 as disposable income increases from \$500B to \$800B
- Since the APS is $1 - \text{APC}$, the APS increases from 0 to 0.080
- Consumers are not saving at disposable income level \$500B, but they save 8% of their income level when Y_d is \$800B
- The MPC is constant, 0.80, that is 80% of each increase in disposable income is consumed
- The $\text{MPS} = 0.20$ since MPS is $1 - \text{MPC}$

The APC and MPC for the data are as follows:

APC= C/ Y _d)	APS	Y _d	C	(MPC= $\Delta C / \Delta Y_d$)
500/500=1.0	0	500	500	
				40/50=0.80
540/550=0.98	0.02	550	540	
				40/50=0.80
580/600=0.97	0.03	600	580	
				40/50=0.80
620/650=0.95	0.05	650	620	
				40/50=0.80
660/700=0.94	0.60	700	660	
				40/50=0.80
700/750=0.93	0.07	750	700	
				40/50=0.80
740/800=0.92	0.08	800	740	
				40/50=0.80