

3. National Income and Equilibrium Determination (Part 2)

EE 212

Case & Fair, ch. 8; LCR, ch. 23-24

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3. Equilibrium National Income

- Meaning :
Equilibrium is
A position of balance. A position from which there is no inherent tendency to move away.
- Equilibrium National Income is
- Equilibrium conditions : any conditions that are required for something to be in equilibrium

- Two methods

- 1 Income - Expenditure Approach :

- 2 Withdrawal(Leakage) - Injection Approach :

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● **Income Expenditure Approach**

- 1 Closed economy without government
- 2 Closed economy with government
- 3 Opened economy

● **Leakage - Injection Approach**

- 1 Closed economy without government
- 2 Closed economy with government
- 3 Opened economy

Example : $C = 200 + 0.8Y$, $I = 400$, What is equilibrium Y ?

1. Income-Expenditure Approach

- Calculation

- $Y > DAE \Rightarrow$ Actual output Desired aggregate expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y
- $Y < DAE \Rightarrow$ Actual output Desired aggregate expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y
- Hence, at $Y=DAE$, ctual output Desired aggregate
 expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y until $Y =$
 There is no inherent tendency to move away.

2. Leakage - Injection Approach

- Calculation

- $S > I$, leakage.....Injection
 \Rightarrow Actual output Desired aggregate expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y
- $S < I$, leakage.....Injection \Rightarrow Actual output Desired
 aggregate expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y
- $S = I$, leakage = Injection \Rightarrow Actual output Desired
 aggregate expenditure \Rightarrow
 Actual Δ Inventory Intended Δ Inventory , Actual Investment
 Desired Investment
 , produce next year, Y until $Y =$
 There is no inherent tendency to move away.
 (unless there is at least one factor affecting DAE changes)

Y	C	S	I	DAE	difference	Adjust- ment
2,000					Y... DAE	
3,000					Y... DAE	
4,000					Y... DAE	

From the graph,

- Equilibrium national income is that level of national income where
which is the same level of national income where

At this equilibrium national income, Y DAE and S I ,
Leakages Injections

- If actual national income is below the equilibrium national income, DAE 45 degree line, which means that Y DAE
 S line I line, which means that S I
Actual Δ Inventory Intended Δ Inventory , Actual Investment
..... Desired Investment
, produce next year, Y
- If actual national income is above the equilibrium national income, DAE 45 degree line, which means that Y DAE
 S line I line, which means that S I
Actual Δ Inventory Intended Δ Inventory , Actual Investment
..... Desired Investment
, produce next year, Y until $Y =$

Example: Given the following specifications

$$C = 60 + 0.8Y^d$$

$$I = 35$$

$$G = 15$$

$$T = 20 + 0.2Y$$

$$X = 36$$

$$M = 10 + 0.24Y$$

- Find equilibrium national income using injection = leakage approach
- Draw the graph showing the equilibrium national income based on the solution from question (a)
- Find equilibrium national income using $Y = DAE$ approach
- Draw the graph showing the equilibrium national income based on the solution from question (c)

Note

	$Y=DAE$	Leakage = Injection
Closed Economy without Government		
Closed Economy with Government		
Open Economy		

- Adjustment to the equilibrium.
- $DAE > Y$, Leakage Injection, Goods sold Goods produced,
inventory , Actual Δ Inventory Intended Δ Inventory ,
Actual Investment Desired Investment
produce Y until $Y =$
- $DAE = Y$, Leakage = Injection, Equilibrium point since there would be no further adjustment from this point (unless there is at least one factor affecting DAE changes).
- $DAE < Y$, Leakage Injection, Goods sold Goods produced,
inventory , Actual Δ Inventory Intended Δ Inventory ,
Actual Investment Desired Investment
produce Y until $Y =$