CHAPTER III

NATIONAL INCOME ACCOUNTING COMPONENTS OF GDP MEASURING INFLATION

1. COMPONENTS OF DEMAND

Analysis of demand for output

- Output is split into components of demand
- Total demand for domestic output is made up of following four components:
 - **Consumption spending of the households (C),**
 - Investment spending of the businesses (I)
 - **&** Government's purchases of goods and services (G)
 - Foreign demand (NX)

The four components of the total output is expressed into following identity:

```
Y = C + I + G + NX  (1)
```

It (1) is called national income accounting identity 2

2. CONSUMPTION

- Main component of demand is consumption (Table-1)
- Consumption includes spending on anything (e.g. food to golf lessons)
- It also involves consumption spending on durable goods (e.g. automobiles)
- Such spending normally regarded as investment rather than consumption

Table – 1: Components of demands 2007

Components of GDP	\$ Billions	Percent (%)
Consummations	5 139.00	68.1
Investment (domestic)	1 096.00	14.5
Government Sector	1 409.00	18.7
Net Export	- 119.0	-1.3
Total GDP	7 545.00	100% 3

Division of GDP in the USA from 2007 shows that:

- Consumption made 68.1% of GDP in USA
- Share of Investments is 14.2%
- Share of government sector is 17.7%
- And Share of Foreign Demand is 1.1%
- Share of the components are not constant
- They vary from Year to Year and country to country

Division of GDP in Japan from 2003 shows that:

- Japan consumes a far smaller share of GDP than USA
- Rising share of consumption in USA in 1980s was important reasons for poor economic performance

Higher consumption means:

Less investment

- Larger trade deficits
- **&** Lower saving

3. GOVERNMENT

Government spending includes:

- Salaries of government employees
- Government spending for purchases of goods and services
- Defence expenditures
- Costs of transport and communication
- Government transfer payments as social security and unemployment benefits

4. INVESTMENT

Investment includes:

- Investment increases ability to produce output
 - Building of plants
 - Construction of factories and offices
- Including new machineries
- Additions to a firm's inventories
- **Expenditure also for education means investment**
 - Human capital means ability to produce
 - Investment in education is regarded as investment in human capital
 - However, personal educational expenditures as consumption
 - But public educational expenditures is government investment spending

5. NET EXPORTS

- Net exports' account the difference between domestic spending on foreign goods and foreign spending on domestic goods
- When foreigners purchase our goods, their spending adds to the demand of our domestic goods
- When we purchase foreign goods has, it decreases demand for our domestic goods
- The difference between exports and imports is 'Net Export'
- **W** US net export is negative since the 1980s (Table-1)
- It means a deficit of trade-balance
- In some years net exports have been close to zero

7. SOME IMPORTANT IDENTITIES

- Let us introduce some notations and conventions
- It will be followed throughout the book
- Let us first simplify our analysis making following assumptions:
- Let us denote C for consumption and I for investment spending
- Let us output produced equals output sold
- Let us the economy has neither a government nor foreign trade

Hence, we can write: Y= C + I (1)
Identity (2) shows the allocation of income
It means the Nation Income could be either consumed or invested

Let us establish a relationship among saving, consumption, and GDP:

- Again the National Income could be either consumed or saved
- Hence, we can write: Y = C + S (2)

This (3) shows the components of demand

From (1) and (2), we have:

- $\Box C + I = Y = C + S$ (3)
- $\Box I = S$ (4)
- It means (4), in a simple economy investment equals saving
- Let analysis this conclusion
- More is saved more is invested
- More consumption means less investment
- Less consumption means more investment
- The conclusion is it is better to save more, them more saving means investment & growth

- 3. REINTRODUCING GOVERNMENT AND FOREIN TRADE
- Let us now introduce government and external sector in the model above

Let us:

- Government purchases equals G
- Government taxes equals TA
- Transfers (Social Transfer) to the private sector equals TR
- Net exports (Exports Imports) is NX

Output produced is either consumed, invested (saved), or used by government

Hence: Y = C + I + G + NX(5)

- Let us introduce concept of output and disposable income
- We know that output equals disposable income (YD)

It means: Y=YD

(6)

13

Disposable income could be used either for consumption or investment
 YD = C + S (7)

Disposable income (YD) is equal to income plus transfers less taxes (TA)



From equation (5) and equation (10), we have:

- $\mathbf{O} \mathbf{C} + \mathbf{S} = \mathbf{Y} + \mathbf{T}\mathbf{R} \mathbf{T}\mathbf{A}$
- C + S = C + I + G + NX + TR TA

$$\mathbf{Y} = \mathbf{C} + \mathbf{I} + \mathbf{G} + \mathbf{N}\mathbf{X}$$

S - I = (G + TR - TA) + NX (12)

If saving equals investment, then maximum possible investment is achieved:

- **In this case, government spending and net** export is zero
- It means, there is no government spending
- **And either there is no foreign trade or trade** is balanced
- Net export could be zero, if there is no foreign trade or trade-balance is zero

However, government spending could never be zero

Case-II

- By unchanged government spending, investment could be increased by increasing imports
- Apparently, it means that if more is imported more could be invested
- This is correct, but more and more capital goods (and not luxury) have to be imported
- However, only more and more export enables import of more and more capital goods that ensure growth
- Hence, export must be enhanced, but by import in place of luxury goods import of capital goods must be ensured

Conclusion

- Investment and hence growth could be enhanced:
- Minimizing government spending
- Promoting export and import of more and more capital goods
- Cutting tax
- Increasing consumption cutting tax
- Supporting income through social and other supports
- All of these support consumption and saving that foster growth
 17

- 4. BUDGET, TRADE, SAVING AND INVESTMENT
- Let us explain impact of government spending and net export on investment with an example (Table-2)

- In case-1 saving is \$1000 and there is no BD and TBD
- Saving \$1000 was fully invested
- If there is no BD and TBD, saving is fully invested

Table – 2: Budget, Trade, Saving and Investment (Billions Dollars) Y = C + I + [G + TR - TA] + NX

 $\mathbf{Y} = \mathbf{C} + \mathbf{I} + [\mathbf{B}\mathbf{D}] + \mathbf{N}\mathbf{X}$

	Saving	Investment	Budget	Trade Balance
Case-1	1000	1000	0	0
Case-2	850 (1000 – 150)	850	- 150	0
Case-3	1150 (1000 + 150)	1150	+ 150	0
Case-4	1150 (1000 + 150)	1150	0	+ 150
Case-5	850 (1000 – 150)	850	0	- 150
Case-6	1050 (1000 + 150 - 100)	1050	150	- 100
Case-7	950 (1000 - 150 + 100)	950	- 150	+100

- In case-2 there was no TBD, but Budget of \$150
 - So, savings \$150 was eaten up by BD
 - Hence, investment decreased to the amount of \$150
 - If there is Budget deficit a part of saving is eaten up by BD
 - For growth it is better not to have any Budget deficit

Cae-3

- In case-3 trade balance was 0, but there was budget surplus of \$150
- So, the saving and investment increased to the amount of \$150.
- The Investment was \$1150
- That means, savings were increased by the amount of trade balance surplus
 - So, growth is fostered by trade balance surplus

- In case 4 there was no Budget deficit, but a trade balance surplus of \$150
- So, the saving and Investment increased to the amount of \$150. The investment was \$1150.
- If there is a trade balance surplus, but no budget deficit, the investment increases to amount of trade balance surplus

Case-5

- In cae-5 there was no budget deficit, but a trade balance deficit of \$150
- So, savings was decreased by trade balance deficit of \$150
- So, investment was only \$850 (\$1000-\$250)
- If there is no budget deficit, but a trade balance deficit, the investment is reduced to amount trade balance deficit

- There is budget surplus of \$150 and trade balance deficit of \$100
- So, savings and investment was increased by
 \$50
- The investment was \$1050 (\$1000+\$50)
 If there is budget surplus but a trade balance deficit, the saving and investment increases to the amount of budget surplus decreases to the
 - amount of trade balance deficit

- There is budget deficit of \$150 and trade balance surplus of \$100
- So, savings and investment decreases to the amount of \$50
- The investment was \$950 (\$1000-\$50)
 If there is budget deficit but a trade balance surplus, the saving and investment decreases to the amount of budget deficit decreases to the amount of trade balance deficit

Questions

- Describe the different components of GDP and explain the relationship among the components saving, investment and government sector.
- ☐ Explain the relation between savings and investment using the national income accounting identities.
- ☐ Explain the impact of national budget, trade balance on savings and investment using an example.

End of the Chapter

Thank You Very Much

For Patient Listening