Ch.15+16 Measurement of Economic Performance (I + II)

(A) Flow VS Stock

- Flow: variable of which the quantity is measured over a period of time (e.g. income, expenditure)
- Stock: variable of which quantity is measured at a specific point in time (e.g. wealth, labour)

(B) Gross Domestic Product

- Definition: GDP is the total market value of final goods and services produced by a resident producing unit of a country or economic territory in a given period.

4 Important Conditions to be counted in GDP

1. Market value
2. Final goods and services
3. Resident producing unit
4. In a given period

What is a resident producing unit?

- carry out economic activities in Hong Kong (physically location) for **at least 1 year**
- regardless of nationalities
- regardless of whether the companies are based in Hong Kong

Explain whether the following examples are included in the calculation of GDP.

***Exam skills: consider all the four conditions**

1. Production for own consumption *It is not involved since it does not have a market value.*
2. Value of second-handed good *The value of second-handed good is excluded because it is not produced in the current period.*
3. Middleman charges paid for transactions of second-handed goods. *This is included since it reflects the market value of the service produced by RPU in the current period.*
4. Value of financial assets (e.g. shares and bonds) *The value of financial assets is excluded because it is not a production.*

5. Capital gain *It is excluded since no production is involved.*
6. Transfer payment / allowance *The transfer payment or allowance is excluded since there is no production.*
7. Dividend *It is included since it is generated from production activities.*
8. Hong Kong people's expenditures in the UK *Hong Kong people's expenditures in the UK are excluded since they are import of services.*
9. Tourists' expenditures in Hong Kong *It is included since it is the export of services in Hong Kong.*

List of special examples extracted from HKCEE

**Answers may change according to the specific situation stated in the question*

Included in GDP	Excluded in GDP
Interest from saving account	Compensation
Medical benefits provided to workers	Tax revenue
Stamp duty levied on shares in stock market	Monetary reward from non-production
Estimated rental value of property	Dividends gained from overseas firm
Donation made from a production	Loan repayment
Profit gain from providing a service	Donation (without production)
Insurance premium	Selling a previously-produced stock

(C) GDP Calculation

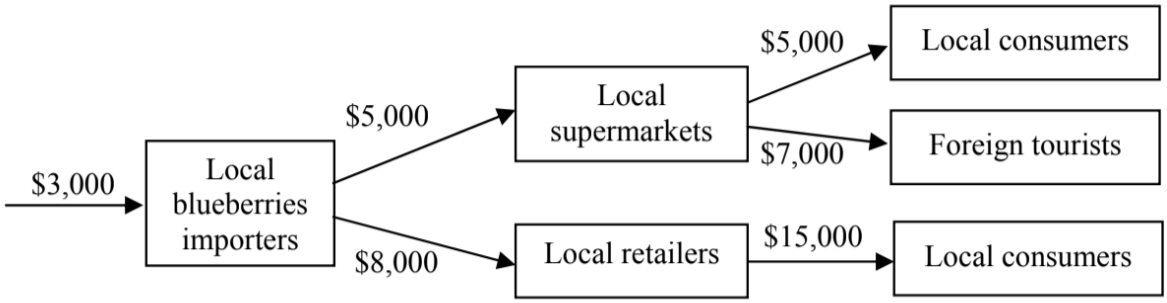
There are three methods calculating GDP:

1. Production approach (Value-added approach)
2. Expenditure approach
3. Income approach (not required in DSE)

C.1 Production Approach / Value-added Approach

Example:

The following diagram shows a production chain in an economy. The imported blueberries are worth $3,000.



Calculate the contribution of the whole production chain to GDP

= (8000+5000-3000) + (7000+5000-5000) + (15000-8000)

= $24000

Calculate the local supermarket's contribution to GDP

= 7000+5000-5000

= $7000

Exam Skills:

1. Check whether the question is asking for the whole production chain or a specific unit.
2. Beware of any imports which should not be included in the GDP calculation.
3. Double check the answer by value of final goods - value of imported goods
   = (5000+7000+15000) – 3000
   = $24000

C.2 Expenditure Approach

$$GDP = C + I + G + NX$$

C: Private Consumption Expenditure

- Purchase of goods and services

I: Gross Investment

- Formulae 1: Gross domestic fixed capital (a.k.a. gross fixed investment expenditure) + change in inventory
- Formulae 2: Net domestic fixed capital + depreciation (a.k.a capital consumption or capital consumption allowance) + change in inventory
- Depreciation must be a positive value → summation
- Change in inventory may be positive or negative → summation or deduction

G: Government Consumption Expenditure

- Purchase of goods and services
- Payment to government employee
- Transfer payment is NOT included
- Has no market value so it is counted at cost of providing them

NX: Net Export of Goods and Services

- NX = X (total export) - M (total import)
- Total export (X)
  = Total export of goods + total export of services
  = Domestic export of good + re-export of goods + total export of services
- Total import (M)
  = Import of goods + import of services

(D) GDP MP / GDP FC

- GDP mp = GDP at market price
- GDP fc = GDP at factor cost

When there is no intervention, GDP mp = GDP fc

With market intervention,

GDP mp = GDP fc + indirect tax - subsidies

GDP fc = GDP mp - indirect tax + subsidies

(*Indirect tax = unit tax / sales tax)

Exam skills:

- *given a table, the calculation of C + G + I + NX directly gives GDP mp. Do not adjust the value by subsidies or indirect tax unless you have to change between GDP mp and GDP fc.*

(12PP/20)

The following table shows the statistical data of an economy.

Gross Domestic Product (GDP) components	Million ($)
Private consumption expenditure	400
Government consumption expenditure	250
Net domestic fixed capital formation	300
Decrease in stock	70
Subsidies	120
Capital consumption allowance	50
Net exports	300
Net income from abroad	80
Direct tax	100

The GDP at factor cost is $_____million.

A. 1250
B. 1270
C. 1350
D. 1490

- First step: calculate GDP mp first by summating C + I + G + NX from the table, ignoring indirect taxes and subsidies = 400 + 300 – 70 +50 + 250 +300 = $1230
- Second step: change GDP mp into GDP fc by taking into account subsidies and indirect taxes: GDP fc = GDP mp - indirect tax + subsidies = 1230 + 120 = $1350
- Direct tax is not equal to indirect tax
- Net income from abroad is a distractor

Ans: C

(12/22)

Refer to the following table.

Gross Domestic Product (GDP) components	Million ($)
Private consumption expenditure	200
Net domestic fixed capital formation	40
Increase in inventory	X
Government consumption expenditure	24
Net exports	10
Indirect taxes	60

Subsidies	30
Depreciation	40
Net factor income from abroad	16

If the GDP at factor cost is $264 million, the value of X is _____.

A. -50

B. -20

C. 20

D. 50

- First step: calculate GDP mp first by summating C + I + G + NX from the table, ignoring indirect taxes and subsidies = 200 + 40 + X + 40 + 24 + 10 = 314 + X
- Second step: change GDP mp into GDP fc by taking into account subsidies and indirect taxes:

GDP fc = GDP mp - indirect tax + subsidies

264 = (314 + X) - 60 + 30

X = -20

- Net income from abroad is a distractor

Ans: B

(13/22)

Consider the following Gross Domestic Product (GDP) data about a country.

Components	Million ($)
GDP at market price	200
Private consumption expenditure	120
Gross domestic fixed capital formation	40
Changes in inventories	10
Total exports of goods	80
Domestic exports of goods	70
Imports of goods	60
Exports of services	20
Imports of services	30
Net income from abroad	25
Depreciation	35
Indirect business tax	28
Subsidies	18