Tutorial 2 (Macroeconomics): Measuring National Output and National Income

1) Answer Parts (a) through (g) using the information in Figue 2.1 describing the Macrovian economy. Quantities are given in millions of Macrovian dollars (M$).
   (a) Calculate gross private investment.
   (b) Calculate Macrovian GDP.
   (c) Calculate gross national product (GNP).
   (d) Calculate net national product (NNP).
   (e) Calculate national income.
   (f) Calculate personal income.
   (g) Calculate disposable personal income.

Figure 2.1

Gross private domestic investment	586.1
Inventory investment	-30.9
Compensation of employees	5,178.6
Corporate taxes	215.9
Macrovian exports of goods and services	380.4
Depreciation	643.5
Personal taxes	600.0
Personal consumption expenditures	3,514.8
Government purchases of goods and services	1,589.7
Indirect business taxes minus subsidies	489.6
Net factor payments to the rest of the world	-17.3
Residential construction	453.7
Corporate profits minus dividends	45.7
Government transfer payments and interest	337.1
Macrovian imports of goods and services	285.0
Social insurance payments	441.7

2) Figure 2.2 contains the national income and product accounts data on the Freedonia economy. Quantities following are given in millions of Freedonian dollars (F$). Use this information to answer Parts (a) through (g) below.
   (a) Calculate Freedonian gross private investment.
   (b) Calculate Freedonian GDP.
   (c) Calculate Freedonian GNP.
   (d) Calculate net national product (NNP).
   (e) Calculate national income.
   (f) Calculate personal income.
   (g) Calculate disposable personal income.

Figure 2.2

Depreciation	168.0
Compensation of employees	1,407.7
Corporate profits	257.6
Dividends	78.4
Exports	212.8
Government purchases	716.8
Imports	235.2
Indirect taxes	593.6
Net interest income	182.2
Net private domestic investment	784.0
Personal consumption expenditures	2,203.2
Personal interest income	112.0
Receipts of factor income from the rest of the world	35.2
Personal taxes	627.2
Proprietor's income	173.9
Payments of factor income to the rest of the world	68.8
Rental income	34.1
Social insurance payments	380.8
Subsidies	44.8
Transfer payments	504.0

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4)

All figures are in billions of dollars

Durable goods	659.3
Nondurable goods	1592
Services	3234.5
Nonresidential investment	846.9
Residential investment	327.2
Change in business inventories	68.4
Federal consumption spending	523.8
State consumption spending	928.9
Exports	957.1
Imports	1058.1

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Using the above figures, compute the subtotals for each of the four major spending categories and label them. Then compute the value of GDP.

5)

	Billions of Dollars
GDP	8000
Receipts of factor income from the rest of the world	250
Payments of factor income to the rest of the world	300
Depreciation	900
Indirect taxes minus subsidies	500
Corporate profits minus dividends	500
Social insurance payments	700
Personal interest income received from the government and consumers	300
Transfer payments to persons	1100
Personal taxes	1000

Using the above table calculate GNP, NNP, National Income, Personal Income and Disposable income.

6)

Data for a Hypothetical Economy	
	Dollars (Billions)
Disposable personal income	**5900**
Personal consumption expenditures	**5500**
Insterest paid by consumers to business	**150**
Personal transfer payments to foreigners	**20**

Using the above table calculate personal saving as a percentage of disposable personal income. Make sure to show all your work.

7) Answer Parts (a) and (b) below using the information contained in Table 2.3. Assume this economy only produces corn and steel.
(a) Refer to Table 2.3. Calculate nominal GDP for year 1 and year 2.
(b) Refer to Table 2.3. Calculate real GDP for year 1 and year 2 (using fixed weights and year 1 as base).

Table 2.3

Year	Corn		Steel	
	Quantity	Price	Quantity	Price
Year 1	2,000	RM1.00	100	RM6.00
Year2	2,200	RM1.50	80	RM7.00

8) If nominal GDP is $8 trillion and real GDP is $5 trillion, calculate the value of the GDP deflator.