

Problem Set 04

Instructions: Answers must be submitted online through the designated Canvas assignment. This Problem Set is due on **February 26 at 01:59pm**. Please write as legible and clearly as possible. You will not be given full credit if your answers cannot be easily understood.

Questions

1. [10 points] Answer the following short questions:

(a) [4 points] What type of activities does the **capital account** consist of?

Record of specialized capital transfers

(b) [4 points] How do the **current, capital, and financial accounts** relate to one another when it comes to their numeric value?

Financial account should be the sum of capital & current accounts

(c) [2 points] Explain the reason why the balance of payments features a **statistical discrepancy value**.

Impossible to record all transactions & to ensure they are accurately measured

2. [10 points] Consider the following balance of payments for a given country

ID	Description	Billions (USD)
1.	Current Account Balance	1000
2.	Capital Account Balance	200
3.	Financial Account	-
3.a	Net Acq. of Financial Assets, Excl. Financial Der. (Increase/Outflow (+))	470
3.b	Net Inc. of Liabilities, Excl. Financial Der. (Increase/Inflow (+))	-890
3.c	Net Change in Financial Derivatives	-200
4.	Statistical Discrepancy	
5.	Memoranda	
5.a	Balance on Current and Capital Accounts	
5.b	Balance on Financial Accounts	

- (a) [2 points] **In theory**, what should the **difference between items (5.a) and (5.b)** be?

Zero

- (b) [2 points] What is the value of **item (5.a)** equal to? Show your work.

$$1000 + 200 = 1200$$

- (c) [2 points] What is the value of **item (5.b)** equal to? Show your work.

$$470 - (-890) + (-200) = 1160$$

- (d) [2 points] What is the value of **item (4)** in this case?

$$1200 - 1160 = 40$$

- (e) [2 points] Would this country be considered a case of CA surplus or CA deficit?

Balance is positive → CA surplus

3. [30 points] Consider a case in which a given economy reports a **GNP** level of \$5.4bn. The **primary income net flows** are worth \$1.2bn, while **secondary income transfers** are worth \$0.2bn.
- (a) [5 points] What is the implied level of **GDP** in this context? Note that primary income is associated with income flows for compensating employees and secondary income is associated with transfers of income.

$$GDP = 5.4 - 1.2 - 0.2$$

$$GDP = 4 \text{ bn}$$

- (b) [5 points] Take the following equation:

$$GNP = GDP + \text{Net Primary Income} + \text{Net Secondary Income}$$

Show how the **Current Account Surplus** is present in the measure of **GNP**

$$GDP = C + I + G + X - M ; CA = NX + \text{Net Primary} + \text{Net Secondary}$$

$$GNP = C + I + G + \underline{NX + \text{Net Primary} + \text{Net Secondary}}$$

$$GNP = C + I + G + \underline{CA}$$

- (c) [5 points] Using the found value of GDP, consider the fact that **consumption** is equal to \$1.5bn, **Investment** is equal to \$1.8bn, and the government runs a balanced budget and collects \$0.4 in revenue. **What is the value of Net Exports?** Show your work.

$$\text{From (a): } GDP = 4$$

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

$$4 = 1.5 + 1.8 + 0.4 + NX$$

$$NX = 0.3$$

- (d) [5 points] What is the value of **savings**? Show your work

$$S + T - G = I + CA$$

$$S + 0.4 - 0.4 = 1.8 + (1.2 + 0.2 + 0.3)$$

$$S = 3.5$$

- (e) [5 points] Suppose there is a shock to the economy, and the government is forced to run a major budget deficit of \$1.2bn. What does this imply about the **tax rate for the country**?

Taxes were not set high enough to keep a balanced budget

- (f) [5 points] Update your measure of **GNP** to reflect this change in the government budget balance. What is the **percentage change in GNP**? Show your work.

$$GNP = C + I + G + CA$$

$$GNP = 1.5 + 1.8 + 1.6 + (0.3 + 1.2 + 0.2)$$

$$GNP = 6.6$$

$$\% \text{ Change} = \left(\frac{6.6 - 5.4}{5.4} \right) \times 100 = 22\%$$