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INTERNATIONAL ECONOMICS

EXCHANGE RATES AND OPEN-ECONOMY MACROECONOMICS

National Income Accounting for an Open Economy

All expenditures are per annum and in constant dollars.

C	total consumption expenditure by the private sector
I	total expenditure on capital goods and inventories
G	total purchases of goods and services by government
IM_C	consumption expenditure on imported goods and services
IM_I	investment expenditure on imported capital goods and inventories
IM_G	government purchases of imported goods and and services
EX	total exports (goods and services sold to foreigners)
IM	total imports
T	net tax revenue (collected by the government)
Y	Gross National Product (GNP)

The national income of an open economy is the sum of domestic and foreign expenditures on the goods and services produced by domestic factors of production. That is:

$$Y = (C - IM_C) + (I - IM_I) + (G - IM_G) + EX \Rightarrow$$

$$Y = C + I + G + EX - (IM_C + IM_I + IM_G) \Rightarrow$$

$$Y = C + I + G + EX - IM. \tag{1}$$

Define **current account balance** as:

$$CA = EX - IM. \tag{2}$$

Define **private saving** as:

$$S^p = Y - C - T. \tag{3}$$

(3) can be re-written as:

$$Y = C + T + S^p \tag{4}$$

Now, since the left-hand sides of (1) and (4) are the same, we have:

$$C + I + G + EX - IM = C + T + S^p \tag{5}$$

Canceling C from both sides of (5), remembering (2), and re-arranging terms, we get:

$$CA = S^p - I - (G - T). \tag{6}$$