5 Open Economy Macroeconomics

The balance of payments examined in the previous chapter is an extension of national accounts in a closed economy to national accounts with an external sector, and deals specifically with the external sector. Therefore, this chapter extends the basic IS-LM analytical framework for a closed economy through incorporating the balance of payments into IS-LM analysis in an open economy, which is particularly helpful and relevant to the Mundell-Fleming model of foreign exchange rate determination, to be introduced in the following chapter. Various assumptions on the attributes of prices adopted by different models for exchange rate determination are presented, providing a background for the study of these models in the later chapters.

5.1 The Balance of Payments, National Accounts and International Economic Linkages

The balance of payments and the international investment position are designed to measure and present an economy’s external activity engaged with the rest of the world, such as flows of goods, services and capital during certain periods and the accumulated stocks of assets or liabilities at certain times. Analysis of the balance of payments, which extends national accounts for a closed economy to national accounts for an open economy, demonstrates a country’s international economic linkages with the rest of the world.

5.1.1 National Accounts with an External Sector

In a closed economy involving no government activity, the following accounting identities hold:

\[ GDP = C + I \]  \hspace{1cm} (5.1a)
\[ GDP = C + S \]  \hspace{1cm} (5.1b)
where \( GDP \) is gross domestic product, \( C \) is consumption expenditure, \( I \) is investment and \( S \) is savings. The first equation is the compositions of spending, the second equation is the compositions of income, and total spending is equal to total income. The above equations imply:

\[
S = I \tag{5.1c}
\]

which states that investment is equal to savings in a closed economy without a government.

Incorporating government activities, the equations become:

\[
\begin{align*}
GDP &= C + I + G \\
GDP &= C + S + T
\end{align*} \tag{5.2a, 5.2b}
\]

where \( G \) is government spending, \( C \) is consequently confined to private consumption, \( I \) is consequently confined to private investment, \( T \) is taxation or government income, and \( S \) is consequently confined to private savings. Still, total spending must equal total income. A relationship

\[
S - I = G - T \tag{5.2c}
\]

is derived, which states that government budget deficit must be offset by surplus in private savings.

In an open economy, national spending does not necessarily always equal national income. National spending can be in excess of national income at times or over a not too long period. Further incorporating an external sector, the equations become:

\[
\begin{align*}
GDP &= C + I + G + X - M \\
GDP &= C + S + T - NYF - NCT
\end{align*} \tag{5.3a, 5.3b}
\]

where \( X \) stands for exports of goods and services, \( M \) stands for imports of goods and services, and \( X - M \) is balance on goods and services; \( NYF \) stands for net income from abroad, and \( NCT \) stands for net current transfers. When \( X - M > 0 \), the economy is a net exporter and has produced more than it has spent, and when \( X - M < 0 \), the economy is a net importer and has spent more than it has produced. Moreover, a nation’s total income in an open economy, due to income receipts from abroad, income payments to foreigners, and current transfers, can be different from its \( GDP \) and is the sum of \( GDP \), \( NYF \) and \( NCT \). Equation (5.3a) and equation (5.3b) entail a relationship:

\[
(S - I) - (G - T) = (X - M) + NYF + NCT = CAB \tag{5.3c}
\]