What is Balance of Payments (BOP)

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0. Introduction

(i) What is the balance of payments (BOP), and what is it used for?

The BOP consists of four accounting accounts: financial account (FA), official reserve transactions account (ORA), current account (CA), capital account (KA). There are transactions of goods, services, and financial assets among various countries, and the **four** accounts of BOP aim to structurally record **four** different types of transactions among countries. Therefore, any transactions that will affect the foreign exchange rate should be recorded in the four accounts of BOP.

After aggregating the transaction results, we can get an idea of which countries are earning from others, and which countries are paying to or borrowing from others through the global "exchanging" process.

(ii) What each account records

- FA records transactions among financial assets
- ORA records financial asset transactions done by the central bank
- CA records transactions among goods and services
- KA records transactions normally among non-financial assets, e.g., patents or oil drilling rights, or transfers of general capital, e.g., donation or cancellation of debt

> **Note**
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> KA typically has the smallest balance, which is almost negligible compared to the other three. Normally, FA and CA are dominant accounts if the central bank doesn't intervene a lot.

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1. The Structure of the Four Accounts

(i) The two entries of an account

As in standard accounting, each account has two entries: **export** and **import**. Export is the analogue to **credit** while import is the analogue to **debit**, to fulfill the double-entry bookkeeping philosophy.

> **Note**
>
> "Export/import" is the analogy carried over from CA. Other accounts don't have the same entry names, e.g., the IMF labels the FA entries **net acquisition of financial assets** and **net incurrence of liabilities** rather than export and import. However, we will keep using the export/import analogies among different accounts although they are only officially used in CA.

(ii) A transaction is a bidirectional exchange

A transaction is a process of exchange, which is **bidirectional**, i.e., both parties "provide and receive" something from each other simultaneously. Provide is connected to export and receive is associated with import, so for a single transaction, both parties have their own export and import. For example, one party may provide goods and receive money while the other provides money and receives goods. In this situation, one party exports goods and imports money while the other party exports money and imports goods.

Therefore, a single transaction produces **two records inside each country's own BOP** — one at export (what it provides) and one at import (what it receives). The two countries are not sharing one pair of records: each compiles its own BOP, and the counterparty's pair is the mirror image of ours.

These two records will normally but not necessarily involve two different accounts. For the above "exchange goods and money" example, both countries will have records on both CA and FA.

> **Example (Goods Sold for Money)**
>
> *Take the country that provides goods and receives money. The* ***export*** *entry of CA records the value of the goods, and the* ***import*** *entry of FA records the value of the money it receives.*

2. The Double-Entry Bookkeeping Philosophy

The balance of each account is computed by reducing the **export** entry by the **import** entry, i.e., credit minus debit. Under this principle, theoretically, the balances of these four accounts should offset perfectly:

$$\mathrm{FA} + \mathrm{ORA} + \mathrm{CA} + \mathrm{KA} = 0$$

Nevertheless, measurement errors are unavoidable, so the summation will always deviate from zero, and the quantity of the deviation is called **net errors and omissions**.

(i) What do surplus and deficit mean?

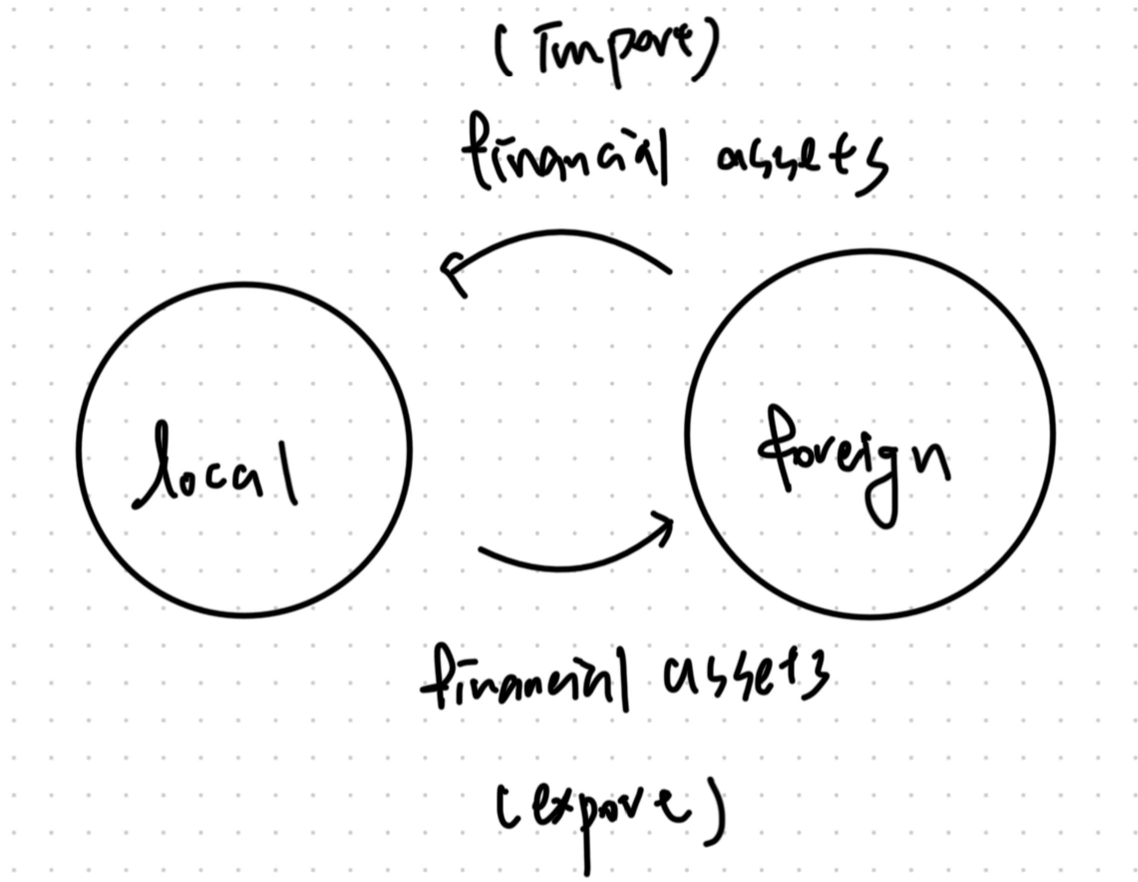
Export and import are like two different forces, competing with each other. If an account has a positive balance, i.e., export > import, we say the account runs in **surplus**, while if it's negative, we say the account runs in **deficit**.

(ii) Discussion framework in the following sections

In the following sections, we will introduce how various transactions are recorded in different accounts. In each account, it will be clear that (i) what kinds of transactions are involved, (ii) how they are recorded in the export/import entries, and (iii) what the interpretation of surplus and deficit is.

Besides, we will adopt the **local-foreign** discussion framework, which focuses on one country, labeling it as "local" and examining its transactions with other "foreign" countries. By "focus", we mean that we will only explain how the local country's accounts are used to record these transactions between local and foreign countries. After all, the foreign country's accounts will be determined in the mirror sense.

3. Financial Account (FA)



(i) What kinds of transactions are involved?

We are discussing transactions of financial assets among countries, and these transactions are made by people. There are two types of people, local and foreign, and accordingly, there are two types of assets: local and foreign assets. In this section, "assets" refers to financial assets.

At the very first layer, there are two types of transactions: (i) local people can buy/sell "foreign financial assets" and (ii) foreign people can buy/sell "local financial assets".

(ii) How are they recorded in the export/import entries?

"Net bought of foreign assets" is defined by reducing the buying amount by the selling amount of foreign assets done by local people. "Net bought of local assets" is defined by reducing the buying amount by the selling amount of local assets done by foreign people.

Note

The sign of both net bought amounts can be either positive or negative, as the buying amount is not necessarily greater than the selling amount.

Net bought of foreign assets is recorded in the import entry while the net bought of local assets is recorded in the export entry.

Definition (Net Foreign Assets (NFA))

Net foreign assets (NFA) is defined as:

$$\text{NFA} = \text{foreign assets owned by local people} - \text{local assets owned by fore}$$

The NFA is a concept of stock rather than flow.

(iii) What is the interpretation of surplus and deficit?

By definition, surplus (FA > 0) means the export amount exceeds the import amount, which means the net bought of local assets exceeds the net bought of foreign assets. This normally implies that foreign people are buying more assets at local than the amount bought by local people from foreign countries, so the NFA is decreasing. However, the net bought of local assets and the net bought of foreign assets may both be negative, and then FA > 0 means foreign people are "selling less" local assets than the amount of foreign assets sold by local people.

Remark

"Import of money" here means the debit side of the exchange — the country **acquires** foreign financial assets. Do not read it as a capital inflow: acquiring a claim on the rest of the world is a capital **outflow**, and it is still a debit.

Moreover, FA running in surplus is often described as **net inflow** of FA. It connects to "inflow" in the sense that capital must flow from foreign into local so that foreign people can buy assets at local. All in all,

$$\begin{aligned}
&\text{FA} > 0 \\
&\equiv \text{FA runs in surplus} \\
&\equiv \text{foreign people buy more or sell less assets than local people} \\
&\equiv \text{NFA is decreasing} \\
&\equiv \text{net inflow of FA} \\
&\equiv \text{local country is borrowing from the foreign.}
\end{aligned}$$

Similarly,

$$
\begin{aligned}
&\text{FA} < 0 \\
&\equiv \text{FA runs in deficit} \\
&\equiv \text{local people buy more or sell less assets than foreign people} \\
&\equiv \text{NFA is increasing} \\
&\equiv \text{net outflow of FA} \\
&\equiv \text{local country is lending to the foreign.}
\end{aligned}
$$

> **Remark**
>
> Inflow or outflow of FA isn't equivalent to the inflow or outflow of "foreign capital". Instead, it reflects the discrepancy between the outflow of local capital (net bought of foreign assets) and the inflow of foreign capital (net bought of local assets). To see whether the foreign capital is escaping, we need to examine whether the sign of the "net bought of local assets" is negative.

What's more, the surplus and deficit of FA can be interpreted as borrowing and lending, respectively. When the local country is running the surplus, money comes more or escapes less from foreign to local to buy local assets. From the perspective of the local country, it exports local assets in exchange for cash flow, lent by foreign countries. It's similar to an investor buying bonds or stocks, which is a behavior of lending to the issuer of the bonds and stocks.

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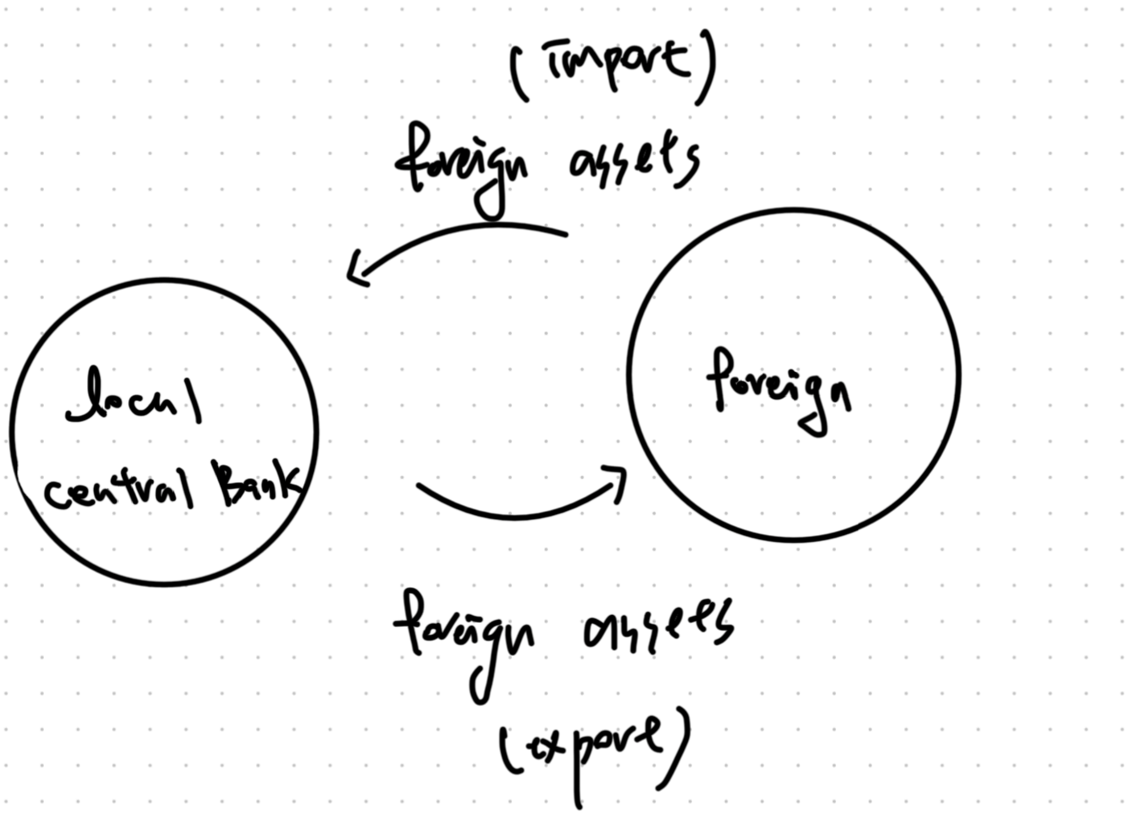
4. Official Reserve Transactions Account (ORA)



(i) What kinds of transactions are involved?

This account records two kinds of transactions initiated by the local central bank, in which it will either (i) buy foreign assets and sell local assets, or (ii) sell foreign assets and buy local assets. The buy and sell amounts are the same in both transactions, which is just the two sides of an "exchange".

A question one can ask is why the item in the exchange plot of ORA is not financial assets — the same as in FA — but "foreign assets". The answer is that financial assets refer to either foreign or local assets depending on the transaction. However, in the ORA scenario, one transaction simultaneously involves both foreign and local assets. Moreover, the exchanged item in the exchange plot of ORA is not necessarily foreign assets; it can be local assets as well.

> **Definition (Foreign Reserve)**
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> The foreign assets owned by the central bank are called the **foreign reserve**.

The reason foreign assets are normally preferred over local assets is simply that people often pay close attention to the foreign reserve of a central bank, as there is an incentive for it to accumulate foreign assets, earning income for the country, which can potentially be used for fiscal policy. However, it's harmful to global trade, as it facilitates trade imbalance via an unfair advantage. We should definitely monitor its stock closely.

(ii) How are they recorded in the export/import entries?

Buying foreign assets and selling local assets is recorded in the **import** entry (importing foreign assets), while selling foreign assets and buying local assets is recorded in the **export** entry (exporting foreign assets).

(iii) What is the interpretation of surplus and deficit?

If ORA runs in surplus (ORA > 0), it means that the central bank sells more foreign assets than it buys. Therefore,

$$\begin{aligned}
&\text{ORA} > 0 \\
&\equiv \text{ORA runs in surplus} \\
&\equiv \text{central bank sells more foreign assets than it buys} \\
&\equiv \text{the foreign reserve is decreasing.}
\end{aligned}$$

Similarly,

$$\begin{aligned}
&\text{ORA} < 0 \\
&\equiv \text{ORA runs in deficit} \\
&\equiv \text{central bank buys more foreign assets than it sells} \\
&\equiv \text{the foreign reserve is increasing.}
\end{aligned}$$

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5. Current Account (CA)

(i) What kinds of transactions are involved?

Local people can (i) buy foreign goods and services, or (ii) sell local goods and services to foreign countries.

(ii) How are they recorded in the export/import entries?

Buying foreign goods and services is recorded as **import**, while selling local goods and services to foreign countries is **export**.

(iii) What is the interpretation of surplus and deficit?

A surplus (CA > 0) means selling more goods and services to foreign countries than buying foreign goods and services, and a deficit is the other way around.

Remark

A local country's CA and ORA are relatively easy to understand, as only "local" entities are involved — the local central bank buys/sells, and local people buy/sell. FA is more complex, as there are foreign entities buying/selling local financial assets, and local entities buying/selling foreign financial assets.

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6. Trade Balance and Net Foreign Income

We know that CA is used to record the transactions of goods and services, and its balance can be computed as:

$$\underbrace{(X - M)}_{\equiv \text{ trade account/balance}} + \text{NFI}$$

where NFI is the abbreviation of "net foreign income", defined as follows.

Definition (Net Foreign Income (NFI))

Net foreign income (NFI) is defined as:

$$\text{NFI} = \text{investment income} + \text{unilateral transfers}$$

There is an another useful definition called gross national disposable income.

Definition (Gross National Disposable Income)

The gross national disposable income Y^d is defined as:

$$Y^d = \text{GDP} + \text{NFI}$$

(i) Investment income

Investment income is the return of net foreign assets, e.g., dividends of holding a foreign company stock. Specifically, when the dividends are distributed, we are importing financial assets, which will be recorded in FA, and exporting a "financial service", which will be recorded in CA as the investment income to make the identity hold.

(ii) Unilateral transfers

An example of unilateral transfers is a scholarship from a foreign institution. When receiving the scholarship, financial assets are imported and the "thanks" is exported, which will be recorded in CA as unilateral transfers.

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7. The Hierarchy among CA, FA, and ORA

(i) CA is the first layer

The surplus and deficit of CA are the first layer of hierarchy, which reflects the production of a country's economy. If a country's CA is in surplus, it means it has good production strength, exporting goods and services to the globe, and at the same time, it earns income around the world. On the other hand, if a country's CA is in deficit, it means that it pays a lot and imports lots of foreign goods and services.

A follow-up question is how countries that have a surplus in CA use the foreign currency. Do they sell it and exchange it for the local currency to pay the wages or conduct investment? Do they use the foreign currency to buy other stuff like oil? Or do their central banks come in and buy that foreign currency, releasing local currency to offset the appreciation pressure on the foreign exchange rate?

For those countries that ran a deficit in CA, where does the outflow of money go? Is it sold, generating depreciation pressure? Or is it invested back, buying government bonds, corporate stocks, etc.? If this is the case, those countries that choose to hold the foreign currency and invest it back are "lending" for the CA deficit.

(ii) What reflects the CA surplus: FA or ORA?

When CA is running in surplus, normally both FA and ORA will be in deficit. The deficit of ORA means the central bank is buying more foreign assets than it sells, and it does so with the aim of stabilizing the exchange rate, preventing the local currency from hiking. As the central bank can keep printing local currency to buy foreign currency (income), it's not good for the economy, as the central bank takes away the money from the firms and workers that work so hard for the export and earn foreign income.