

# Lecture Note on the Balance of Payments

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## 1. Introduction to the Balance of Payments

The balance of payments is the record of a country's transactions with the rest of the world. It consists of three main parts: the current account, the capital account, and official reserves settlement balance.<sup>1</sup> The sum of the three main parts sum to zero. All transactions must be recorded somewhere. The key is where.

Letting  $CA_t$  be the current account,  $KO_t$  the capital account, and  $ORT_t$  the official reserves settlement balance, the Balance of Payments can simply be written as:

$$CA_t + KO_t + ORT_t = 0. \quad (1.1)$$

If the sum of the three accounts is equal to zero it is hard to speak of a balance of payments deficit. When people speak of a Balance of Payments deficit they are referring to the sum of the current and capital account. If these are in deficit, a surplus is required in official settlements.<sup>2</sup> From (1.1) we can see that  $-ORT_t = CA_t + KO_t$ . The difference is made up by the loss of foreign reserves, often gold. This may not be sustainable. So while technically the Balance of Payments is always in balance, when we speak of a Balance of Payments deficit we automatically react to this by thinking of the sum of the current and capital account.

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<sup>1</sup>Notice that the capital account balance and the balance on official reserves settlement both refer to assets. One may wonder why they are distinguished. The reason is that the official reserves settlement balance refers to transactions between central banks, while all other asset transactions are recorded in the capital account.

<sup>2</sup>Or, as in China today, if the current account and capital account are in surplus, then the country must be increasing its foreign reserves.

The basic idea behind Balance of Payments accounting is straightforward: any transaction that gives rise to a receipt from the rest of the world is recorded as a credit, while any transaction that gives rise to a payment is a debit in the Balance of Payments. One simple way to think about the Balance of Payments is that if you need dollars to pay for the transaction it is a credit. If you need foreign currency it is a debit item. The question is where are they allocated.

### 1.1. A Simple Three-Item Model of the Balance of Payments

It is useful to start with a simple three-item model. The key point to remember in this example is that when people buy goods across countries they have to pay for it somehow. Suppose that our economy has net exports of goods and services to ROW equal to 100, and assume that these are paid for in the following way: 80 comes from imports of financial assets in excess of exports, and 20 comes from gold. That is, the surplus in trade is paid for in part by accumulating foreign assets, and in part by accumulating gold. Our simple Balance of Payments looks like:

Category	Net Exports
Goods and Services	100
Financial Claims	-80
Gold	-20
Total	0

What does it mean to have negative net exports of financial claims? Suppose that domestic residents issue an IOU to foreigners. Foreigners would be crediting us now in exchange for payments in the future. With these credits we could buy goods and services in the foreign country. In our example, foreigners are issuing more credits to us than we are to them; hence, there are negative net exports of financial assets. Notice further, that if foreigners were not able to borrow from us, and if their sales of goods and services (i.e., our imports from them) were less than our sales to them, they would have to pay the difference somehow. All is left in our simple model is to transfer some other asset; gold.

The key point of our simple example is that the sum of the three components equal zero. It does not matter exactly how they balance out, but it is critical that the sums do. Notice that in this example, we are selling more goods and services to the rest of the world than we are purchasing. This excess must be paid for somehow.

The three categories of our simple example correspond to the three main parts

of the Balance of Payments. The CAB refers to the balance on net exports of goods and services, including net interest income on foreign assets and unilateral transfers. The second category corresponds to the balance on the capital account, and the third category corresponds to net imports of international reserves.

We have engaged in one simplification, however. In practice, the Balance of Payments involves double-entry bookkeeping.. Transactions are recorded twice. When I purchase a Lexus, this is recorded as an import. My check to the dealer eventually results in an export of a financial claim to Japan. The dealer needs yen to buy new cars from the manufacturer, not dollars. Think of the dealer putting the funds in his Tokyo bank account. This involves purchasing this deposit with dollars. Hence, it is a debit in the Balance of Payments. Specifically, it is a purchase of foreign assets, an import in the capital account.

Our simple example abstracts from the double entry aspects of the Balance of Payments, focussing only on the net flows. But it is enough to capture the general principles.

## **1.2. A Schematic Representation of the Balance of Payments**

It is useful to break the Balance of Payments down further in a schematic representation. This gives the flavor of the Balance of Payments..

Table 2: Schematic Representation of the Balance of Payments

Accounts and Sub-accounts	Cumulative Balance
<b>Current Account</b>	
Merchandise	merchandise balance
Services	
-tourism	
-transportation	
-professional and other services	resource transfer
-interest and other investment income	balance on goods and services
Unilateral transfers	
-government grants	
-private remittances	current account balance
<b>(Private) Capital Account</b>	
Direct investment Securities	
Banking flows	
-short term	
-long term	basic balance
Other portfolio capital	overall balance of payments
<b>Official Reserve Transactions</b>	
Changes in foreign CB holding of domestic assets	
Changes in domestic CB holdings of foreign assets	
-gold	
-IMF credits and SDR's	
-foreign exchange reserves	

A schematic breakdown is useful here.

**Current Account** The current account is the measure of the economy's trade in goods and services with the rest of the world, including unilateral transfers. A good way to think of it is precisely as current items. Hence, it included investment income, tourism, payments to military personnel, as well as exports and imports. What is excluded from the current account is trade in assets. This is what makes up the capital account balance.

In the current account visibles and invisibles are typically distinguished. The

former refers to merchandise which can be seen and touched; the latter to tourism and other flows of professional services which create remissions, but no tangible good.

Interest and investment income is an especially important item. It is important to note that the payments for the services of capital, investment income, appears in the current account. The purchase of the good itself appears in the capital account. For example, the profits from a factory in Canada would be in the current account, while the investment to build the factory shows up in the capital account.

The current account balance also corresponds, as we have already seen, the net acquisition of assets by the economy. If the  $CA > 0$  it means that the economy has received more in receipts than we have made payments. Hence, the difference must have been acquired by the economy. This can happen in two ways. Either through a surplus in the capital account or in official reserves.

**Capital Account Balance** The capital account balance refers to all international asset transactions, excluding the ones made by the monetary authorities. When US residents purchase German bonds that represents an outflow in the capital accounts. A German resident's purchase of US assets would represent a capital inflow. If the capital account balance is in surplus it means that there is a net inflow of resources.

The capital account contains three main types of flows. First, there is direct foreign investment; for example, the factory built in Canada. Second, there is long-term portfolio investment, which would include purchases of securities and long-term bank loans. Of course, purchases of securities is somewhat arbitrary; one can speculate on 10 year bonds just as easily as on 3-month T bills. Short-term capital flows are the third item, and refer to purchases of securities with maturities less than one year.

Because of the ambiguity over flows, the US now breaks down portfolio investment into bank-related and securities rather than short-term and long-term. But other countries still stick to the maturity distinction.

**Official Reserve Transactions** Official Reserve Transactions (ORT) are conducted in the form of international reserve assets, such as gold and major currencies. The key here is that they are conducted by central banks. Notice that peculiar duality of reserve holdings: Changes in foreign Central Bank holding of domestic assets and Changes in domestic Central Bank holdings of foreign assets.

For most countries we would simply include the Central Bank's holdings of foreign assets. But the dollar is a reserve currency. Hence, to measure the change in US holding of international reserves,  $IR$ , we have to subtract changes in foreign holdings of dollars from domestic changes. Hence,

$$\Delta IR = \Delta IR_{US} - \Delta IR_{F,US}$$

where  $\Delta IR_{F,US}$  refers to purchases by foreign Central Banks of dollars.

To see the importance of  $\Delta IR_{F,US}$  suppose that the sum of the current account and the capital account is  $-\$25$  billion. Then our international reserves must fall by this same amount. But suppose that foreign central banks desired to increase their reserves, and this meant that  $\Delta IR_{F,US} = \$10$  billion ( $-25 = -15 - 10$ ). Then international reserves held by the Fed would need to fall by only  $-\$15$  billion. The willingness of foreign central banks to hold dollars helps to finance our excess of spending over income.

### 1.3. The Current Account, the Capital Account, and Causality

It is evident that a surplus in the capital account, a capital inflow, can offset a deficit in the current account. During the late 1980's large US current account deficits were offset by an inflow of capital. This took many forms, including the purchase of US Treasury Bills by foreigners. More attention, however, was drawn to the purchase of Rockefeller Center and other prime assets by the Japanese.

The US used to be the largest creditor nation in the world.<sup>3</sup> Current account surpluses led to a large acquisition of foreign assets by Americans. The income from these assets meant that the current account remained in surplus for many years after the trade balance went into deficit. Large current account deficits beginning in the early 1980's, however, has resulted in the US becoming the world's largest debtor nation.

The typical form of Balance of Payments accounting – with the capital and current account summing above the line to form the balance of payments – suggests an implicit causality. The idea is that the official reserves transactions are the result of the other balances; i.e.,

$$CA_t + KO_t = -ORT$$

with the right-hand side caused by the left. This made some sense under fixed exchange rates; in the 1960's, US current account deficits led to increased reserve

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<sup>3</sup>The US still is the largest creditor in gross terms. But in net terms the US is now a debtor.

holdings by foreign central banks, to some extent involuntary.<sup>4</sup> But it makes much less sense now to follow such reasoning.

First, under a system of pure flexible exchange rates, the value of a currency is determined the supply and demand for it, with no official transactions. Hence, pure floating implies  $ORT = 0$ . In practice we do not have pure floating; rather we have managed floating. But even here the direction of causality is not pre-determined. Intervention in the currency markets are made often to induce changes in the other balances, not simply a response to them. When the German Central Bank purchases dollars because it feels the mark has appreciated too rapidly, it is at least as correct to say that these purchases **allowed** the US to run current account deficits as is the reverse.<sup>5</sup>

Note that we could make a similar point with respect to the other balances. If the demand for US capital assets increases, so that the balance on the capital account increases, this allows us to run a larger current account deficit. It is no less correct to say that the increased capital inflow "caused" the current account deficit as it is to say the reverse. The important point is that there is no necessary direction of causality. The balances must add up, but they are determined jointly. Whereas at one time it may have made sense to speak of **autonomous** and **accommodating** transactions, such terminology seems no longer of much use.

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<sup>4</sup>This is the "Triffin Problem" and was the ultimate downfall of the Bretton Woods system.

<sup>5</sup>This point also applies to private holdings of dollars. Clearly, the large dollar holdings by Russian citizens allows us to finance a larger current account deficit than would otherwise be the case.