Chapter 12
The Balance of Payments and the Exchange Rate

Learning objectives

By the end of this chapter you should be able to understand:

- the balance of payments as an accounting device recording the nation transactions with the rest of the world
- the balance of payment double entry system insuring that it always balances – which transactions are debit entries and which are credit
- the difference between the goods (merchandises) balance, the balance of trade, and the current account
- the link with chronic trade deficits and foreigners acquiring domestic assets
- the close link between the balance of payments and the international investment position of a country
- the exchange rate as the relative price of foreign currency
- the importance and applications of the real exchange rate and the real effective exchange rates

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In today's global economy world, the phenomenon of the "closed economy" —one that is unaffected by international trade and capital flows— is little more than an abstract textbook concept. The notion of a closed economy is nevertheless quite useful in intermediate macroeconomics, as it allows for the analysis of the fundamental aspects of the economy (e.g. the impact of monetary and fiscal policy) without considering the complicating effects of globalization. With the fundamentals well understood, however, we can now provide more realism by looking at the 'open economy" that is directly affected by global marketplace.

Considering an economy as part of the global marketplace adds complexity to our model. The first bit of complexity comes in form of new terminology and concepts. We shall start by introducing the two fundamental concepts of the open economy: the balance of payments (BoP) and the exchange rate. These two notions are both elementary and extraordinarily powerful in providing rich insights into the workings of an international economy. The balance of payments usually is compiled by each country's central bank or finance ministry. In the US, the balance of payments is compiled by the Bureau of Economic Analysis (US Department of Commerce) under the heading **International Transactions Accounts**.[1]

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[1] See http://www.bea.gov/bea/di/home/bop.htm. In the UK International transactions are at
http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=1140

International Transactions Accounts

The **balance of payments (BoP)** is the international balance sheet of a nation that records all international transactions in goods, services, and assets over a year. That is why this BoP is usually under the International Transactions Accounts in national statistical data. The BoP is that of a simple accounting tool, similar to balance sheets of companies that report transactions such as goods bought and sold, or assets borrowed and acquired. After we have studied all components of the BoP, we will find that it serves as the most important statistics in the open economy since it summarizes exactly how the domestic economy interacts with the rest of the world.

Key Components of the Balance of Payments

The BoP is broken down into three important sub-components: the **current account balance (CA)**, the **capital account balance (KA)**, and the **financial account balance (FA)**:

$$BoP = CA + KA + FA \tag{12.1}$$

Table 12.1 shows the entire BoP with all its sub-components for the US in 2006. We will discuss each major sub-components in detail below, but for now we want to keep in mind that the current account represents basically trade in goods and services and the financial account collects information on financial transactions such as international stock and bond purchases. Finally, the capital account keeps track of all the flow of non-financial assets, such as the transfer of intellectual property rights. Changes in each sub-component will have a different impact on the domestic economy.

Recall that we labeled the BoP an "international balance sheet," and just like the accounting in any other balance sheet, the BoP is tracked using double-entry accounting. Double-entry accounting means that every transaction enters the BoP twice, once as a credit (+), for example the export of a car to foreigners, and once as a debit (-), which is how you would record the payments for the car. Therefore the BoP is actually an identity:

$$BoP = CA + KA + FA \equiv 0 \tag{12.2}$$

The sum of all the entries in the three sub accounts (CA, KA, FA) must be equal to zero since every entry has a counterpart with the opposite sign in some other section of the BoP.

Table 12.1: Main Categories in the US Balance of Payments
Data for 2006 in millions of dollars – Credit (+); Debits (-)

Current account:

    Exports

Goods (1)	1,023,689
Services (2)	413,127
Income receipts (3)	622,020

    Imports

Goods (4)	-1,859,655
Services (5)	- 342,428
Income payments (6)	- 629,286

Net Unilateral current transfers (7)	- 84,122

Capital account (8):   - 3,914

Financial account:

Net U.S.-owned assets abroad (9)	- 1,045,760
Other government assets	5,219
Direct investments (FDI)	- 248,856
Foreign securities (PI)	- 277,691
Other	- 526,806
Net Foreign–owned assets	1,464,399
Direct investments (FDI)	183,571
U.S. securities (PI)	650,571
Other	630,257
Net Foreign official assets in the U.S.	300,510
Net Foreign-owned assets in the U.S. (10)	1,764,909
Net Foreign official assets in the U.S.	300,510
Direct investments (FDI)	183,571
U.S. securities (PI)	650,571
Other	630,257
Net U.S. official reserve assets	2,374

Statistical discrepancy	141,419

Calculation of Important Balances:

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Goods balance (GB) (1) + (4)	-835,966
Service balance (SB) (2) + (5)	70,699
Net income receipts (NIR) (3) + (6)	- 7,266
Trade balance (TB) (1) + (2) + (4) + (5)	765,267
Current account balance (CA) (1) through (7)	-856,655
Balance on financial accounts (FA) (9) + (10)	719,149

The Current Account

The current account consists of the **goods balance (GB)**, the **service balance (SB)**, **net income receipts (NIR)**, and **net international transfers (IT)**.

$$CA = GB + SB + NIR + IT \qquad (12.3)$$

We will explain each component of the current account separately below. Starting with the goods balance, it is important to remember that trade in goods refers only to physical goods that cross a border. In this sense the trade balance in physical goods is equivalent to a net flow of goods. When more goods flow out of a country (are exported) than flow in (are imported), the GB will be in surplus. To avoid confusion, it is crucial to introduce the definition of BoP **debits** and **credits**: a BoP credit is a positive entry into the BoP and it represents an international transaction that generates a receipt, for example, via an export, or an interest payment on a foreign bond. In contrast, a debit is a negative entry into the BoP and it represents transactions that give rise to a payment from the domestic economy to foreigners, for example through an import, or a dividend for domestic stocks held by foreigners. Since exporting involves shipments of merchandise from the domestic economy to a foreign country to receive payment in return, exports are reported as a credit, and the exporting country finds itself with a positive GB (a surplus) if merchandise exports are greater than imports.

Where does the US stand as far as the goods balance goes? For a number of years now the US posted the worlds largest deficits in the goods balance. IN 2006 the US exported about one trillion dollars of goods and imported $1.8 trillion to generate a whopping $800 billion dollar deficit. Figure 12.1 shows the evolution of the US goods balance and its components since 1980. It shows that imports are increasingly outpacing exports of goods in the US at a breathtaking pace. In open economy macroeconomics, we study the impact of such a magnificent goods balance deficit on the domestic economy.

Figure 12.1: US Goods Balance 1980-2006
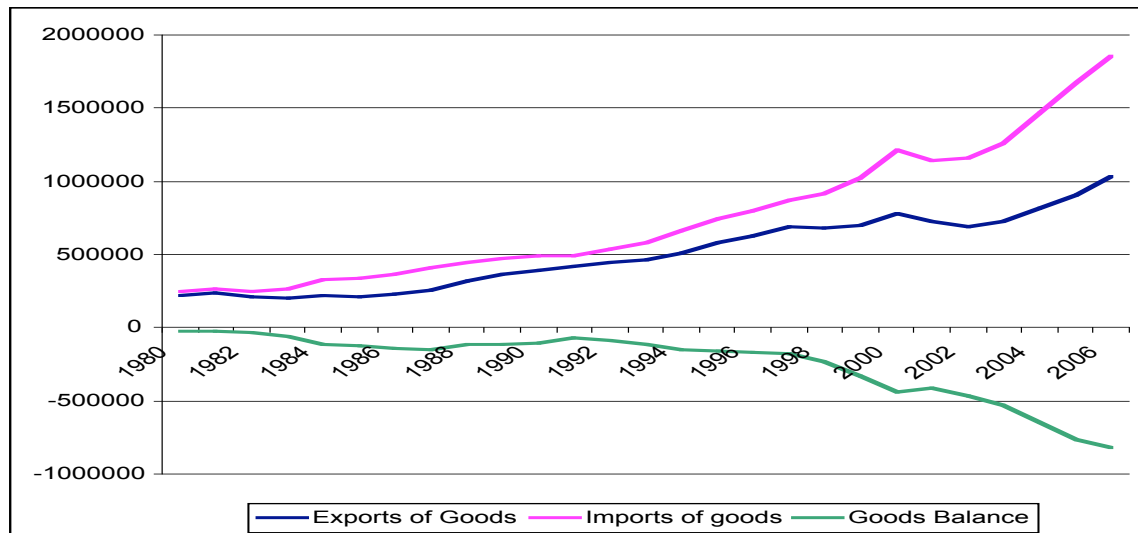
Source: www.bea.gov/bea/international/bp_web/

The service balance refers to the travel and transportation services as well as financial, accounting, legal, and other services that are tradable across countries. Conceptually, the exports and imports of services are analogous to exports and imports of goods. The exact sub-components of the service account can be found in Table 12.x at the end of the chapter, which reproduces the entire 2006 BoP for the US. A service is entered as a credit when a nation contracts out ('exports') its domestic labor to provide, say, legal services to a company in a foreign country. Conversely, a service is recorded as a debit when a nation contracts for ('imports') foreign labor to provide, say, financial services to the domestic economy. As with the goods balance, the services balance is equal to exports minus imports of services.

In contrast to the deficit in its goods balance, the US, like most developed nations, exhibit a surplus in its services balance. Most industrialized nations have developed an extensive service sector, to the point where manufacturing constitutes less than 50% of the economic activity. It is this highly developed service sector explains why the US is running a service balance surplus. However, the magnitude of the service balance surplus (about $400 Billion) is dwarfed by the goods balance deficit in the US.

The sum of the goods balance and service balance is called the **trade balance (TB)**, which is also perhaps the sub-component of the BoP most often quoted by the press and by politicians. On a quarterly and even monthly basis, news agencies eagerly await the release of the latest trade balance data as it provides a quick look at the international competitiveness of the country.

$$TB = GB + SB$$

(12.4)

The trade balance is calculated by subtracting all **imports of goods and services (M)** from the **exports of goods and services (X)**. If a country's imports exceeds its exports ($X-M<0$) it is said to be running a trade deficit. Conversely, if net exports are positive, the country is running a trade surplus, meaning that the quantity of goods and services sold to the world market exceeds the quantity of goods and services bought from the world market.

Two additional components round out our discussion of the current account: net income receipts (i.e. receipts less payments) and unilateral transfers. Net income receipts are an important subcomponent of the BoP as they represent the sum of income receipts from US-owned assets abroad (credit) and income payments on foreign-owned assets in the United States (debit). The exact sub-components of income receipts are again presented in Table 12.x. Net income receipts enter positively in the current account when income receipts from financial investments abroad (profits, dividends, capital gains, and interest on bonds) exceed the income payments sent abroad by the home country. The balance on income receipts has been consistently positive for the US, but it in 2006 the balance turned negative for the first time. Some argue that this may be an artifact of imprecise measurement of income receipts, see for example, the case study on "Dark Matter" at the end of the chapter.

Unilateral transfers constitute all private transfers (e.g. wages earned by immigrants forwarded to families in foreign countries) and public transfers (e.g. government aid). This component of the current account is positive when transfers received from foreign entities are larger than transfers sent to foreign entities. The BoP category for unilateral transfers was created since the BoP's double entry system cannot deal with gifts. So unilateral transfers account for the fact that some international exchanges are not transactions, i.e. they are one-sided affairs since there is no payment involved (a thank you note is not a payment!). For instance if your French cousin sends you a case of Bordeaux for your birthday (lucky you!), the wine will be reported as an import (a debit i.e. a negative entry) when it reaches the US border, but there is no payment involved since it is a gift. So we need to create a credit entry, unilateral transfer or gift to us to balance the accounts.

As one would expect from a advanced country, net unilateral current transfers are negative in the US: more grants and gifts are bestowed than received. This item adds to the US current account deficit. Note also that the largest component consists of remittances, which are usually cash gifts based on immigrants US wage incomes to their families in their home countries. Given the huge size of the US trade deficit, the income and unilateral accounts balances do not significantly impact the balance of payments. All in all, the US trade deficit is driving its massive current account deficits.

The Capital Account

The capital account is a small portion of the BoP that was redefined by the Bureau of Economic Analysis (BEA) in 1999 in order to bring US national accounting closer in line with international standards[2]. It is a small subset of the transactions formerly recorded in the transfers portion of the current account. It records *capital transfers* and the buying and selling of *non-produced and non-financial assets*. The major components of the capital transfers subcomponent of the BoP are migrant transfers and debt forgiveness. Migrant transfers are transfers of ownership like title of US land, business deeds, from foreigners residing in the US to foreigners living abroad. These transfers must be distinguished from transfers of income earned in the US by foreigners or abroad by American residents that are included in the current account under compensation of employees.- The major components of non-produced and non-financial assets are the transfer of ownership in natural resources, intellectual property rights, franchises and leases. Compared to the current and financial accounts, the capital account is negligible in its size.

> ### *"Financial Investment" versus "Capital Investment"*
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> There are two very different types of investments that can easily cause confusion for students. An important difference exists between *financial investment* and *capital investment*. Financial investment means buying a financial asset. But when

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[2] Another example is the shift from Gross National Product (GNP) to Gross Domestic Product (GDP).

you buy a financial asset, like a US treasury bill, no good is produced. However investors expect a return on their financial investment usually in the form of the interest rate. So when the interest on a US treasury bill rises, it becomes relatively more attractive as compared to, say a German government bond. Therefore *financial investment in the US **increases** as the interest rate rises.*

Capital investment, on the other hand, is investment in physical capital that represents purchases of actual goods or services such as capital equipment that increase the economy's future ability to produce. Capital investment is included in the Investment/Savings (IS) relationship that captures the goods market equilibrium in the IS/LM model, which is presented in Chapter 18. When an American airline buys a Boeing 777 aircraft, we have an example of capital investment — the purchase of a good produced by Boeing and used by an airline to transport passengers. *Capital investment **decreases** as the interest rate rises,* since the cost of amortizing the loan to purchase the asset increases.

The Financial Account

Broadly speaking, the financial account tracks financial flows coming in and going out of the economy. The importance of financial flows has grown significantly in the past half-century, from being a relatively unimportant consideration in the 1960s to becoming a major component of the BoP. The three major categories included in the financial account are foreign direct investment (FDI), portfolio investment (PI), and official reserve transactions (ORT).

Foreign Direct Investment

Foreign direct investment consists in long-term financial investment abroad, characterized by large ownership stakes (over 10 percent) in foreign firms. The 10 percent rule is a bit arbitrary, but economists think of foreign investment as highly illiquid. While one can easily sell a foreign bond, large stakes in foreign enterprises are thought to represent ownership interests that cannot be liquidated at the tip of a hat.

For example Samsung Corporation of South Korea might see a potentially profitable financial investment opportunity in a Japanese startup, and thus acquires more than 10% of the startup's stock. This transaction is recorded as a debit on South Korea's BoP, since it is a purchase of foreign assets (by analogy the purchase of foreign goods, an import, is also a debit). The purchase of financial assets is accompanied by some payment – with double entry accounting – and this payment corresponds to a flow of financial capital from Korea to Japan. It is thus clear that a purchase of assets abroad will trigger a capital outflow – domestic financial capital is put to work abroad. Since goods exports are recorded as a credit on the BoP, one might mistakenly think that South Korea's capital "exports" should also be recorded in the same manner. However, from the point of view of South Korea, Samsung is purchasing Japanese assets, and all purchases are recorded as a debit (just like imports, the purchase of foreign goods). By the same reasoning a

sale of assets to foreigners - recorded as a credit in the financial account triggers a capital inflow – foreign capital is put to work in the domestic economy.

Portfolio Investment

The next subcategory of the financial account, portfolio investment, is composed of more liquid financial investments, generally undertaken in the form of stocks, bonds, and of bank balances. In the BoP in Table 12.1, portfolio investment is given by the categories that refer to "securities", a term that refers generally to liquid assets. The accounting for this category works in the same way as for FDI: if the country is buying foreign assets (investing abroad), finances are flowing out of a country (capital outflow), the purchase of the foreign assets is recorded as a negative in the financial account for that country, and if the foreigners are buying assets in the domestic economy (investing in the domestic economy) financial capital is flowing into the country (capital inflows), the sale of domestic assets to foreigners is recorded as a positive in the financial account. For example, if Russian businessmen want to invest in the US stock market, their investment in the US economy is counted negatively on the portfolio investment subsection of Russia's financial account balance. Conversely, the Russian investment in the US economy is entered positively on the United States' financial account balance. It is a capital outflow for Russia and a capital inflow for the US. In the past 30 years portfolio investment has far outpaced foreign direct investment, as shown in Figure 12.2.

Figure 12.2: US Foreign Portfolio Financial Investment Balance and Foreign Direct Investment Balance 1960-2001
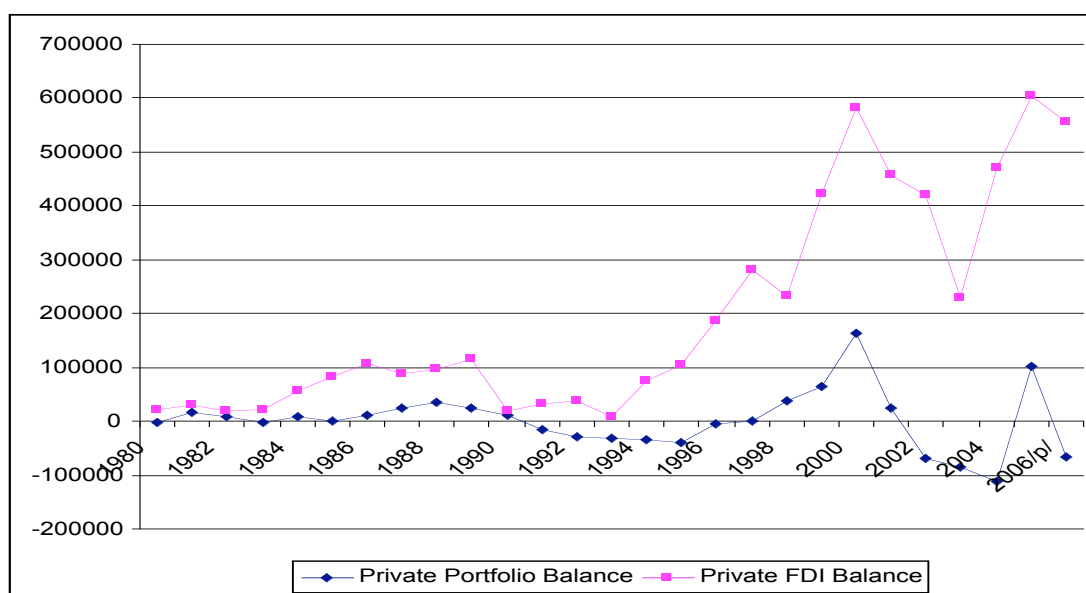
Source: www.bea.gov/bea/international/bp_web/

Figure 12.2 shows the portfolio balance in the US, consisting of Foreign owned securities in the US and US owned private portfolio investment abroad. A positive value indicates portfolio capital inflows in to the US and the Figure clearly indicates the rush to take advantage of the fantastic stock returns in the late 1990s and the result of the subsequent market correction in early 2000. The FDI balance represents Foreign owned direct investment in the US and US owned private direct investment abroad. Here a negative value indicates when the US invests more FDI abroad than foreigners invest in the US. It is interesting to compare figures 12.1 and 12.2, and notice how much more volatile financial flows are than goods flows. This volatility will be the topic of much discussion in our analysis of the open economy.

Categorizing changes in bank balances as credits or debits is more difficult to conceptualize. There are several ways to explain it. If an American draws on his Barclay bank balance in London to make a payment for a British good, he is lowering his claims on Britain as he is relinquishing (selling) some of his assets (the British pounds in this London account): all this points to a credit (a sale). A more simplistic approach would be to assert that since he purchased a British good (a negative entry), with double entry accounting, the other side of the transaction, the payment for the good, has to be a positive entry.

These changes in bank balances allow us to suggest another way to categorize the financial accounts: the autonomous accounts and the settlement accounts. The autonomous accounts correspond to the initial deal (e.g. buying bonds) while the settlement accounts correspond to the resulting payment for the deal, a change in bank balance or in currency holding.

Foreign direct investments and portfolio investments are undertaken by private citizens mainly. However they can also be undertaken by the government. For instance the government might build a university or an air base in a foreign country or it might invest in foreign companies. So the financial accounts make a strict distinction between financial transactions carried out by the government and financial transactions carried out by the central bank. The later are akin to a form of monetary policy as changes in the account involved (the official reserve transactions) directly affects the level of asset in the central bank balance sheet. The importance of these changes depends on the exchange rate regime adopted.

The Official Reserve Transactions

The final component of the financial account consists of official reserve transactions (ORT). The ORT subsection of the financial account tracks the international currency dealings of a country's central bank. The central bank interacts not only with the domestic bond and money markets, but also with international currency markets, with foreign central banks, and with international institutions like the International Monetary Fund, and the World Bank.

It is important to remember that the central bank is an independent branch of government. It does not issue government debt, such as US treasury bills – which are issued by the treasury department. The central bank has no ties to the fiscal

authorities and central bank charters clearly indicate that their sole task is to conduct monetary policy. All the other non-central bank international transactions carried out by the government are recorded under *government assets*, in the category called *other than official reserve assets*.

Any time a central bank buys foreign currency on the international open market, the transaction is recorded as a debit in the BoP because it is equivalent to a purchase of foreign asset. In terms of double entry accounting, such a purchase is at the same time a sale of domestic currency to the foreigners. So a purchase of domestic currency is a debit and a sale a credit in the financial accounts. As part of its task of conducting monetary policy at the national level, the central bank may hold a diversified international portfolio that includes *international currency reserves* and *foreign government bonds*.

The Statistical Discrepancy

The statistical discrepancy (SD) is defined as the sum of all the BoP items with their signs reversed i.e.

$$SD = -(CA+KA+FA) \tag{12.5}$$

In trillion dollar economies, it is difficult to keep track of every transaction. Not all the sources of information are reliable, for instance, multinational are often in a position to report their profits in the country which will impose the lowest rates of corporate taxes and this may not be the country where the profit was actually generated. Another example might be the payments for services that can be easily adjusted to suit clients' tax purposes. Finally there are always illegal international transactions such as smuggling, drugs etc, which may throw off the neat double entry balance. Several industrialized countries have a positive statistical discrepancy – some of it could be explained by US business or citizens underreporting their income abroad.

Are statistical discrepancies random?

When observing the statistical discrepancy in the US since 1960, it shows a negative bias until 1975 and then a positive bias until 1987. Afterward it seems to switch haphazardly from positive to negative and vice versa. If the statistical discrepancy is due to some transaction reported in the wrong balance of payments (for tax avoidance or other reasons), one would think that the sum of all the statistical discrepancies of all the countries should add up to zero. The IMF tracts these data and it is clear that this is not the case. In 2004 the global statistical discrepancy on the current accounts amounted to $−27 billion or 0.1% of the total transactions while the global statistical discrepancy on the financial accounts amounted to $−95 billion. Within the financial account, the largest discrepancy can be found in the portfolio investment accounts. In the nineties the discrepancy used to be negative, implying missing credit transactions. Although it became positive later on, it turned negative again in 2004. The causes for these swings are hard to pinpoint and the volatility is even greater when considering the sub-accounts. Within the financial account, a tightening of the definition of the various transactions could correct the extent of the discrepancy.

Our discussion of the statistical discrepancy section of the BoP exhausts our description of all major subcomponents. Each subsection discussed above is again divided into further sub-subsections in the full BoP that we present in the Appendix. Above we chose to keep the level of detail to a minimum and explore only the main components that are the key drivers of the BoP.

The International Investment Position

The balance of payments measures the **international flows** of goods, services and capital over the period of one calendar year. It is also important, however, to measure the **international asset stocks** held by US residents and the stocks of American assets owned by foreigners at the end of the year. Note that "stocks" in this context do not refer to shares in a company that are traded at a stock exchange. It refers to "capital stocks"

The financial accounts measures changes in assets ownerships taking place over the year. By summing up all the changes over the years, we can measure the stocks of assets held by a country at a specific point of time. This is what the international investment position measures. In the US, this information is again tracked by the Commerce Department's Bureau of Economic Analysis. Not all countries report this account since it involves a magnificent effort to keep track of capital stocks over time. The most consistent source of this data is provided by the International Monetary Funds *Balance of Payments and International Investment Position Statistics* (http://www.imf.org/external/np/sta/bop/bop.htm)

Since the BoP represents changes over the year in ownership of these assets, the BoP and the account of the International Investment Position are closely related. There is, however, another relationship between the two accounts. As we have seen in the Figure 12.1, the US has been running a chronic deficit in its goods balance. From our understanding of the double entry bookkeeping method used to compile the BoP, current account deficits have to be reflected in equivalent capital and financial account surpluses (see equation 1.2). Somehow a country has to finance its trade deficits. This financing of the trade deficit will, by our method of double entry book keeping, be reflected in the financial account transactions (since the capital account is negligible, we ignore it here)

Surpluses in the US financial account occur when foreigners buy more US assets than US residents buy foreign assets. In other words, the US economy is selling more assets to the rest of the world than acquiring foreign assets. The balance of payments records these flows of assets exchanged during the year. However it is clear that over the years, foreigners' total holdings of US assets will grow at a faster rate than the US holdings of foreign assets. So eventually the stocks of foreign assets held by the US will be smaller than the stocks of US assets held by the rest of the world. This is precisely what the Table 12.2 illustrates.

Table 12.2: International Investment Position of US
(in Millions of dollar)

Line	Type of Investment	1976	1981	1986	1991	1996	2001	2006 [P]
1	Net international investment position of the United States (lines 2+3)...............................	164,832	339,767	-36,209	-309,259	-495,055	-1,919,430	-2,539,629
2	Financial derivatives, net (line 5 less line 25) [1]	...	...	...	...	...	...	58,935
3	Net international investment position, excluding financial derivatives (line 6 less line 26)........	164,832	339,767	-36,209	-309,259	-495,055	-1,919,430	-2,598,564
4	U.S.-owned assets abroad (lines 5+6)............................	456,964	1,001,667	1,469,396	2,286,456	4,032,307	6,308,681	13,754,990
5	Financial derivatives, gross positive fair value [1]	...	...	...	...	...	...	1,237,564
6	U.S.-owned assets abroad, excluding financial derivatives (lines 7+12+17)................	456,964	1,001,667	1,469,396	2,286,456	4,032,307	6,308,681	12,517,426
7	U.S. official reserve assets............................	44,094	124,568	139,875	159,223	160,739	129,961	219,853
8	Gold [2]	36,944	105,644	102,428	92,561	96,698	72,328	165,267
9	Special drawing rights........................	2,395	4,096	8,395	11,240	10,312	10,783	8,870
10	Reserve position in the International Monetary Fund...........	4,434	5,054	11,730	9,488	15,435	17,869	5,040
11	Foreign currencies................................	321	9,774	17,322	45,934	38,294	28,981	40,676
12	U.S. Government assets, other than official reserve assets............	44,978	70,893	91,850	81,422	86,123	85,654	72,189
13	U.S. credits and other long-term assets [3]	44,124	69,320	90,923	79,776	83,999	83,132	71,635
14	Repayable in dollars........................	41,309	66,591	89,271	78,814	83,606	82,854	71,362
15	Other [4]	2,815	2,729	1,652	962	393	278	273
16	U.S. foreign currency holdings and U.S. short-term assets..........	854	1,573	927	1,646	2,124	2,522	554
17	U.S. private assets.............................	367,892	806,206	1,237,671	2,045,811	3,785,445	6,093,066	12,225,384
18	Direct investment at current cost [5]	222,283	407,804	404,818	643,364	989,810	1,693,131	2,855,619
19	Foreign securities [6]	44,157	62,142	158,123	455,750	1,487,546	2,169,735	5,432,264
20	Bonds [6]	34,704	45,675	85,724	176,774	481,411	557,062	1,180,758
21	Corporate stocks [6]	9,453	16,467	72,399	278,976	1,006,135	1,612,673	4,251,506
22		20,317	42,752	167,392	256,295	450,578	839,303	848,464
23	U.S. claims reported by U.S. banks, not included elsewhere [8]	81,135	293,508	507,338	690,402	857,511	1,390,897	3,089,037
24	Foreign-owned assets in the United States (lines 25+26)............	292,132	661,900	1,505,605	2,595,715	4,527,362	8,228,111	16,294,619
25	Financial derivatives, gross negative fair value [1]	...	...	...	...	...	...	1,178,629
26	Foreign-owned assets in the United States, excluding financial derivatives (lines 27+34).......	292,132	661,900	1,505,605	2,595,715	4,527,362	8,228,111	15,115,990
27	Foreign official assets in the United States....................	104,445	180,425	241,226	398,538	820,823	1,109,072	2,770,165
28	U.S. Government securities...............	72,572	125,130	178,916	311,199	631,088	847,005	2,104,696
29	U.S. Treasury securities [9]	70,555	117,004	173,310	305,994	606,427	720,149	1,520,768
30	Other [9]	2,017	8,126	5,606	5,205	24,661	126,856	583,928
31	Other U.S. Government liabilities [10]	8,860	13,029	17,993	18,610	22,592	17,007	18,999
32	U.S. liabilities reported by U.S. banks, not included elsewhere	17,231	26,737	27,920	38,396	113,098	134,655	296,687
33	Other foreign official assets [9]	5,782	15,529	16,397	30,333	54,045	110,405	349,783
34	Other foreign assets...................	187,687	481,475	1,264,379	2,197,177	3,706,539	7,119,039	12,345,825
35	Direct investment at current cost [11]	47,528	164,623	284,701	533,404	745,619	1,518,473	2,099,426
36	U.S. Treasury securities [9]	7,028	18,505	96,078	170,295	433,903	375,059	594,243
37	U.S. securities other than U.S. Treasury securities [9]	54,913	75,085	309,803	546,008	1,165,113	2,821,372	5,228,536
38	Corporate and other bonds [9]	11,964	10,694	140,863	274,136	539,308	1,343,071	2,689,816
39	Corporate stocks [9]	42,949	64,391	168,940	271,872	625,805	1,478,301	2,538,720
40	U.S. currency...................	11,792	27,295	50,122	101,317	186,846	279,755	364,277
41	U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns [12]	12,961	30,606	90,703	208,908	346,810	798,314	740,365
42	U.S. liabilities reported by U.S. banks, not included elsewhere [13]	53,465	165,361	432,972	637,245	828,248	1,326,066	3,318,978
	Memoranda:							
43	Direct investment abroad at market value [5]	...	...	530,074	827,537	1,608,340	2,314,934	4,377,830
44	Direct investment in the United States at market value [11]	...	...	272,966	669,137	1,229,118	2,560,294	3,222,479

p Preliminary.
r Revised.
.... Not applicable

Source: Bureau of Economic Analysis

Source: www.bea.gov/bea/international/bp_web/

After WWII, the US financed a large part of global post war reconstruction and US capital was scattered around the world economies. These capital outflows from the US (or net increase in US owned assets abroad) were substantially larger than any increases in foreign owned assets in the US at the time. This made the US a net creditor (owning more assets abroad than the foreigners in the US). However, once the US started to exhibit increasingly large current account deficits that were financed by large financial account surpluses, the US debt position switched in the 1980s from being a net creditor to becoming a net debtor.

Plainly speaking, foreigners own more assets in the US than US residents own assets in the rest of the world. As the US is a net borrower, the US is expected to pay more interest, dividends etc. than to receive income. The various forms of income from these assets are recorded in the current account under income receipts and income payments. Amazingly the income balance has been positive

over the years: receipts have been greater than payments! How can we explain such an anomaly? Economists do not agree on how to interpret it and further discussion is presented in the case study.

The Exchange Rate

The Exchange Rate and its Relation to the Balance of Payments

Whenever the BoP registers a purchase of a foreign asset or a sale of a domestic commodity abroad, this implicitly indicates that there is a change in the demand for or in the supply of the foreign currency. The international transaction cannot be completed unless one of the parties of the transaction is willing to exchange his/her domestic currency for foreign currency. Therefore changes in any of the components of the BoP affect the supply of and demand for foreign currency.

The key variable that allows the supply of and demand for foreign currency to be equilibrated is the exchange rate. The **exchange rate (E)** is defined as relative price of the foreign currency. So if a domestic resident wants to buy the currency of another country, the exchange rates states the price for each unit of foreign currency. Formally the exchange rate is defined as the price of one unit of foreign currency in terms of the domestic currency. For example, if we assume for the moment that the dollar is the domestic currency, the exchange rate between the dollar ($) and the British pound sterling (£) is

$$E = \$ / \pounds \qquad\qquad (12.6)$$

One complication is that the definition of the exchange rate is ambiguous, depending on the reference of location. Americans will identify the pound as the foreign currency, while the British identify the dollar as the foreign currency. This means there are two versions of the exchange rate, one based on dollars per pound (US) and one based on pounds per dollar (UK). As a result most sources quote both versions of the exchange rate: "US$ equivalence" and "Currency per US$". For example, from the point of view of the UK, the exchange rate between the 2 currencies is E* = £/$. That is, for British residents the exchange rate indicates how many pounds they have to pay to buy one US dollar. Consequently if E = $1.5 then E* = 1/E = £0.66. Table 12.3 shows the cross-rates for the major currencies.

Table 12.3: Cross-Rates Between The Major Currencies (5/11/2007)

EXCHANGE CROSS RATES

May 11		C$	DKr	Euro	Y	NKr	SKr	SFr	£	$
Canada	C$	1	4.947	0.664	107.8	5.433	6.127	1.093	0.453	0.898
Denmark	DKr	2.021	10	1.342	218.0	10.98	12.38	2.210	0.915	1.815
Euro	Euro	1.506	7.452	1	162.4	8.184	9.229	1.647	0.682	1.352
Japan	Y	0.927	4.588	0.616	100	5.039	5.682	1.014	0.420	0.833
Norway	NKr	1.841	9.105	1.222	198.5	10	11.28	2.012	0.833	1.652
Sweden	SKr	1.632	8.074	1.084	176.0	8.868	10	1.785	0.739	1.465
Switzerland	SFr	0.915	4.524	0.607	98.61	4.969	5.603	1	0.414	0.821
UK	£	2.208	10.92	1.466	238.1	12.00	13.53	2.415	1	1.982
USA	$	1.114	5.511	0.740	120.1	6.052	6.825	1.218	0.504	1

Danish Kroner, Norwegian Kroner And Swedish Kroner per 10; Yen per 100.   Source: FT derived from WM Reuters.

Note that the numbers in the upper triangle are the inverse of those in the lower triangle.

We will now consider the exchange rate from the point of view of the US. If an American wants to plan her next vacation abroad and finds out the dollar price of a rental car in the UK, she would simply have to multiply the British pound price by the exchange rate E (the number of $ in one £) to find the dollar price. We can take this notion a bit further and find the dollar value of all our imports by multiplying the quantity of imports (*M),* by the exchange rate (E) times the foreign price of imports (*P**). So *EP*M* is the total value of all imported goods in terms of domestic currency.

Changes in the exchange rate have their own terminology. If the US$/British£ rate increases from 1.5 to 3 (*E increases)*, you would suddenly have to pay 3 dollars per British pound. The price of UK currency has increased, or your dollars are worth less. Economists speak of a **depreciation** of the dollar relative to the British pound. It is a common mistake to think that depreciations result in a decrease in the exchange rate. A quick check of our definition of the exchange rate shows that *E* actually increases as the dollar depreciates. This is because *E* is the price of foreign currency and this price increases as the dollar looses value. If the exchange rate declines from 1.5 to 1, then all of the sudden the price of foreign currency has fallen. Fewer dollars are needed to purchase to buy 1 pound, implying that the dollar has become strong, or as economists say, it **appreciated**, relative to the pound. We must also note that since exchange rates are relative prices, if one needs more dollars to buy one pound (a depreciation of the dollar), this is equivalent to saying that one needs fewer pounds to buy one dollar or that the pound has appreciated with respect to the dollar. Conversely, an appreciation of the dollar is equivalent to a depreciation of the pound. It is thus imperative to always specify which currency appreciates or depreciates.

Since the exchange rate is *the price* of foreign currency, it equilibrates the supply and demand of foreign currency, just like the price for milk equilibrates the supply of and demand for milk. Identically to the market for milk, where fluctuations in the supply of and demand for milk alter the price of milk, fluctuations in the supply of and demand for foreign currency set off appreciations and depreciations of the exchange rate. While the supply of and demand for milk comes from cows and cheese lovers respectively, the supply of

and demand for foreign currency is triggered by the actions of the various agents involved in the BoP transactions. We can now consider the BoP in a new light and appreciate its role summarizing all international transactions and immediately informing us whether the supply of and demand for foreign currency has been altered.

Understanding the relevance of the balance of payments and the exchange rate is the key to grasping any and all concepts of the open economy. The BoP does not only represent a statistical account of a country's international transactions. The fundamental insight is that any change in the BoP sets off by definition a change in the market for foreign currency. Therefore we have reached our first important conclusion: one aspect of international macroeconomics is the study of how changes in the exchange rate affect the economy – often with dramatic, new ramifications that we did not consider in the closed economy. It is absolutely crucial that we recall throughout our study of the open economy that changes in the exchange rate are fundamentally driven by changes in the balance of payments.

The need for exchange rates is relatively recent.

When international transactions were settled with gold or silver coins, there was no such need. All what counted was the weight of the coin. People were indifferent between a gold coin embossed with the face of the king of France, a Louis d'or, or a coin with the face of the Emperor of Austria, a gold ducat. Gold was gold so people did not need to exchange these coins according to an exchange rate but only according to the amount of gold in the coin. Then countries introduced paper currency and switched to a gold standard. Originally the paper currency was fully backed by gold, so the exchange rate was fixed and still not that important. It is only when countries had to give up backing their currency by gold that exchange rates became of paramount importance for international trade.

Real and Nominal Exchange Rates

The exchange rate is reported daily in the major newspaper and minute to minute quotes of the prices of foreign currencies can be obtained on the internet. These quoted prices represent the nominal exchange rate (it is also called the spot exchange rate). As economists, we are interested in digging a bit deeper to make a distinction between real and nominal variables, specifically real and nominal exchange rates. Real variables are always adjusted for inflation, thus the real exchange rate describes the fluctuations in the price of foreign currency after we have taken into account domestic and foreign rates of inflation.

While the nominal exchange rate, $E_{\$/£} = \$/£$, is simply the number of dollars you have to pay to get one British pound, £, the real exchange rate, $e_{\$/£}$, accounts for inflation in both countries.

$$e_{\$/£} = \frac{\$/P_\$}{£/P_£} = \frac{\$}{£}\frac{P_£}{P_\$} = E_{\$/£}\frac{P_£}{P_\$}$$

(12.7)

In the equation above, $P_\$$ and $P_£$ are the respective price levels in the US and Britain. To obtain the real exchange rate we first divide the amount of dollars we have to pay by the US price level and the amount of British pounds we receive (£1) by the UK price level. Basically we are now looking at "real" dollar and "real" pounds i.e. real in terms of their domestic purchasing power. Now assume that the US price level increases by 5% while the UK price level does not change. This means that, in terms of its purchasing power, the dollar buys 5% fewer domestic goods or the value of the real dollar $\$/P_\$$ has dropped by 5% while the value of the real pound $£/P_£$ has not changed. However the nominal exchange rate E has remained constant: one US dollar can still buy exactly the same amount of pounds. So now one US dollar can buy more British goods than American goods since the prices of the British goods have not changed while the prices of the American goods have increased.   This phenomenon is identified as a real appreciation of the dollar.   Of course if, at the same time, the dollar underwent a nominal depreciation equal to 5%, nothing would change as the real exchange rate will not have changed.   The US citizen will not feel richer: the British goods would be relatively cheaper but the pound would more expensive, so he will not be able to buy any more British goods. That is why we divide the quantities of currencies in (12.7) by their respective price levels in the domestic and foreign economies.

When we consider equation (12.7), it is clear that the real exchange rate can be broken down into two parts. First the nominal exchange rate, $E_{\$/£}$, and second the relative price level, $P_£/P_\$$. The real exchange rate is thus simply the nominal exchange rate times an adjustment for the relative change in prices abroad and at home.   The difference between real and nominal rates becomes crucially important when we compare their respective changes over time.   To see this consider the definitional relationship

$$e = EP*/P$$

where e is the real exchange rate, E the nominal exchange rate, P the domestic price level (or the consumer price index, CPI), and $P*$ the foreign price level (or CPI). Taking percentage changes (denoted by ^), we obtain

$$\hat{e} = \hat{E} + \hat{P}* - \hat{P}$$

(12.8)

where for any variable x, $\hat{x} \equiv dx/x$.[3] The changes over time are then obtained by dividing both sides of (12.8) by the time unit, dt.

Examining changes in the real exchange rate over time underscores that any percentage change in the real price of the foreign currency is a composite of three

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[3] More formally, this relationship is obtained by first taking logarithms of the definitional relationship and then taking the differential.

separate terms: a) the percentage change in the nominal price of the foreign currency, b) The percentage change in the foreign price level, c) the percentage change in the domestic price level

Simply said, if the nominal exchange rate increases by 2 percent over a one-year period, foreigners find it 2 percent cheaper to buy US dollars. This renders all US goods 2 percent cheaper *in nominal terms.* However, if US inflation was 4 percent and foreign inflation was 2 percent over the past year, foreigners find it just as attractive in *real terms* to buy US goods as they did last year (as $\hat{e}$ = 2 +2-4 =0) . This example highlights that, while the nominal exchange rate may have changed, the real exchange rate may well remain constant when we account for inflation.

In conclusion, the real exchange rate is a measure of the international competitiveness of a country: we saw above that changes in the international competitiveness depend not only on changes in the nominal exchange rate but also on changes in the relative price level in the two countries. A real depreciation that can be caused either by a nominal depreciation or a decrease in the domestic price level or an increase in the foreign price level (or some combination of these) will enhance a country's international competitiveness while a real appreciation will have the opposite impact.

Since economists are keenly interested in real variables the open economy models presented later on in this text will take real exchange rate into account. However in the next few chapters, we start with models that assume fixed prices. In this case the nominal and real exchange rates coincide.

The Effective Exchange Rate

The exchange rate as defined above constitutes a narrow, *bilateral* price that helps us identify the relative strength of the domestic currency with respect to only the currency of one other country. For example, is the dollar appreciating or depreciating against the British pound? Whenever the value of the dollar depreciates against another country's currency, we know that domestic goods become relatively cheaper (in other words, more competitive on that country's markets).

While bilateral competitiveness is of great interest, economists are even more interested in a country's competitiveness vis-à-vis all of its trading partners. To measure a country's *overall* export competitiveness, we need a more general measure of the exchange rate, one that extends our bilateral measure into a *multilateral* measure. This multilateral measure accounts for the fact that we trade with many countries. For example, it is not hard to imagine a situation where the Japanese yen *depreciates* against the dollar, but *appreciates* against the euro over a given time period. Did Japanese products then become more or less attractive to the rest of the world overall? Did the Japanese trade balance improve or deteriorate? We can certainly say that Japanese exports' competitiveness improved relative to the US and deteriorated against European goods. However, can we determine whether Japanese exports became more or
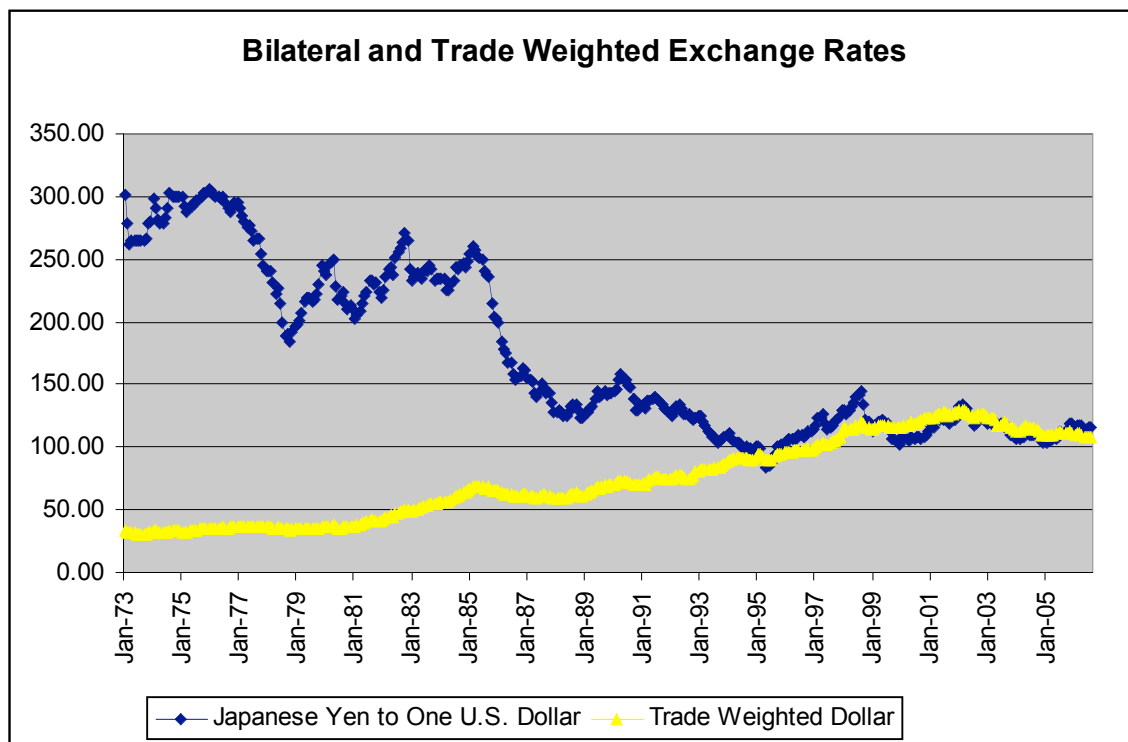
less competitive *overall*? To answer this question we need to develop a new measure of the exchange rate.

The most comprehensive measure of overall export competitiveness compares the value of the domestic currency to the value of the currencies of all the trade partners. This measure is called the *effective exchange rate* and is defined as

$$E_{Effective} = \sum_{j=1}^{N} q_j E_j \qquad\qquad with \sum_{j=1}^{N} q_j = 1 \qquad (12.9)$$

The effective exchange rate is therefore the weighted sum of all bilateral exchange rates. The weight, q_j, for a bilateral exchange rate, E_j, is simply the fraction of total trade that the domestic economy conducts with country j.[4] Note that there are $j = 1, 2,..., N$ countries in this index, corresponding to the home country's N trading partners. Because of its definition, the effective exchange rate is also referred to as the *multilateral*, or *trade weighted exchange rate*. An example of the effective exchange rate is given in Figure 12.3.

Figure 12.3 Bilateral (yen/dollar) Exchange Rate and Trade Weighted Exchange Rate for the Dollar

Source http://research.stlouisfed.org/fred2/categories/105

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[4] Since each bilateral exchange rate is expressed in different units (the respective foreign country's currency) one cannot simply add up all exchange rates; they must first be converted into indices with 100 for the base year. These indices can then be summed as indicated in 12.10.

The Figure shows that the yen appreciated against the dollar between 1973 and to 1995 as the dollar yen exchange rate rises over time. After 1995, then yen becomes weaker at a time when the US started to criticize Japan for manipulating its exchange rate to keep the yen artificially weak to maintain a competitive edge against the US and promote Japanese exports. With the exception of a few short fluctuations, the trade-weighted dollar (1997 = 100) shows an overall *appreciation* of the dollar against all its trading partners over the same time period.

The effective exchange rate can also be adjusted when we are interested in real rather than nominal variables. All we have to do is to sum over all real exchange rates (in index form) rather than the nominal exchange rates given in equation 12.9.

$$e_{Effective} = \sum_{j=1}^{N} q_j e_j \qquad\qquad with \sum_{j=1}^{N} q_j = 1 \qquad (12.10)$$

This index can be calculated using the IMF's *International Financial Statistics* data on exchange rates and consumer price indices (http://ifs.apdi.net/imf), and the IMF's *Direction of Trade* data for trade weights. Most central banks provide data on nominal and real bilateral exchange rates, as well as the nominal and real effective exchange rates on their web site.

We have now obtained four working definitions of the exchange rate: the nominal and real bilateral exchange rates, and the nominal and real effective exchange rate. As economists, we certainly always want to use the real exchange rate, and if we examine the overall competitiveness of a country we always want to calculate the real effective exchange rate. The next task is to figure out how the exchange rate is determined. Realizing that the supply and demand for foreign currency crucially influences its price (i.e. the exchange rate), we need to dig deeper and find out what influences the supply of and demand for foreign currency. The next chapter will focus on the determination of the nominal exchange rate.

Summary of key concepts

1. The balance of payments keeps track of all the transactions between a countries and the rest of the world during a year.

2. In the BoP, sales of goods and services are credits and purchases are debits. Therefore exports are credits (+) and imports are debits (-).

3. Financial account sales are increases in foreign-owned assets in the US (i.e. sales of U.S. assets to the rest of the world resulting in *financial inflows*). By analogy to current account sales (exports thus credit), increases in foreign-owned assets in the US are credit (+) entries.

4. Financial account purchases are increase in U.S.-owned assets abroad (i.e. U.S. purchases of foreign assets resulting in *financial outflows*). By analogy to

current account purchases (imports thus debit), increases in US-owned assets abroad are debit (-) entries.

5.   In the balance of payments, the financial accounts refer to financial flows (in or out) overtime, i.e. to change in stocks of assets. At the end of the year the new level of the stocks of assets owned by the US overseas and the stocks of assets owned by foreigners in the US are recorded in a table entitled the international investment position of the US.

6.   The exchange rate is the relative price of two currencies; it can always be quoted by one number or by its inverse.

7.   The standard approach is to quote exchange rate from the point of view of the domestic economy as the price of one unit of foreign currency.

8.   When we mention appreciation or depreciation, we must always specify the currencies involved, since the appreciation of one currency must necessarily correspond to the depreciation of the other currency.

9.   In the short run with fixed prices, nominal and real exchanges rates are equivalent.

19.   With bilateral exchange rates, a depreciation of the domestic is an increase in the exchange rate (more units of domestic currency needed to buy one unit of foreign currency. With multilateral exchange rates, a depreciation is a decrease in the index measuring the overall exchange rate of the domestic currency with respect to a bunch of other currencies.

Questions for study and review

In your answers for questions 1-4 below, please identify the primary BoP account affected and ignore the settlement side that is part of the BoP's double-entry accounting.

1) On August 8th 2002 Brazil received a 30-billion dollar loan from the IMF. When the first $1 billion wire was received by the Brazilian government's treasury department, *exactly* which part of the Brazilian Balance of Payments was affected positively or negatively?

2*)* The *Wall Street Journal* reported on August 4 2002 that *"Washington agreed to provide a $1.5 billion short-term loan to the* Uruguayan government*"* to provide funding that the International Monetary Fund and the World Bank were unwilling to provide. When the $1.5 billion wire arrived in Uruguay, *exactly* which part of the Uruguayan Balance of Payments was affected positively or negatively?

3) In 2003, the largest category of the Mexican Current Account was the funds wired from Mexican workers in the US to relatives in Mexico. Exactly which aspect of the Mexican Balance of Payments is affected positively or negatively by such payments?

4) a. Which part of the US balance of payment is affected (positively or negatively) if US based currency traders sell the dollar and buy foreign bonds?

b. The interest income on these foreign bonds will post (as a debit or credit?) next year as part of which category of the Balance of Payments?

5) Assuming zero inflation in all countries and deflation in Japan over the year Assume also that the yen has depreciated over the year against all the other currencies.

a. Compare the relative movements of Japan's nominal and real exchange rates with the US?

b. What can you say about Japan's real effective exchange rates with the rest of the world including the US?

c. What can you say about Japan's international competitiveness.

6) Let P_{UK} be the GDP deflator in Great Britain (UK) and P_S the GDP deflator in Switzerland. Suppose $P_{UK} = 2.5$ and $P_S = 1.5$

a. Calculate the real exchange rate (RER Switzerland/UK - Switzerland is the domestic economy) corresponding to each of the following SF/£ nominal exchange rates (E): the exchange rates quoted in Switzerland on April 12, 2007 is $E_{SF/£} = 2.4085$ and on May 12, 2007 it is $E_{SF/£} = 2.415$

b. As E increases

     i. what happens to the Swiss *real* exchange rate above?

     ii. What happens to the price of Swiss goods in terms of British goods.

c. If the price level in Great Britain increases faster than the price level in Switzerland,

     i. what happens to the *real* exchange rate above (assume no change in the nominal exchange rate)?

     ii. what happens to the Swiss international competitiveness?

d. Compare your results in b. and c.

7) Use the bilateral exchange rate data between the euro and the British pound and between the euro and the dollar in 2 consecutive years (5/9/2006 and 5/9/2007) to calculate the trade weighted or multilateral exchange rate for the euro over the period. Set the first year as the base year i.e. set the multilateral exchange rate for this year as 100. Assume that, in this period, the UK and the US are the Euro area only trade partners: the share of trade of the Euro area with the UK - 40% - remains the same over the 2 years considered. Fill the table below to show how you construct the trade weighted index.

ER	E_0	Index	Weight	Weighted Index	E_1	Index	Weight	Weighted Index

€/£								
€/$								
TWI	XXX	XXX	XXX		XXX	XXX	XXX	

Data: over the period, the €/£ exchange rate increases from $E_0 = 1.44$ to $E_1 = 1.48$ and the €/$ decreases from $E_0 = 0.78$ to $E_1 = 0.74$. Over this period, has the euro appreciated or depreciated with respect to the dollar, the pound, or overall?

Suggested further readings and data sources

International Economic Accounts, Bureau of Economic Analysis, US Department of Commerce (http://www.bea.gov/international/index.htm#bop)

The Balance of Payments of the United States, Concepts, Data Sources, and Estimating Procedures, April 1990, Robert A. Mosbacher and Michael R. Darby, Under Secretary for Economics Affairs, Bureau of Economic Analysis.

How BEA Aligns and Augments Source Data From the U.S. Treasury Department for Inclusion in the International Transactions Accounts, July 2006, Survey of Current Business, Bureau of Economics Analysis.

International Monetary Fund, Balance of Payments Yearbook, Washington DC: IMF annual.

International Monetary Fund, International Financial Statistics, Washington DC: IMF monthly.

Balance of Payments Manual, International Monetary Fund, Washington DC. (www.imf.org/external/np/stat/bop/BOPman.pdf)

United Kingdom Balance of Payments – The Pink Book – Office for National Statistics - Annual (http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=1140)

APPENDIX

Line	Current account		Line	Capital account	
1	Exports of goods and services and income receipts	2,058,836	39	Capital account transactions, net	-3,914
2	Exports of goods and services	1,436,816		**Financial account**	
3	**Goods, balance of payments basis**	**1,023,689**	40	**U.S.-owned assets abroad, net (increase/financial outflow (-))**	**-1,045,760**
4	**Services**	**413,127**	41	**U.S. official reserve assets, net**	**2,374**
5	Transfers under U.S. military agency sales contracts	16,682	42	Gold	.....
6	Travel	85,697	43	Special drawing rights	-223
7	Passenger fares	22,060	44	Reserve position in the International Monetary Fund	3,331
8	Other transportation	48,208	45	Foreign currencies	-734
9	Royalties and license fees	62,051	46	U.S. Government assets, other than official reserve assets, net	5,219
10	Other private services	177,284	47	U.S. credits and other long-term assets	-2,990
11	U.S. Government miscellaneous services	1,145	48	Repayments on U.S. credits and other long-term assets	8,223
12	**Income receipts**	**622,020**	49	U.S. foreign currency holdings and U.S. short-term assets, net	-14
13	Income receipts on U.S.-owned assets abroad	619,085	50	**U.S. private assets, net**	**-1,053,353**
14	Direct investment receipts	295,884	51	**Direct investment**	**-248,856**
15	Other private receipts	320,796	52	**Foreign securities**	**-277,691**
16	U.S. Government receipts	2,405	53	U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	-44,434
17	Compensation of employees	2,935	54	U.S. claims reported by U.S. banks, not included elsewhere	-482,372
18	Imports of goods and services and income payments	-2,831,369	55	**Foreign-owned assets in the United States, net (increase/financial inflow (+))**	**1,764,909**
19	Imports of goods and services	-2,202,083	56	Foreign official assets in the United States, net	300,510
20	**Goods, balance of payments basis**	**-1,859,655**	57	U.S. Government securities	243,794
21	**Services**	**-342,428**	58	U.S. Treasury securities	118,344
22	Direct defense expenditures	-31,180	59	Other	125,450
23	Travel	-73,299	60	Other U.S. Government liabilities	3,274
24	Passenger fares	-27,306	61	U.S. liabilities reported by U.S. banks, not included elsewhere	19,550
25	Other transportation	-65,611	62	Other foreign official assets	33,892
26	Royalties and license fees	-26,523	63	Other foreign assets in the United States, net	1,464,399
27	Other private services	-114,485	64	**Direct investment**	**183,571**
28	U.S. Government miscellaneous services	-4,024	65	**U.S. Treasury securities**	**29,417**
29	**Income payments**	**-629,286**	66	**U.S. securities other than U.S. Treasury securities**	**621,154**
30	Income payments on foreign-owned assets in the United States	-619,862	67	U.S. currency	12,570
31	Direct investment payments	-145,561	68	U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	176,509
32	Other private payments	-329,231	69	U.S. liabilities reported by U.S. banks, not included elsewhere	441,178
33	U.S. Government payments	-145,070	70	**Statistical discrepancy (sum of above items with sign reversed)**	**141,419**
34	Compensation of employees	-9,424			
35	**Unilateral current transfers, net**	**-84,122**	71	**Balance on goods (lines 3 and 20)**	**-835966**
36	U.S. Government grants	-21,410	72	**Balance on services (lines 4 and 21)**	**70699**
37	U.S. Government pensions and other transfers	-7,009	73	**Balance on goods and services (lines 2 and 19)**	**-765267**
38	Private remittances and other transfers	-55,703	74	**Balance on income (lines 12 and 29)**	**-7266**
			75	**Unilateral current transfers, net (line 35)**	**-84122**
			76	**Balance on current account (lines 1, 18, and 35 or lines 73, 74, and 75)**	**-856655**