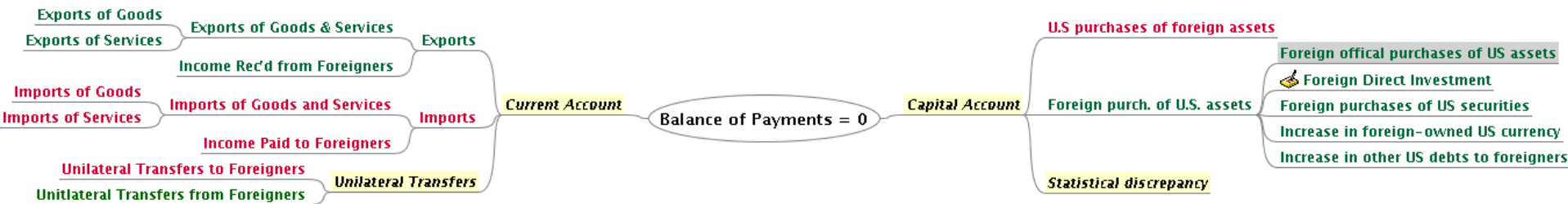# Balance of Payments
and
Foreign Exchange Rates

Balance of Payments – *Concept*

The Balance of Payments captures all the monetary transactions occuring between people of one country and the "Rest-of-the-world". This includes all transactions by households, firms, the central bank, and governments. In the above diagram, we can see how some items are aggregated to form summary total items.

The green items represent transactions where money is being paid by foreigners to the U.S. ("credits"). These are in-flows of money.

The red items represent transactions where money is paid by people in the U.S. to foreigners – it's money leaving the U.S., or out-flows.

Balance of Payments – *An Example*

Line	(Credits +; debits -)	2006
	Current account	
1	Exports of goods and services and income receipts	2,096
2	Exports of goods and services	1,446
3	Goods, balance of payments basis	1,023
4	Services	423
5	Income receipts	650
6	Imports of goods and services and income payments	-2,821
7	Imports of goods and services	-2,206
8	Goods, balance of payments basis	-1,862
9	Services	-344
10	Income payments	-615
11	Unilateral current transfers, net	-86
	Capital account	
12	U.S.-owned assets abroad (increase (+)/financial outflow (-))	-1,055
13	Foreign-owned assets in the United States (increase/financial inflow (+))	1,860
14	Foreign official assets in the United States	440
15	Foreign Direct investment	181
16	U.S. securities	556
17	U.S. currency	13
18	U.S. liabilities to foreigners, not included elsewhere	236
19	Statistical discrepancy (sum of above items with sign reversed)	6
	Memoranda:	
20	Balance on goods (lines 3 and 8)	-839
21	Balance on services (lines 4 and 9)	79
22	Balance on goods and services (lines 2 and 7)	-760
23	Balance on income (lines 5 and 9)	35
24	Unilateral current transfers, net (line 35)	-86
25	Balance on current account (lines 1, 6, and 11 or lines 20, 21, and 22)	-811
26	Balance on capital account (lines 12, 13, and 19)	811

Let's take an example. The table on the right was taken from actual 2006 balance of payments data for the U.S., as reported by the BEA. Some data has been summarized and rounded but this is essentially the way balance of payments are typically reported. For the original data go here.

The data is a bit hard to read and the relationships aren't clearly apparent. So let's clean-up the formatting a bit and maybe the relationships will become clearer.

Balance of Payments – *An Example*

Line	(Credits +; debits -)	2006
	Current account	
1	Exports of goods and services and income receipts	2,096
2	Exports of goods and services	1,446
3	Goods, balance of payments basis	1,023
4	Services	423
5	Income receipts	650
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24	Unilateral current transfers, net (line 35)	-86
25	Balance on current account (lines 1, 6, and 11 or lines 20, 21, and 22)	-811
26	Balance on capital account (lines 12, 13, and 19)	811

Let's start by dividing the table into three sections.

The *Current Account* (top section) deals with transactions of goods, services, payments for services, and gifts.

The *Capital Account* (middle section) deals with financial flows – purchases and sales of assets such as bonds, loans, business firms, corporate stock, and currency.

The total of the Current Account MUST EQUAL the total Capital Account: the is the *Balance of Payments*.

The *Memoranda* (bottom section) provides several different summaries or "balances" of different items from the top. Nothing new is presented in memoranda.

Balance of Payments – *An Example*

Line	(Credits +; debits -)			Year 2006
	Current account			
1	Exports of goods and services and income receipts			2,096
2	Exports of goods and services		1,446	
3	Goods	1,023		
4	Services	423		
5	Income receipts		650	
6	Imports of goods and services and income payments			-2,821
7	Imports of goods and services		-2,206	
8	Goods	-1,862		
9	Services	-344		
10	Income payments		-615	
11	Unilateral current transfers, net			-86
	Capital account			
12	U.S.-owned assets abroad			-1,055
13	Foreign-owned assets in the United States			1,860
14	Foreign official assets in the United States		440	
15	Foreign Direct investment		181	
16	U.S. securities		556	
17	U.S. currency		13	
18	U.S. liabilities to foreigners, not included elsewhere		670	
19	Statistical discrepancy (sum of above items with sign reversed)			6
	Memoranda:			
20	Balance on goods (lines 3 and 8)			-839
21	Balance on services (lines 4 and 9)			79
22	Balance on goods and services (lines 2 and 7)			-760
23	Balance on income (lines 5 and 9)			35
24	Unilateral current transfers, net (line 35)			-86
25	Balance on current account (lines 1, 6, and 11 or lines 20, 21, and 22)			-811
26	Balance on capital account (lines 12, 13, and 19)			811

Next let's seperate the different levels of detail into different columns and add some brackets & arrows to indicate what items are combined into other items.

Let's also color code the items. Green means it's a "debit". This means money is flowing into the U.S. Red means the item is a "credit" which represents money flowing out of the U.S. Items in black are items that could be either debit or credit. The color of the number indictes what they actually were in the U.S. in 2006.

Balance of Payments – The Memoranda Items

Line	(Credits +; debits -)		Year 2006
	Current account		
1	Exports of goods and services and income receipts *X*		2,096
2	Exports of goods and services		1,446
3	Goods	1,023	
4	Services	423	
5	Income receipts		650
6	Imports of goods and services and income payments *M*		-2,821
7	Imports of goods and services		-2,206
8	Goods	-1,862	
9	Services	-344	
10	Income payments		-615
11	Unilateral current transfers, net		-86
	Capital account		
12	U.S.-owned assets abroad *CAPITAL OUTFLOWS*		-1,055
13	Foreign-owned assets in the United States *CAPITAL INFLOWS*		1,860
14	Foreign official assets in the United States	440	
15	Foreign Direct investment	181	
16	U.S. securities	556	
17	U.S. currency	13	
18	U.S. liabilities to foreigners, not included elsewhere	670	
19	Statistical discrepancy (sum of above items with sign reversed)		6
	Memoranda:		
20	Balance on goods (lines 3 and 8) *MERCHANDISE TRADE BALANCE*		-839
21	Balance on services (lines 4 and 9)		79
22	Balance on goods and services (lines 2 and 7) *TRADE BALANCE*		-760
23	Balance on income (lines 5 and 9)		35
24	Unilateral current transfers, net (line 35)		-86
25	*BALANCE ON CURRENT ACCOUNT* (lines 1, 6, and 11 or lines 20, 21, and 22)		-811
26	*BALANCE ON CAPITAL ACCOUNT* (lines 12, 13, and 19)		811

Next let's re-name some items using terms that might be more familiar. I've added the more common names in blue italic font.

You should be able to see the relationships to thecircular flow of goods, services, and payments now.

The current account represents "net exports" or (X-M).

The capital account represents the net of capital inflows and outflows.

Capital account must equal current account, so:

Capital Inflows- Outflows = X-M

Foreign Exchange Rates

Foreign currency exchange rates ("forex" in Wall Street lingo) are prices. They represent the price of trading currency X for currevncy Y. These prices can always be reported two ways. We could express the price as "how many X's does it take to buy 1 Y", or we could reverse it and express the price as "how many Y's does it take to buy 1 X". These two prices must be the mathematical reciprocal of each other.

Let's use an example. Let's suppose that one Canadian dollar will buy 1.05 U.S. dollars. In other words, the exchange rate is:

$$\$1.00 \; CAD \; = \; \$1.05 \; USD$$

if we express this as a ratio of USD per CAD, we have:

$$\frac{1.05 USD}{1.00 CAD} = 1.05$$

But suppose we want to know how many Canadian dollars can be purchased with one US dollar? In other words we want to know how many CAD per 1.00USD. We already know that 1.00CAD = 1.05USD, so it has to be the same ratio. It's just that we want a 1.00 in the numerator instead of the denominator. So we can set up:

$$\frac{1.00 USD}{? CAD} = \frac{1.05 USD}{1.00 CAD}$$

If we sole this we find the reverse exchange rate: $ 0.9524 CAD per $1.00 USD

LESSON: always pay close attention to which way the exchange rate is expressed – is it CAD per USD, or is it   USD per CAD?

Exchange Rates – An Example

CurrencyLast Trade	U.S. $	¥en	Euro	Can $	U.K. £	AU $	Swiss Franc
1 U.S. $ =	1	114.71	**0.69**	0.93	0.48	1.08	1.15
1 ¥en =	0.01	1	0.01	0.01	0	0.01	0.01
1 Euro =	**1.45**	166.33	1	1.35	0.69	1.57	1.67
1 Can $ =	1.07	122.76	0.74	1	0.51	1.16	1.23
1 U.K. £ =	2.09	239.74	1.44	1.95	1	2.26	2.41
1 AU $ =	0.92	105.99	0.64	0.86	0.44	1	1.07
1 Swiss Franc =	0.87	99.42	0.6	0.81	0.41	0.94	1

The table above reproduces foreign exchange rates from November 4, 2007. The table is typical of how exchange rates are often displayed. For each currency pairing, both rates are displayed. The way to read this table is to first decide which currency you are buying and which you selling (paying with). Let's suppose you have US dollars and want to buy some Euros. Select the line for US $ (the yellow highlighted line), then go across to the column for Euros. The rate given there (in bold in this example), tells you how many Euros you will get for each US dollar.

Suppose you want to go the other way – that is, suppose instead of converting US dollars into Euros, you want to convert Euros into dollars. In other words you want to buy dollars and sell Euros. Then select the "1 Euro =" line (highlighted in blue) and go across to the US $ column. That is the USD per Euro rate. Of course these two rates are reciprocals of each other (go ahead and calculate it just to make sure!).

If the rates on any particular line are trending downward over time, then that currency is weakening or depreciating. Suppose rates in the top line (the US dollar) kept getting smaller over time (as they have during 2007), then the US dollar is getting weaker. Of course a weaker dollar means that the numbers in the US dollar *column* above are getting bigger.

For more up-to-date rates, see **http://www.x-rates.com/** for rates updated daily. See **Yahoo finance** for up-to-the-minute rates.