1.1 The Exchange Rate

The central character in this course is the exchange rate (e), which is simply the equilibrium price or value of one currency in terms of a second. The determination of an exchange rate is a function of the standard forces of demand and supply. When considering the exchange rate between two particular currencies, for example the United States dollar ($) and the Japanese yen (¥), one can either think in terms of the $ market where $’s are bought and sold in exchange for ¥, or, just as correctly, one can take the perspective of the ¥ market where ¥ are bought and sold for $’s. It is helpful to experiment with both these points of view to verify that they each can portray the exact same exchange rate market activity, just from opposite perspectives.

For example, first consider the foreign exchange market for $’s in which $’s are demanded (by people offering ¥) and supplied (by those seeking to buy ¥). In this case the horizontal axis of the corresponding market diagram (see Figure 1.1) is the quantity of $, and the vertical axis represents the value of the $ (in terms of ¥). Therefore, the variable on the vertical axis is the exchange rate in terms of the number of ¥ exchanged for each $ (i.e., e\(_{¥/$}). The demand for $’s exhibits the familiar downward slope because as the number of ¥ needed to purchase $’s (with which to buy US goods and assets) rises, the fewer the quantity of $’s is demanded. On the other hand, the quantity of $’s supplied in exchange for ¥ increases with the number of ¥ obtained per $ (i.e., the quantity supplied increases with increases in e\(_{¥/$}). Figure 1.1 shows this supply curve with the familiar upward slope. The intersection of the demand and supply for $ indicates the equilibrium value of e\(_{¥/$} and the equilibrium quantity of $’s that are exchanged in the market. The exchange rate naturally changes with shifts in the demand and supply in this market. For example, an increase in the demand for $’s – perhaps by Japanese consumers whose tastes for American products increase – will cause e\(_{¥/$} and the quantity of $ exchanged to both increase (see Figure 1.2). An increase in e\(_{¥/$} constitutes an appreciation of the $ (with respect to ¥) or, equivalently, a depreciation of the ¥ (with respect to the $).

The alternative, equally informative, perspective specifies the foreign exchange market for ¥. In the diagram of this market (see Figure 1.3) the horizontal axis represents the quantity of ¥ and the vertical axis is the value of the ¥ in terms of $’s and is, therefore, the exchange rate in terms of $’s per ¥ (e\(_{$/¥}). Again, the quantity of ¥ demanded falls with the number of $’s needed to purchase each ¥, and the quantity of ¥ supplied rises with the number of $’s a ¥ will purchase, and an equilibrium e\(_{$/¥} is determined by these standard market forces as shown in Figure 1.3. Please note the reciprocal relationship between e\(_{¥/$} and e\(_{$/¥}. If, for example, e\(_{¥/$} = 4, then e\(_{$/¥} = \frac{1}{4} or, more generally, e\(_{$/¥} always equals 1/(e\(_{¥/$}). This is because those who are demanding $ are simultaneously supplying ¥, just as those who are demanding ¥ do so by supplying $. To reinforce this point, reconsider the same increased desire by Japanese consumers to buy US products discussed above and illustrated in Figure 1.2. Whereas it was characterized as an increase in the demand for $, it is just as correctly characterized as an increase in the supply of ¥. Figure 1.4 illustrates the increase in the supply of ¥, which causes e\(_{$/¥} to fall. But, since e\(_{$/¥} is inversely related with e\(_{¥/$}, this is perfectly consistent with the rise in e\(_{¥/$} depicted above in the $ market (Figure 1.2).

Because a decrease in e\(_{$/¥} means e\(_{¥/$} has increased and both are equally appropriate as measures of the trade ratio between $’s and ¥ in the foreign exchange markets, statements such as “the exchange rate has increased” is ambiguous unless it is clear which of the two exchange
rates is being referred to. The convention in this class will be to include subscripts that indicate the two currencies being traded in the market, with the second symbol indicating which currency is being valued in terms of the other just as has been demonstrated in this discussion so far. For another example adhering to this convention consider the foreign exchange market between ¥ and £’s from the perspective of the £ market. The associated diagram would depict the demand and supply of £’s determining the equilibrium level of e¥/£. However, the reader will find that many examples offered in this class refer simply to a domestic currency and some unspecified foreign currency. In these cases, the exchange rate will refer to the value of the domestic currency and the identifying subscripts will be dropped, i.e., if just the symbol e is used without any accompanying subscripts, assume that it represents eFOREIGN CURRENCY/DOMESTIC CURRENCY.

1.2 BOP Accounting

Because exchange rates are determined by the demand and supply of a particular currency in exchange for a second currency, the study of exchange rates is aided by a framework and vocabulary that distinguishes between the different kinds of international economic activity behind the demand and supply of the currency. As will be shown, it is often valuable to distinguish between purchases of a currency to buy goods and services and purchases of the currency to buy assets. The framework used to keep track of such fundamentally different sources of demand and supply of a currency in the foreign exchange market is known as Balance of Payments (BOP) Accounting.

The Balance of Payments Accounts are formally defined as: A record of all economic activity that flows between residents of a country and residents of the rest of the world in a given period of time (e.g., a year), where all values are in terms of the country’s currency.

Three Fundamentally Different Kinds of Economic Activity Recorded in the BOP Accounts

There are three different types of transactions that give rise to currencies being traded for other currencies in foreign exchange markets. The first is the importing and exporting of goods or services. For example, if somebody pays pesos in Mexico for a beer produced and sold by a German brewery for euros, then somebody, somewhere, must have visited the foreign exchange market and supplied pesos to purchase euros. Therefore the Mexican import (and German export) gave rise to an increase in supply of pesos (and demand for euros) in the foreign exchange market.

A second type of activity that results in foreign exchange transactions is referred to as the importing or exporting of factor services. The word “factor” in this expression is short for “factor of production”, which refers to labor, capital, energy, and other productive resources. Think of factor services as the production yielded by factors that provide income for the factor owners. A factor owner “exports” factor services when one of his or her assets earns income outside the country where the owner resides (and, therefore, earns income within the country that “imports” that factor service). For example, if a Brazilian owns an apartment in London that yields rental income, then the act of renting the apartment constitutes an export of a factor service by the Brazilian who earns £’s and who will, presumably, go to the foreign exchange markets to exchange the £’s for reals. In this particular case, the factor service precipitates an increase in the demand for reals and a matching increase in the supply of £’s in the foreign exchange markets.

The third major category of transactions consists of the sale of assets by residents of a country to residents of another country. As an example, consider a Chinese investor who agrees
to purchase shares of stock from a New Yorker. In this case, acquiring the asset requires the Chinese investor to exchange Chinese yuan for $’s (with which to pay the New Yorker) in the foreign exchange markets and, therefore, amounts to both an increase in the supply of yuan and an increase in the demand for $’s.

**The Basic Accounts Within the BOP**

All transactions between a country’s residents and agents outside the country are sorted and recorded into that country’s BOP “accounts”. Grouping transactions permits the BOP accounts to distinguish the different types of international activities and their respective effects on the exchange rate. As the first and most basic distinction, all transactions are recorded in either the **Current Account** or the **Capital and Financial Account** (formerly known just as the Capital Account). The Current Account (CA) records all exports and imports of goods and services as well as factor services, i.e., the first two of the three types of BOP activity described above. In fact, these two types of activity comprise the great majority of Current Account activity. The Capital and Financial Account (KFA) reports all transactions of the third type, i.e., the ownership of assets changing hands across the country’s borders. For the purposes of this textbook, we divide the CA and KFA each into three component accounts, although the number of different sub-accounts recognized by the government agencies that actually compile the data and issue the BOP reports is much larger.

The three component accounts of the CA are the goods account (CA_G) which records the international movement of goods, the services account (CA_S) where flows of services across borders are listed, and the factor services account (CA_FS) that notes the flows of factor services. Therefore, CA = CA_G + CA_S + CA_FS. Examples of services (as opposed to the factor services described above) that are exported and imported include legal services, data processing, computer and transportation services.

The first of the three sub-accounts of the KFA is the long term, private financial account (KFA_LP) that tracks the flows of the transfer of ownership across the border of long-term assets by private individuals and institutions. Long-term assets are defined as those with maturities greater than or equal to one year. Examples of long-term assets include bonds with a maturity of a year or more, as well as real estate and stocks (i.e., ownership of businesses) that are assumed to endure and yield returns for at least a year if not much longer. The second component of the KFA is the short-term, private financial account (KFA_SP) that records the transfer of short-term assets by private individuals and institutions. Short-term assets include bonds with a maturity of less than a year and all forms of money including both gold and demand deposits. The remaining kind of asset transfer that belongs in a country’s KFA account, but not its KFA_LP or KFA_SP, is the acquisition or sale of another country’s assets by the country’s monetary authority. For example, if the Bank of England (i.e., the United Kingdom’s monetary authority) held euros in its “vault” (figuratively speaking) and sold them in the foreign exchange markets for £’s, then the sale of the short run assets, i.e., the euros, would be recorded in the UK public/government financial account (KFA_GOV). In summary: KFA = KFA_LP + KFA_SP + KFA_GOV.

One important point to remember is that a country’s currency is not an asset for that country’s monetary authority. Therefore, in the case of the Bank of England purchasing £’s in the foreign exchange markets with euros, the acquisition of the £’s is not recorded in the UK’s KFA_GOV even though the loss of the euros is. In fact, the Bank of England could burn the £’s without loss because it can always print new £’s later as needed.
Double-Entry Bookkeeping: For Every Credit there is a Debit, and for Every Debit there is a Credit.

A central tenet of accounting is the assumption that every flow of goods, services, factor services, or assets is matched by an equivalent counter-flow. For example, if someone receives $1 worth of eggs at the market, it is usually the case that the person paid for them with $1. Assuming that such flows are financed by matching opposite flows means that any observed transaction requires two accounting entries. This “double-entry” accounting is well-suited for economic activity because the great majority of the activity takes the form of exchanges where some good, service, factor service, or asset is traded for another.¹

When recording a particular entity’s economic activity, as with the BOP accounts of a particular country, one of the two required entries will be a **credit**, while the other will constitute the **debit**. Entries to be recorded in the CA as credits are flows (of goods or services or factor services) that give rise to a payment “inward” from a non-resident. Therefore, exports of goods, services, or factor services for which the residents of the country receive payment are credits. For example, a flow of ($25 worth of) exported maple syrup would be recorded as a ($25) credit in the CA\(_G\) account. Alternatively, imported goods, services, or factor services that give rise to payments “outward” to non-residents constitute debits in the CA.

In the KFA, the transfer of the ownership of an asset from a resident to a nonresident is recorded as a credit. Conversely, the transfer of an asset from a nonresident to a resident represents a debit.² Note that what may seem to be a desirable occurrence for a country – i.e., gaining ownership of an asset previously held by a foreigner – has what some may consider a negative sounding label (i.e., a “debit”). Correspondingly, the positive sounding “credit” is associated with a resident relinquishing ownership of an asset to a nonresident.

A Demonstration of BOP Accounting

To demonstrate BOP accounting, we will now make the appropriate entries for the following list of transactions made between US residents and non-residents. Each of the three accounts that constitute the CA and the three that compose the KFA are represented in t-account form in Table 1. Note that all amounts in the BOP accounts for a country are in terms of its own currency.

Transaction #1: $10 of US wheat is exported to Taiwan, which is paid for by a check on a Taiwanese bank.

¹ There is a relatively small amount of resource allocation due to gifts, where there would seem to be no compensating counter flow of goods, services, factor services, or assets. Accountants have devised a technique to report such one-way flows using double-entry practices by introducing a “unilateral transfers” account within the CA where the gratitude that is returned to the gift-giver is deemed to constitute the offsetting flow. But the amount of activity in this account is relatively very small and insignificant with respect to its possible effects on the exchange rate and, therefore, will not be considered further in this textbook/class.

² Do not be surprised to find other sources referring to entries in the KFA by their tradition definitions as “changes in net claims” of one country on another. For example, KFA credits have been defined as either “foreign residents increasing their net claims on the domestic country” (as when a nonresident buys a domestic asset) or “domestic residents decreasing their net claims on a foreign country” (as when a resident sells an asset situated in a foreign country). The opposite flows constitute debits.
The flow of exported wheat (a good) gives rise to a payment inward and, therefore, the exported wheat is recorded as a $10 credit in CA\textsubscript{G}. (See the CA\textsubscript{G} t-account in Table 1.) The payment is a transfer of a claim on demand deposits that was previously owned by a Taiwanese individual, but given to the US wheat farmer. This acquisition of a short-term asset (i.e., the demand deposit) is a $10 debit in KFA\textsubscript{SP}. (See the KFA\textsubscript{SP} t-account in Table 1)

Transaction #2: A US firm pays a Korean shipping firm $20 for transporting goods across the Pacific Ocean, and pays the firm with a check on a New York bank.

The US has imported a $20 service that is recorded as a debit in the CA\textsubscript{S} account. The transfer of the ownership of the $20 in demand deposits at the New York bank to a Korean from an American is recorded as a $20 credit in KFA\textsubscript{SP}.

Transaction #3: An American holding shares of Japanese stock receives a dividend (in ¥, but given the exchange rate is) worth $30, which is delivered by a company check on a Japanese bank.

The Japanese firm is owned by someone living in the United States and, therefore, the firm’s production is a consequence of the American owner exporting the factor service to Japan. This exported factor service that gives rise to the compensating payment inward (in the form of a dividend) is recorded as a $30 credit in the CA\textsubscript{FS} account. The $30 worth of ¥ demand deposits held in the Japanese bank delivered to the American increases American assets held in Japan, and goes down as a $30 debit in KFA\textsubscript{SP}.

Transaction #4: An Australian purchases a 10-year bond from an American for $40, and pays with Austrian currency that, given the exchange rate, amounts to the $40.

The 10-year bond qualifies as a long-term asset and the transfer of ownership of the asset from an American entity to the new foreign owner makes is a credit. The first half of the appropriate BOP acknowledgement is a $40 credit in KFA\textsubscript{LP}. The acquisition of the $40 worth of Australian currency by the American is a $40 debit in the KFA\textsubscript{SP}.

Transaction #5: A British Investor sells a 90-day US Government Security (bond) back to an American at a price of $50. The American purchaser has an account with Barclay’s Bank in England and pays with a check made out for the number of £’s that would purchase $50 in the foreign exchange markets.

The acquisition of the short-term asset (i.e., the Government Security) by the American is recorded as a $50 debit in the KFA\textsubscript{SP} account, meanwhile the decrease in net-claims by the American on the £’s goes as a $50 credit also in the KFA\textsubscript{SP} account.

Transaction #6: The US Monetary Authority sells $60 worth of ¥ in exchange for $’s in the foreign exchange markets.

Relinquishing the ¥ by the US Government’s monetary authority is recorded as a $60 credit in the KFA\textsubscript{GOV} account. Meanwhile, the reduction in $’s held by non-residents (i.e., the decrease in net-claims by private foreigners on the US’s assets) is recorded as a $60 debit in the KFA\textsubscript{SP} account.

Table 1 shows the appropriate combination of entries for each of these six transactions. Given just these transactions, one would say that the CA\textsubscript{G} account is in surplus by $10 (CA\textsubscript{G} = +10) since the credits exceed the debits by $10. Whereas the CA\textsubscript{S} account is running a $20
deficit since debits in that account exceed the credits by $20 (CA_S = -20). Given that CA_{FS} = +30, the CA is $20 in surplus (i.e., (CA_G + CA_S + CA_{FS}) = (+10) + (-20) + (+30) = +20). Table 1 also shows that KFA_{LP} is in surplus by $40, KFA_{SP} = -$120 since debits exceed credits by $120, and KFA_{GOV} = +$60. Thus, the KFA is in deficit by $20 (i.e., (+40)+(-120)+(+60)).

Note that the sum of all six accounts necessarily add up to $0, since the double-entry accounting provides an offsetting debit for every credit, and vice versa. Correspondingly, it must also be true that CA + KFA = 0 (or, equivalently, CA = − KFA). This mirror relationship between the CA and KFA is known as the Balance of Payments Constraint.

**Key Balances**

The six BOP accounts presented above are the building blocks for BOP measures that are often discussed. As already stated, CA_G + CA_S + CA_{FS} equals the Current Account, and KFA_{LP} + KFA_{SP} + KFA_{GOV} adds up to the Capital and Financial Account. In addition to these, there is the:

- **Trade Balance** (a.k.a., Merchandise Trade Balance) = CA_G (by itself). Although the information provided by the complete CA is more valuable to understanding exchange rates, the trade balance is distinguished by the fact that it is calculated and reported in the news once a month, whereas the CA is measured by the government every quarter. Thus, the trade balance often gets mentioned more in the news than the CA. It is interesting to note that during the past two decades the United States’ trade deficit was greater than its CA deficit, i.e., the US has been running surpluses in the combination of its CA_S and CA_{FS} accounts.

- **Basic Balance** = CA + KFA_{LP}. The basic balance includes the great majority of BOP activity derived from fundamental economic activity. The exporting and importing of goods, services, and factor services found in the CA all have something to do with real, productive activity in the economy. Similarly, the KFA_{LP} accounts for serious investment in assets that have a life of at least one year. This is in contrast to the activity recorded in the KFA_{SP} which often, as exemplified by the six examples above, merely measures money and other short-term assets flowing in and out of the economy. Also, the KFA_{SP} is polluted by large volumes of speculative and hedging activity (discussed later) that also do not directly reflect productive activity.

- **Official Reserve Transactions Balance** (a.k.a., Overall Balance as well as the Official Settlements Balance) = CA + KFA_{LP} + KFA_{SP}. This measure includes all activity by private individuals and excludes that by the monetary authority. Having a measure that isolates the monetary authorities activity in the foreign exchange markets will be helpful when addressing the goals and consequences of government policies in later discussions. Many people commonly refer to the Official Reserves Transactions Balance (ORTB) as the “Balance of Payments” or “BOP” as is the case when they refer to a “BOP surplus” or “BOP deficit”.

- **Private Capital and Financial Account** (or KFA_{PRIV}) = KFA_{LP} + KFA_{SP}, i.e., it is the sum of the private components of the KFA.

Given the entries made in Table 1.1, the key balances are as follows: CA = +$20; KFA = −$20, Trade Balance = +$10, Basic Balance = +$60, ORTB (=BOP) = −$60, KFA_{PRIV} = −$80. Table 1.2 provides another set of BOP accounts for which the key balances are: CA = +$10; KFA = −$10, Trade Balance = +$7, Basic Balance = +$35, ORTB (=BOP) = −$4, KFA_{PRIV} = −$14.
**BOP Credits, Debits, and the Exchange Rate**

As previously mentioned, BOP accounting provides a framework for sorting the different economic forces that determine exchange rates. One practical feature of the BOP approach is that flows that qualify as credits in a country’s BOP accounts, whether in the CA of KFA, are sources of demand for that country’s currency in the foreign exchange markets. To illustrate this point, consider a country that conducts economic activity with a foreign country with a different currency. All sales of domestic goods, services, factor services, and assets by domestic residents to the residents of the foreign country – i.e., all flows qualifying as credits in the domestic BOP accounts – implicitly require the foreign buyers to first buy the domestic currency in the foreign exchange markets before they can buy the domestic goods, services, factor services, or assets.

Correspondingly, any debit in the domestic country’s BOP accounts is associated with the supply of domestic currency in the foreign exchange markets. This is because any purchase of a foreign good, service, factor service, or asset by a domestic resident from a resident of the foreign country – i.e., what must be a debit in the domestic BOP accounts – implicitly requires the domestic buyer to first sell his or her domestic currency in the foreign exchange markets in exchange for the foreign currency with which to buy the foreign good, service, factor service, or asset.

With this correspondence between BOP credits and debits, and the demand and supply of the domestic currency in the foreign exchange markets established, one can think of the total demand for the domestic country’s currency as the sum of two component demands: the demand for the currency due to CA reasons (i.e., the demand for the domestic currency by foreigners to purchase domestic goods, services, and factor services) plus the demand for KFA reasons (i.e., the demand by foreigners to purchase domestic assets). Figure 1.5 shows how the sum of the two component demands (i.e., \(D_{CA}\) and \(D_{KFA}\)) add up to the total demand (\(D_{TOT}\)). Similarly, the supply of the domestic currency can be imagined to have a CA component (i.e., the supply of the domestic currency provided by domestic residents to purchase foreign currency and, in turn, foreign goods, services, and factor services) and a KFA component (i.e., the supply by domestic residents to purchase foreign assets). Figure 1.6 shows how the two component supplies (\(S_{CA}\) and \(S_{KFA}\)) are added to form the total supply of domestic currency (\(S_{TOT}\)).

Figure 1.7 illustrates the CA components of both the demand and supply of the currency (\(D_{CA}\) and \(S_{CA}\)) as well as the total demand and supply (\(D_{TOT}\) and \(S_{TOT}\)), all on the same diagram. Both KFA components are implicitly represented by the horizontal distance between the CA components and the corresponding totals. Note that the exchange rate is determined by the intersection of the total demand and supply. But, at this prevailing equilibrium exchange rate, the amount of currency supplied for CA purposes (i.e., the CA debits, noted in Figure 1.7 as \(Q_{S_{CA}}\)) is greater than the amount of currency demanded by foreigners for CA purposes (i.e., CA credits, noted in Figure 1.7 as \(Q_{D_{CA}}\)) at the equilibrium exchange rate. Since there are more debits than credits in the CA, this indicates the country has a CA deficit. Of course, given the BOP constraint, this also reveals that the country is running a KFA surplus by the same amount.

As a simple exercise to gain valuable insights into the relationship between the CA, the KFA, and the exchange rate, assume that a country with a CA deficit like the one in Figure 1.7 experiences an increase in its interest rates. The higher domestic interest rates would make domestic assets more desirable to foreign investors, who would increase their demand for the domestic currency to purchase the now more desirable assets. This increase in the \(D_{KFA}\) component of demand for the domestic currency would increase the \(D_{TOT}\), yet the \(D_{CA}\) would not
be affected (see Figure 1.8). The increase in $D_{TOT}$ causes the exchange rate to rise (from $e_1$ to $e_2$), which makes the country’s exports more expensive to foreign customers and causes the number of exports, and the quantity of domestic currency needed to buy the exports, to fall (from $Q^{D_CA}_1$ to $Q^{D_CA}_2$). In other words, the number of credits in the CA fall. The rise in $e$ also causes the quantity of the currency supplied for CA reasons (i.e., imports) to rise (from $Q^{S_CA}_1$ to $Q^{S_CA}_2$), or, the number of debits in the CA rise. With fewer credits and more debits, the country now has a greater CA deficit than it had before the change in interest rates.

This demonstrates how a change or shock that directly affects KFA activity, in this case a change in the interest rate, indirectly influences the CA due to its effect on the exchange rate. This is just one example of a very important point: The BOP constraint assures that shocks to either the CA or KFA necessarily affect both accounts in equal, but opposite directions, and it is often changes in the exchange rate that link the two together.

1.3 The International Investment Position

The KFA measures a flow. More specifically, it measures the flow of assets changing hands across borders over a given stretch of time. It is possible to conceive of a measure that sums together all previous KFA flows up to the present instant. Theoretically, one would add up the value of all the foreign assets that have been acquired by residents (that have each been recorded as debits in some previous KFA), and then subtract the cumulative value of the domestic assets owned by non-residents (that were each credits in a past KFA) to construct what is called the International Investment Position (IIP). The negative of the IIP is referred to as the International Indebtedness Position.

If the total stock of assets outside the country that are owned by domestic residents is greater than the stock of domestic assets owned by non-residents at a given moment, then the country’s IIP is positive by the amount of the difference and the country is considered a net creditor. For example, if the assets owned outside of Japan by Japanese residents summed to a value of 30¥, and the value of the assets owned by non-Japanese residents in Japan was 24¥, then Japan would be a net creditor with an IIP of +6¥. If the stock of foreign assets owned by residents is less than the domestic owned by foreigners, then the country’s IIP<0 and it is a net debtor. It is interesting to note that KFA debits, which denote increases in the ownership of assets by domestic residents, raise the IIP. Similarly, KFA credits reduce the IIP. One helpful way to think of the relationship between the BOP accounts and the IIP is to consider CA surpluses as the means by which the purchase of foreign assets are financed. Thus, CA surpluses, and not KFA surpluses, are associated with increases in the IIP.

Although people attempt to measure countries’ IIP’s, there are complications that make the measures very rough if not unreliable. The existence of inflation and the real appreciation and depreciation of assets across time precludes simply measuring the IIP as the sum of all past CA’s. For example, imagine that an American purchased a Parisian hotel in 1960 for $100,000 (worth of 1960 French francs). Given that the American or his family still own the hotel to this day, it should be accounted for in today’s US IIP. But what is the current value of the asset? When it was purchased for $100,000 in 1960, it was reasonable to record its value at that time as $100,000. But without it’s market price being revealed in the meantime, it would require a professional assessment of the asset’s value to include the asset accurately in a measure of the IIP. Of course, identifying and assessing all the assets held by domestic residents in foreign countries, as well as of all the domestic assets held by foreigners would be enormously
expensive. Therefore, those who estimate the IIP do so using approximations with correspondingly questionable results.

**Noteworthy particulars:**

1) The “monetary authority” (and its activity recorded in the KFA\textsubscript{GOV} account) discussed above is, in most cases, the country’s central bank. One notable exception to this is the United States where it is the US Treasury that is officially empowered to buy or sell foreign currencies in the foreign exchange markets, and not the Federal Reserve Bank of the United States (i.e., the central bank of the US commonly referred to as “the Fed”). However, as will be discussed thoroughly later in this course, the buying and selling of foreign currencies (in exchange for $’s) influences the U.S. money supply. Accordingly, the Treasury would not intervene in the foreign exchange markets without consulting the Fed.

2) Due to the great difficulty in accounting for every transaction between residents of a country and nonresidents, actual measures of the CA and KFA predictable fail to strictly obey the BOP constraint. The difference between the recorded CA and the negative of the measured KFA is labeled the BOP’s **statistical discrepancy**.

3) There are two categories of financial account activity that are recorded in the KFA\textsubscript{LP}. The first is referred to as **foreign direct investment** (FDI) and attempts to indicate when the share of the asset changing hands is sufficient to provide some managerial control over the asset. Alternatively, there is **portfolio investment** in which too small of share of the asset changes hands to permit new management of the asset. For example, the purchase of a few shares of Microsoft stock by a resident of France from an American would not give the French investor influence over Microsoft’s business practices and would, therefore, be classified as portfolio investment. The two types of financial account activity are generally distinguished (crudely) by whether the share of the enterprise purchased amounts to 10% or more of its ownership: If 10% or more of the asset exchanges hands, it is officially recorded as FDI. New ownership of less than 10% is considered portfolio investment.

4) Activity in the KFA\textsubscript{PRIV} reflecting the intended acquisition or divestiture of a particular country’s assets are commonly referred to as **capital flows**, where the purchasing of domestic assets (financed by the sale of foreign assets) is called **capital inflow**, and the purchasing of foreign assets (financed by the sale of domestic assets) constitutes **capital outflow**.
Key Terms

Balance of Payments Accounts
Balance of Payments Constraint
Basic Balance
The “BOP”
BOP Credit
BOP Debit
Capital flows
  Capital inflow
  Capital outflow
Current Account (CA)
Double Entry Bookkeeping
Factor Services
Federal Reserve Bank of the United States
  ("the Fed")
Capital and Financial Account (KFA)
Foreign Direct Investment (FDI)

Foreign Exchange Markets
International Indebtedness Position
International Investment Position (IIP)
Key Balances
(Merchandise) Trade Balance
Net Creditor Nation
Net Debtor Nation
Nonfactor Services
Official Reserves Transactions Balance (ORTB)
Official Settlements Balance (OSB)
Overall Balance
Portfolio Investment
Private Capital and Financial Account
Statistical Discrepancy
### TABLE 1.1

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