I. Balance of Payments Accounts
   a. Definition – the records of international trading and international lending and borrowing
   b. 3 balance of payments accounts:
      i. Current account – records receipts from the sale of goods and services to other countries (exports) minus payments for goods and services bought from other countries (imports), plus the net amount of interest and transfers received from and paid to other countries
      iii. Official settlements accounts – records the change in official reserves (or the amount of foreign currency held by the US govt).
   c. The sum of the balances on the three accounts must always equal zero
      i. Ex: to pay for a current account deficit, we must either borrow more from abroad than we lend abroad or use official reserves to cover the shortfall

II. Current Account Balance
   a. What determines a country’s current account balance and net foreign borrowing?
      i. Exports of goods and services (X)
      ii. Imports of goods and services (M)
      iii. Exports minus imports equal net exports (Xn)
      iv. Current Account Balance (CAB) = Xn + Net interest and transfers from abroad
         1. Net interest and transfers from abroad are small and do not fluctuate much
   b. Net Exports
      i. If a country exports more than it imports there is a trade surplus in the current account (it can be a net lender or creditor nation)
      ii. If a country imports more than it exports there is a trade deficit in the current account (it is a net borrower or debtor nation)

III. Financial (a.k.a. Capital) Account Balance
   a. Summarizes international asset transactions having to do with international purchases and sales of assets
   b. Any purchase of an American-owned asset by a foreigner generates a flow of money toward the American who sells the asset (a “positive” sign)
   c. Any purchase of a foreign-owned asset by an American generates a flow of money toward the foreigner who sells the asset (a “negative” sign)

IV. The Balance of Payments
   a. The balance on the current account and the balance on the financial account must always sum to zero because any deficit or surplus in the current account automatically creates an offsetting entry in the financial account

V. Balance of Payments Worksheet

VI. Exchange Rates
   a. Foreign exchange market – the market in which the currency of one country is exchanged for the currency of another
b. Foreign exchange rate – the price at which one currency exchanges for another
   i. Ex: $1 = 100 yen

c. Currency depreciation – is the fall in the value of one currency in terms of another currency
   i. Ex: $1 = 100 yen, then $1 = 80 yen, dollar has depreciated by 20%

d. Currency appreciation – is the rise in the value of one currency in terms of another currency
   i. Ex $1 = 100 yen, then $1 = $120 yen, dollar has appreciated by 20%
e. Currency fluctuations – occur on a daily basis and are based on market forces and gov’t intervention (e.g. fiscal and monetary policy)

VII. Demand in the Foreign Exchange Market
a. Demand for foreign currency depends on:
   i. The exchange rate
   ii. Interest rates in the US and other countries
   iii. The expected future exchange rate

b. The Law of Demand for Foreign Exchange
   i. Derived demand – to buy US exports and US assets
   ii. The higher the exchange rate, the smaller is the quantity of dollars demanded (an inverse relationship between the dollar and another currency)
   iii. Exports effect
       1. The larger the value of US exports, the larger is the qty. of dollars demanded.
       2. The lower the exchange rate the cheaper US exports are – demand for US dollars increases

   iv. Expected Profit Effect
       1. The larger the expected profit from holding dollars, the greater is the quantity of dollars demanded in the foreign exchange market
       2. The lower the exchange rate, the larger is the expected profit from holding dollars – demand for US dollars increases

c. Changes in the demand for dollars
   i. Interest rates
       1. US interest rate differential – the gap between US interest rates and the interest rates in another country
       2. The larger the US interest rate differential, the greater is the demand for US assets and the greater is the demand for dollars

   ii. Expected Future Exchange Rate
       1. The higher the expected future exchange rate, the greater is the expected profit and the greater the demand for dollars

VIII. Supply in the Foreign Exchange Market
a. Same factors change supply as demand but in the opposite way

b. Imports Effect
   i. The larger the value of US imports, the larger is the quantity of foreign currency demanded to pay for these imports
   ii. The higher the exchange rate the cheaper foreign imports are – supply of US dollars on the foreign exchange market rises

c. Expected Profit Effect
i. The larger the expected profit from holding a foreign currency, the greater is the quantity of that currency demanded and the greater is the quantity of dollars supplied in the foreign exchange market.

ii. The higher the exchange rate, the larger is the expected profit from selling dollars and the greater is the quantity of dollars supplied.

d. Changes in the supply of dollars
i. Interest rates in the US and other Countries
   1. The larger the US interest rate differential, the smaller is the demand for foreign assets and the smaller is the supply of dollars in the foreign exchange market.

ii. The expected future exchange rate
   1. The higher the expected future exchange rate, the smaller is the supply of dollars.
   2. The higher the expected future exchange rate, the smaller is the expected profit from selling US dollars, the smaller is the supply of dollars today.

e. Determinants of Exchange Rates
i. Changes in tastes

ii. Relative income changes
   1. A nation’s currency is likely to depreciate if its growth of national income is more rapid than that of other countries.
      a. Imports vary directly with its income level – as income increases, the amount of goods (foreign and domestic) purchased increases.
      b. If income rises in the USA faster than in Japan, the demand for yen by US consumers increases.
      c. The dollar price of yen will rise, so the dollar depreciates.

iii. Relative price level changes
   1. Purchasing power parity theory
      a. Exchange rates equate the purchasing power of various currencies.
         i. There is an equal value of money in each country.
         ii. The exchange rates among national currencies adjust to match the ratios of the nations’ price levels.
      iii. Ex: Exchange rate is US$1 = Canadian $1.25, Big Mac costs US$4 in New York, but in Toronto it is C$4. What is the value of money in each country in terms of the cost of Big Macs?
         1. NY = US $4
         2. Toronto = US$3.20
         3. Money buys more in Canada.
   iv. Market forces will, in the long run, return purchasing power parity back to equilibrium.
      1. Ex: Using the Big Mac example – US consumers will want to buy the cheaper Canadian goods. The US dollar exchange rate falls due to increase in the supply of US dollars and the decrease in the demand for US dollars.
2. Purchasing power parity is restored at $1 to $1

iv. Relative Interest Rates

1. Changes in relative interest rates between two countries may alter their exchange rate.
   a. Ex: Interest rates rise in the US but stay constant in India
      i. Indian citizens will then find the US a more attractive place to invest money (directly or by buying bonds)
      ii. To make these investments they will supply rupees to obtain dollars. The increase in the supply of rupees results in the depreciation of rupees and an appreciation of the dollar

2. Interest rate parity
   a. Exchange rate expectations cause people to account for appreciation or depreciation of a currency to determine changes in real interest rate
   b. Interest rate – depreciation/appreciation of currency = real interest rate change

3. Complete Foreign Exchange Worksheet

IX. Monetary Effects of the Forex Market
   a. Inflows and outflows of currency affect the loanable funds market
      i. Outflow of US $ means a contraction of the loanable funds market
   b. A rise in interest rates in the US investment market would cause an appreciation of the US Dollar in relation to other currencies due to the higher demand for US dollars by foreign investors.

X. Linking Capital Investment to Foreign Exchange
   a. Remember that bond prices are inversely related to interest rates
   b. If interest rates in the US go down, then bond prices are more expensive to buyers of US bonds
   c. Since bonds are the primary tool for govt’s and businesses to attract foreign investment then the rise or fall of bond prices will cause a subsequent change in the demand for US dollars.
      i. If bond prices are too expensive (since interest rates are low) then foreign investors will demand less dollars
      ii. If bond prices are cheap (since interest rates are high) then foreign investors will demand more dollars.