

International Finance

Lecture outline

1. Mechanics of foreign exchange
 - a. The FOREX market
 - b. Exchange rates
 - c. Exchange rate determination
2. Basic types of exchange rate regimes
 - a. Flexible (or floating) exchange rate
 - b. Fixed (or pegged) exchange rate
3. Balance of Payments adjustment
 - a. Under a flexible rate regime
 - b. Under a fixed rate regime

1. Mechanics of Foreign Exchange

- Just as people in different countries speak different languages, they also transact business in different monies (\$, €, ¥, or £), requiring conversion from one type of money to another whenever business crosses int'l borders.
- *Foreign exchange* is what we call the currency of another country that is needed to carry out international transactions.
- The market where currencies are exchanged is called the *foreign exchange (FOREX) market*.

1a. The FOREX Market

- FOREX market is not a physical place but a network of telephones, emails and faxes connecting all the large banks (Citibank, Chase Manhattan, B of A) in the world
- Operates 24 hours a day because major banks have offices all over the world. Biggest markets are in London, New York and Tokyo.
- Volumes traded daily are HUGE: *\$1.5 trillion per day* (100 times greater than volume of trade).

1b. Exchange rates

- Price determined in the FOREX market is the *exchange rate*.
- The *exchange rate* is the price of one currency measured in terms of another.
- When a currency becomes more valuable relative to another currency it has *appreciated*. The price of foreign exchange has fallen (e.g. one \$US buys ¥120 instead of ¥110 previously).
- When a currency becomes less valuable relative to another currency, it has *depreciated*. The price of foreign exchange has risen (e.g., \$US buys ¥100 yen instead of ¥110 previously).

Snapshot of Exchange Rates

World Currencies | Spot Prices | International Currency Rates | Money Rates

World Currencies Summary						12Sep2001
Currency	USD	GBP	EUR	JPY	DEM	
USD	-	0.68339	1.10415	119.45097	2.15953	
GBP	1.46330	-	1.61570	174.79257	3.16003	
EUR	0.90568	0.61893	-	108.18384	1.95583	
JPY	0.00837	0.00572	0.00924	-	0.01808	
DEM	0.46306	0.31645	0.51129	55.31351	-	

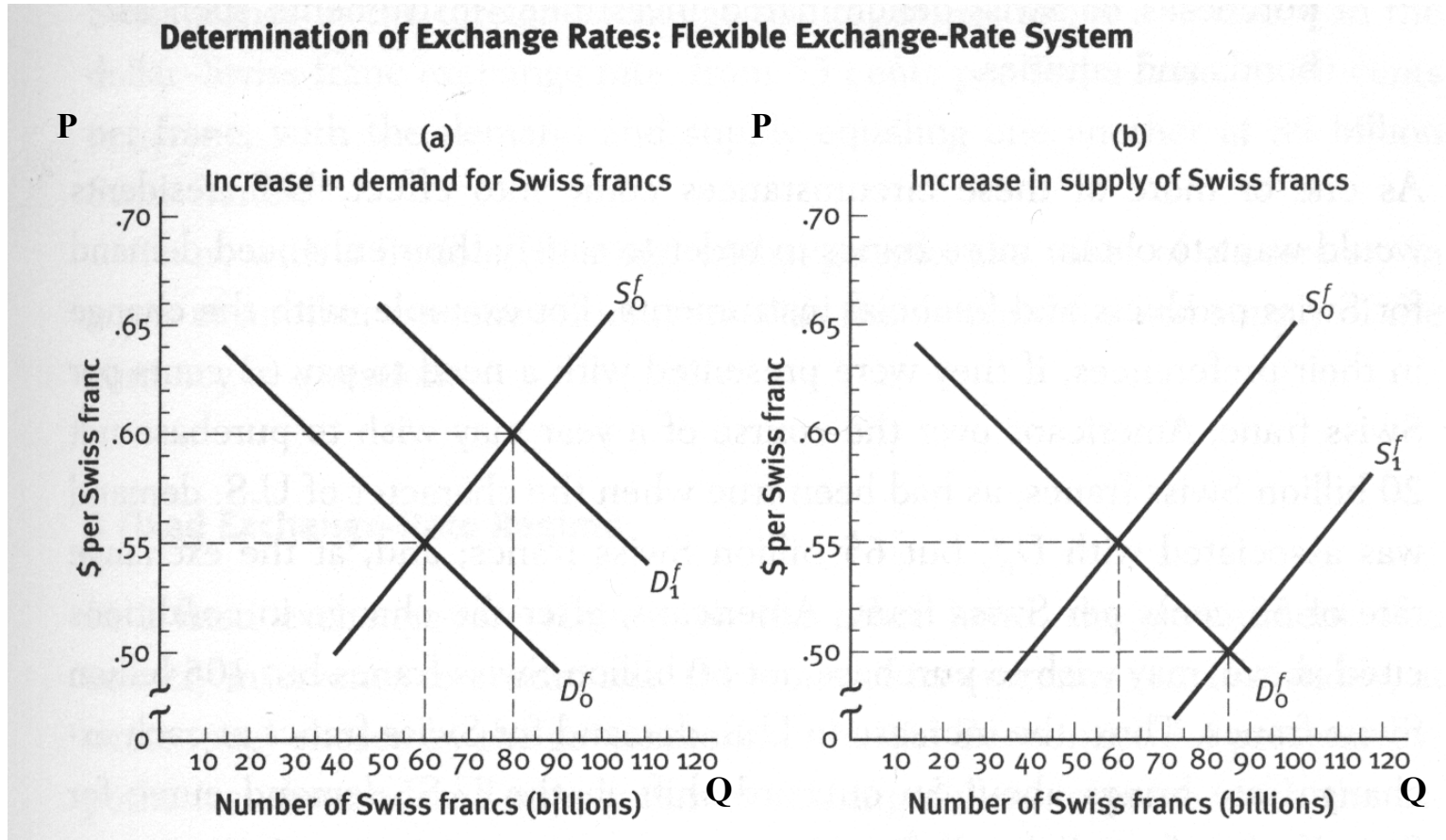
Source: "Currencies Home" section of the *Financial Times* Web site, available at mwprices.ft.com/custom/ft-com/html-currency-summary.asp.

On 9/12/01, the price of £ = \$1.46; € = \$.91; etc

1c. Exchange rate determination

- Exchange rates are determined by the equilibrating interaction of buyers and sellers of currencies in the FOREX market: *demand and supply* determine exchange rates
 - *Demand* for a currency represents foreign residents' need for that currency to consummate intended transactions (to buy its goods or financial assets).
 - *Supply* of a currency is a function of domestic residents' need for foreign exchange to consummate transactions with a foreign country.

Figure 1: Exchange rate determination



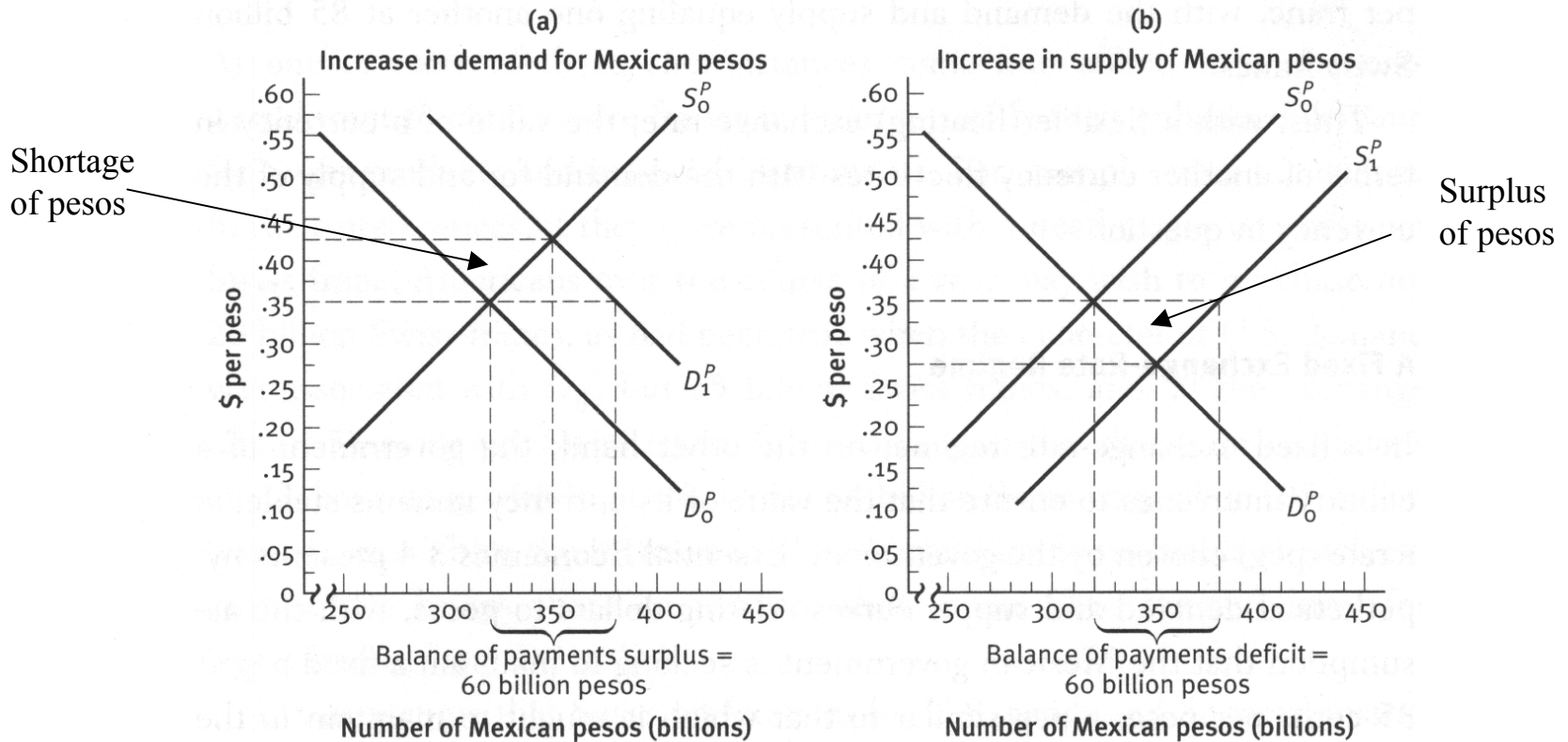
What causes shifts in demand and supply?

- Changes in relative returns on financial assets (e.g. Swiss bonds earn more than U.S. bonds)
- Changes in tastes for goods (e.g. Americans want more Swiss products)
- Changes in relative national incomes (e.g. US incomes rise, causing an increasing in demand for Swiss goods)
- On Figure 1, these changes show up as an outward shift in the demand curve.
- With supply of Swiss francs fixed, the value of the franc has to increase (the franc appreciates).
- Same process works to explain shifts in supply.

2. Types of exchange rate regimes

- Nations can choose to let market forces determine exchange rates (as above). This is known as a *flexible exchange rate regime*.
- Alternatively, a nation can choose to adopt a *fixed exchange rate regime*. Here, a government sets the price of its currency in the FOREX market and pledges to do everything it can to maintain that price (e.g. Mexico “pegs” the peso to the dollar at a rate of 3 pesos to 1\$US)
- How does the government maintain this price in the face of changes in demand and supply?
 - Intervention in the FOREX market
 - Macroeconomic policy changes (monetary and fiscal policy).

Figure 2: A Fixed Exchange Rate Regime



U.S. demand for pesos increases (outward shift in D). At the official fixed rate of .35 cents, the peso is undervalued. Black market will develop unless the govt intervenes by supplying 60B pesos, e.g. buys US treasury bonds and holds them in NY Fed (these are known as foreign exchange *reserves*)

Mexicans want more US goods/assets so supply of pesos increases (outward shift in S). At the official fixed rate of .35 cents, the peso is overvalued. Black market will develop unless the govt intervenes by buying 60B pesos with reserves of dollars. Problems arise when Mexico runs out of reserves.

3. Balance of Payments Adjustment

- The BOP is the sum accounting of a nation's transactions with the rest of the world (see text for details).
- Occasionally, nations run imbalances and must therefore adjust.
- The adjustment process operates differently for flexible and fixed exchange rate regimes

3a. BOP adjustment: flexible regimes

- Adjustment requires no govt action. Consider two cases in Figure 1.
1. BOP Surplus (left panel)
 - Currency appreciates, which reduces foreign demand for Swiss goods and services. Appreciation also increases imports from the US. Both the decline in exports and the increase in imports cause the current account surplus to fall
 - Appreciation of the franc also makes US financial assets ‘cheaper’ to Swiss residents, leading to an outflow of capital to the US. This causes the capital account surplus to shrink
 - These current and capital account developments help eliminate the BOP surplus.

3a. BOP adjustment: flexible-rate regimes

2. BOP Deficit (right panel in Figure 1)

- Deficit caused by excess Swiss purchases of foreign goods and excess investments in foreign assets.
- Adjustment works through the exchange rate: The franc depreciates, which increases foreign demand for Swiss goods and services. Depreciation also reduces imports from abroad. Both the increase in exports and the fall in imports helps improve the current account.
- Depreciation also makes Swiss financial assets cheaper to U.S. residents, leading to an inflow of capital. This helps the capital account.
- These current and capital account developments help eliminate the BOP deficit.

3b. BOP adjustment: fixed-rate regimes

- Requires heavy govt involvement and BOP deficits are much more troublesome than BOP surpluses
1. BOP surplus (left panel in Figure 2)
 - Govt simply sells pesos, which it can print freely, and then “sterilizes” to prevent domestic inflation. Sterilization means that the central bank sells govt bonds to mop up the excess local currency.

3b. BOP adjustment: fixed-rate regimes

1. BOP deficit (right panel in Figure 2)

- Govt must use its foreign exchange reserves to buy up the local currency. Problem: foreign reserves are exhaustible.
- When this happens, govt can try to use monetary policy to increase demand for its currency: raise domestic interest rates to keep and attract capital inflows
- But high interest rates have damaging effects: chokes off investment and can cause problems in banking system
- Furthermore, expectation of devaluation can be “self-fulfilling (Soros example)