Learning Objectives

- To analyze and discuss the **currency regime choices** faced by countries
- To compare **fixed and flexible** exchange rate systems
- To examine **undervalued and overvalued** exchange rates and their consequences
- To explain different **measures and uses** of exchange rates

1. Exchange Rate Regimes

Flexible exchange rate system – the demand and supply of market participants determine the currency value.

Fixed exchange rate system – monetary authorities operate an administered system to determine the currency value

1.1 Fixed exchange rate system

Currency Board

- Sets the exchange rate at a fixed rate which is then kept stable by the board using **official reserves of foreign currencies**
- Domestic money supply must be backed 100% by foreign reserves.
- **Examples**: Argentina 1991 – 2002: A/peso tied to the US $ at rate of Peso1 = US $ 1

Narrow band

- Currency tied to an anchor (such as the US$) with **a small margin** of variation around the parity value permitted
- Includes ‘crawling peg’ arrangements
- Examples: Bretton Woods System 1945-1971, Currencies tied to the US dollar or UK pound sterling.

1.2 Flexible exchange rate system

Managed Float

- Monetary authorities **actively intervene** to influence the exchange rate without announcing a particular value for the currency

- e.g. China, Indonesia, India, Thailand

Independent Floating

- The exchange rate is **determined by the market** with minimal interference by monetary authorities. Any intervention aims to prevent undue volatility.
- e.g. Australia, New Zealand, UK, USA

1.3 Fixed Versus Flexible?

Disadvantages of fixed exchange rate systems:

- Fixed rates require large holdings of **official reserve assets**;
- Fixed rates **limit the role of monetary policy** in achieving internal balance;
- Fixed rates may be maintained at levels **inconsistent with economic fundamentals**.

Advantages of fixed exchange rate systems:

- Fixed rates provide greater **stability for international prices**;
- Stable exchange rates **aid growth** in international trade and investment and **lessen risks** for international business.

Practice (PRACTICE QUESTIONS SET 1): What are the key advantages and disadvantages of the fixed exchange rate system?

3. Calculating exchange rate changes

Direct Quotes:

$$\%\Delta = \left[\frac{R_2}{R_1} - 1\right] \times 100$$

Where $R_2 =$ end rate and $R_1 =$ beginning rate.

Indirect Quotes:

$$\%\Delta = \left[\frac{R_1}{R_2} - 1\right] \times 100$$

Practice (Semester 2 -- Mid, 2020)

Part C

Assume that you are in Germany. The current spot exchange rate of the Euro (EUR) against the US dollar (USD) is 0.8426 EUR per USD (EUR/USD). Suppose that the spot exchange rate is 0.8730 EUR/USD tomorrow. Has the **USD** appreciated or depreciated against the EUR? Calculate the **percentage change** in the **USD**. Show your working clearly and completely.

[10 marks]

PART C

PERCENTAGE CHANGE IN USD

$$= \left[\frac{0.8730}{0.8426} - 1\right] \times 100\%$$

$$= 3.60788037\%$$

$$\approx \boxed{3.61\%}$$

$$\boxed{\text{APPRECIATION}}$$

Practice (Semester 1 -- Mid, 2021) Part C: Assume that you are in **Germany**. The current spot exchange rate of the Euro (EUR) against the US dollar (USD) is 0.8426 EUR per USD (EUR/USD). Suppose that the spot exchange rate is 0.8730 EUR/USD tomorrow. Has the **EUR** appreciated or depreciated against the USD? Calculate the percentage change in the EUR. Show your working clearly and completely. [10 marks]

Solution: Percentage change of the EUR = (0.8426/0.8730 – 1) x 100% = -3.482245132% = -3.48% (depreciation)

4. Impact of currency depreciation

Impact on imports and exports:

- Export prices fall in foreign currency terms
- Import prices rise in domestic currency terms
- Over time lower export prices increase demand for exports and higher import prices reduce demand for imports
- International competitiveness improves

Exchange rate pass-through: The degree to which the prices of imported and exported goods change as a result of exchange rate changes is termed pass-through.

Practice (Semester 1 -- Mid, 2021) Assume that you are a Singaporean importer of top-grade Australian Manuka Honey. Initially, the original price of top-grade Australian Manuka Honey exported to Singapore is 8000 Australian dollars (AUD) per tonne and the original exchange rate is 1.20 Singapore dollars (SGD) per AUD. If the SGD subsequently appreciates 20% and you adjust the price of top-grade Australian Manuka Honey in SGD to reflect a 75% exchange rate pass-through, what is the new price of top-grade Australian Manuka Honey in SGD? Explain and show your working clearly and completely.

Solution:

Original SGD price = SGD 8000 x 1.2 = SGD 9600

Let new exchange rate be SGD/AUD R2.

1.2/R2 – 1 = 0.20 → R2 = 1

If 100% exchange-rate pass through → SGD price = SGD 8000 x R2 = SGD 8000 x 1 = SGD 8000

Magnitude of decrease in price if 100% pass through = SGD (9600 – 8000) = SGD 1600

Decrease in price if 75% exchange-rate pass through = 0.75 x SGD 1600 = SGD 1200

So, new SGD price of Australian Manuka Honey = SGD (9600 – 1200) = SGD 8400

Impact on loans and investments:

- For borrowers:

    - Existing foreign debt is more expensive to repay for Australian borrowers
    - If raising new debt, choose currencies expected to depreciate against the A$ since overseas debt is cheaper to repay
- For investors:
    - Existing foreign assets have gone up in value
    - If choosing new assets, select currencies expected to appreciate against the A$ since overseas assets increase in value

Impact on production decisions:

- The Aussie dollar depreciation makes it relatively cheaper to produce in Australia and to use Australian inputs