Financial Institutions and System

Week 11: The Foreign Exchange Market.
The International Financial System.

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Agenda

1. The Foreign Exchange Market

2. The International Financial System

3. Class Activity

1. The Foreign Exchange Market

Introduction

Welcome to the Foreign Exchange Market!

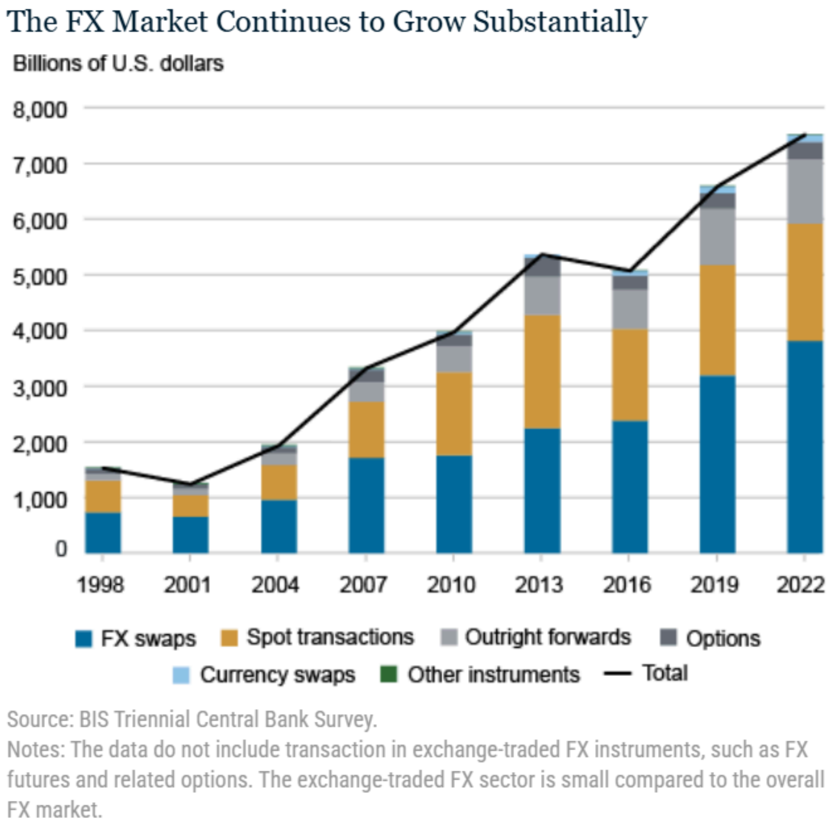
- How does the exchange rate affect international trade?
- What determines exchange rates in the long run and short run?
- What role do interest rates play in exchange rate movements?

Definition and Importance

What is the Foreign Exchange Market?

- A market where different currencies are traded.
- Composed of banks, corporations, governments, and traders.
- Major transactions include:
  - Spot transactions: Immediate exchange of currencies.
  - Forward transactions: Agreement to exchange currencies at a future date.
- Facilitates international trade and investment by allowing for currency exchange.
- Influences import/export prices, financial flows, and investment decisions.
- Affects inflation, interest rates, and economic growth.

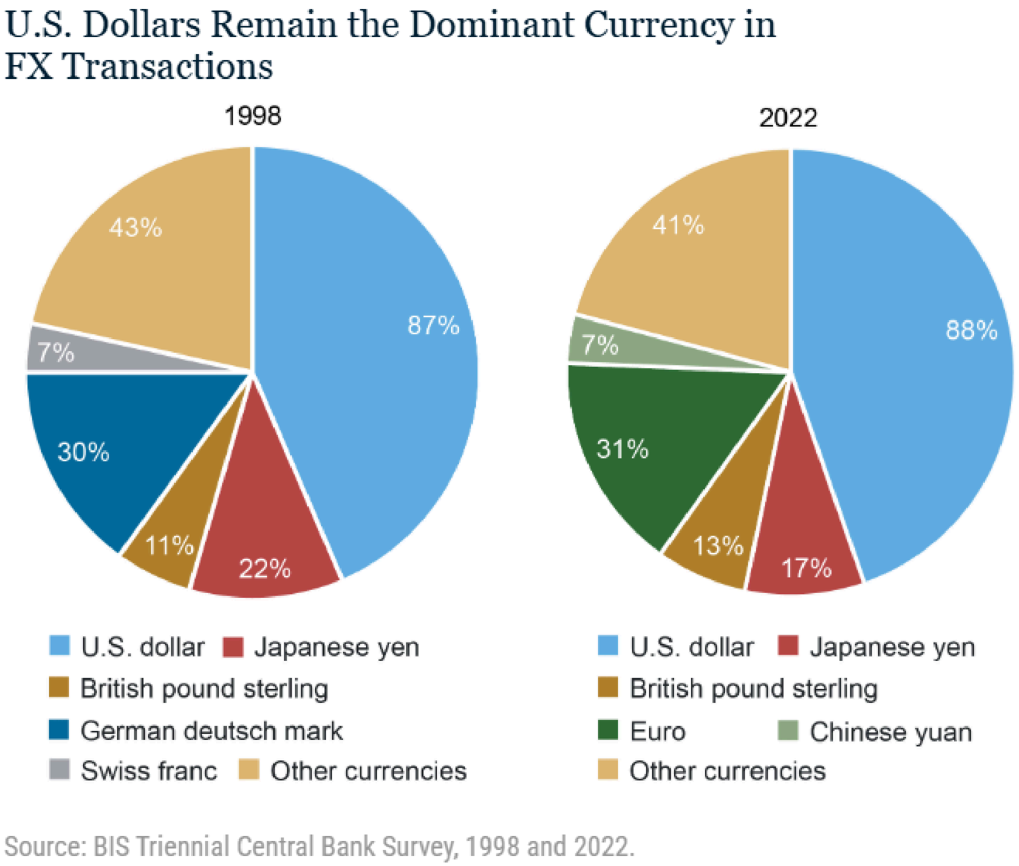
Size and composition of the FX Market



- Average daily turnover increased from \$1.5 to \$7.5 trillion between 1998 and 2022, with the increase occurring across both FX spot and FX derivatives. link

Source: Liberty Street Economics

USD dominance in the FX Market



- The U.S. dollar (USD) is the most traded currency, accounting for 88% of all FX transactions. link

Source: Liberty Street Economics

UK and US dominance in the FX Market

The U.S. and U.K. Continue to Dominate FX Trading

1998		2022	
United Kingdom	32.6	United Kingdom	38.1
United States	18.2	United States	19.4
Japan	7.0	Singapore	9.4
Singapore	6.9	Hong Kong	7.0
Germany	4.7	Japan	4.4

Source: BIS Triennial Central Bank Survey.
Note: Percent of total trading volume.

- The UK and US are the two largest FX trading centers, accounting for 38% and 19% of global FX turnover, respectively. link link Source: Liberty Street Economics

Participants in the FX Market

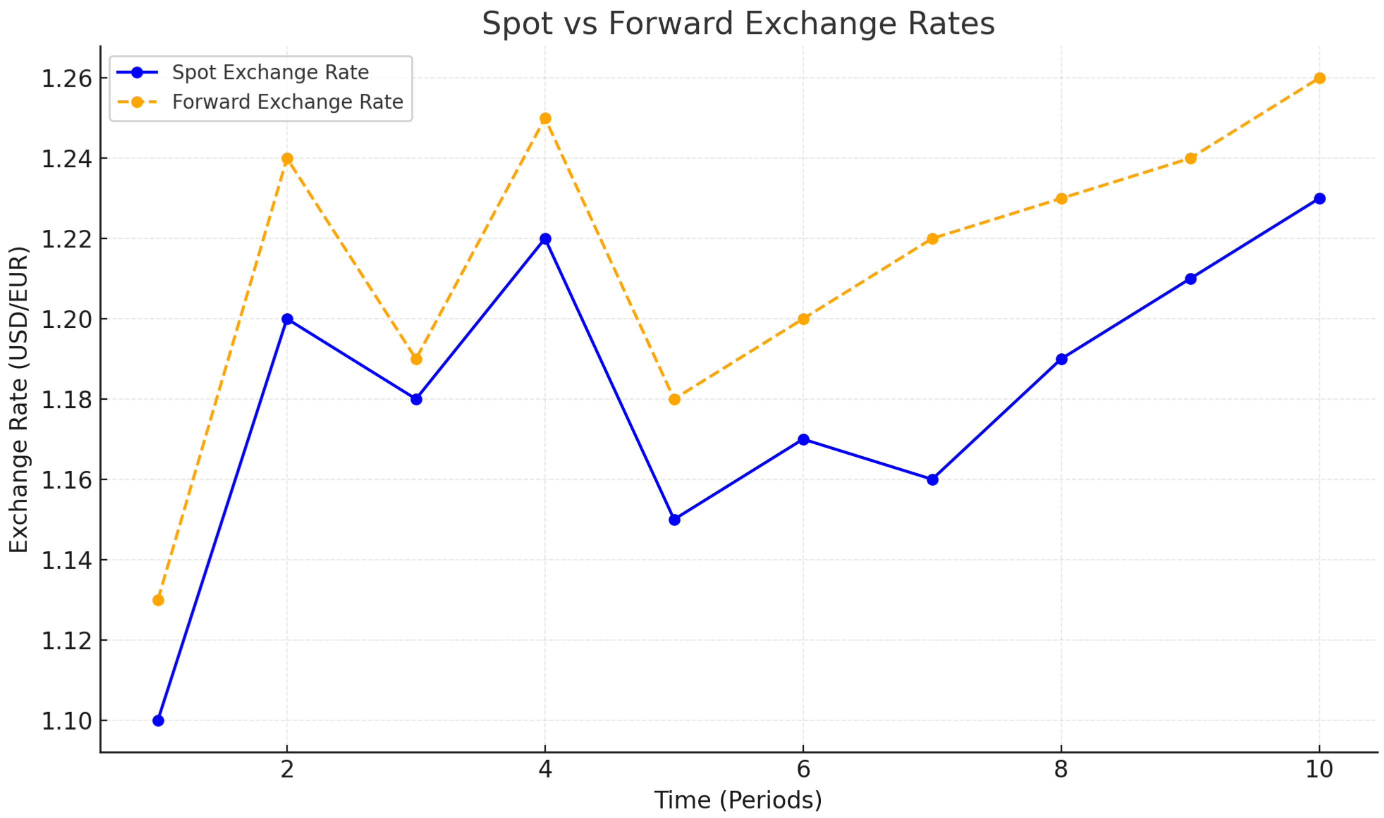
- Retail Traders
- Commercial Banks
- Central Banks
- Corporations
- Governments
- Investment Banks
- Hedge Funds

Who benefits the most and why?

Key Terminologies

- **Exchange Rate (E):** The price of one currency in terms of another.
- **Spot Exchange Rate:** Rate for immediate exchange.
- **Forward Exchange Rate:** Rate for future exchange.
- **Effective Exchange Rate Index:** Weighted average of exchange rates with major trading partners.

Spot vs. Forward Exchange Rates



- The dynamic of the spot and forward exchange rates is determined by the interest rate differential between the two currencies involved in the transaction.

Types of FX Transactions

- **Spot Transactions:** Immediate exchange of currencies at the current rate.
- **Forward Transactions:** Agreement to exchange currencies at a future date.
- **Swaps:** Exchange of currencies and interest rates between two parties.
- **Options:** Contracts granting the right to buy/sell at a specific rate.

Why might a firm prefer a forward over a spot transaction?

Real vs. Nominal Exchange Rates

Nominal Exchange Rate (E): The price of one currency in terms of another.

Real Exchange Rate (Er): Adjusts the nominal rate for price level differences.

$$E_r = \frac{E \times P_{HC}}{P_{ROW}}$$

Where:

- E = Nominal Exchange Rate
- P_{HC} = Price level in Home Country
- P_{ROW} = Price level in Rest of the World

Example: Real Exchange Rate Calculation

- HC: USA, ROW: Japan
- Exchange Rate (E): 1.5 yen/USD
- Price of U.S. wheat: 2 USD per bushel
- Price of Japanese wheat: 4 yen per bushel

$$E_r = \frac{1.5 \times 2}{4} = 0.75$$

Interpretation: 1 bushel of U.S. wheat costs 0.75 bushels of Japanese wheat.

Purchasing Power Parity (PPP)

- PPP states that identical goods should cost the same in different countries when expressed in a common currency.

$$E \times P = P_{ROW}$$

Example: Big Mac Index

- If a Big Mac costs $5 in the USA and 500 yen in Japan, the implied PPP exchange rate is 500 / 5 = 100 yen/USD.

Interest Rate Parity (IRP)

- **Interest Parity:** The relationship between interest rates and exchange rates.
- IRP states that the difference in interest rates between two countries is equal to the expected change in exchange rates.
- It ensures that arbitrage opportunities are eliminated.
- IRP connects exchange rates and interest rates across countries.

$$i_{HC} - i_{ROW} = \frac{E(T+1) - E(T)}{E(T)}$$

- If domestic interest rates rise, the currency is expected to appreciate.

Wrap-Up and Discussion

- What determines exchange rates in the short run and long run?
- How do interest rates and inflation impact exchange rates?
- How can businesses hedge against exchange rate risks?

Closing and Q&A

- Key Takeaways:
  - FX markets are essential for global trade and investment.
  - Exchange rates are influenced by interest rates, inflation, and market expectations.
  - PPP and interest parity provide frameworks but have limitations.

Questions?

2. The International Financial System

Introduction to the International Financial System

- Overview of National Income and Product Accounting in an Open Economy
- Understanding the Balance of Payments
- Role of the International Monetary Fund (IMF)

National Income and Product Accounting for an Open Economy

- Distinguish between GNP and GDP:
  - **GNP**: Total value of final goods/services produced using HC-owned factors of production.
  - **GDP**: Total value of final goods/services produced within the borders of the HC.
- Key Formula:

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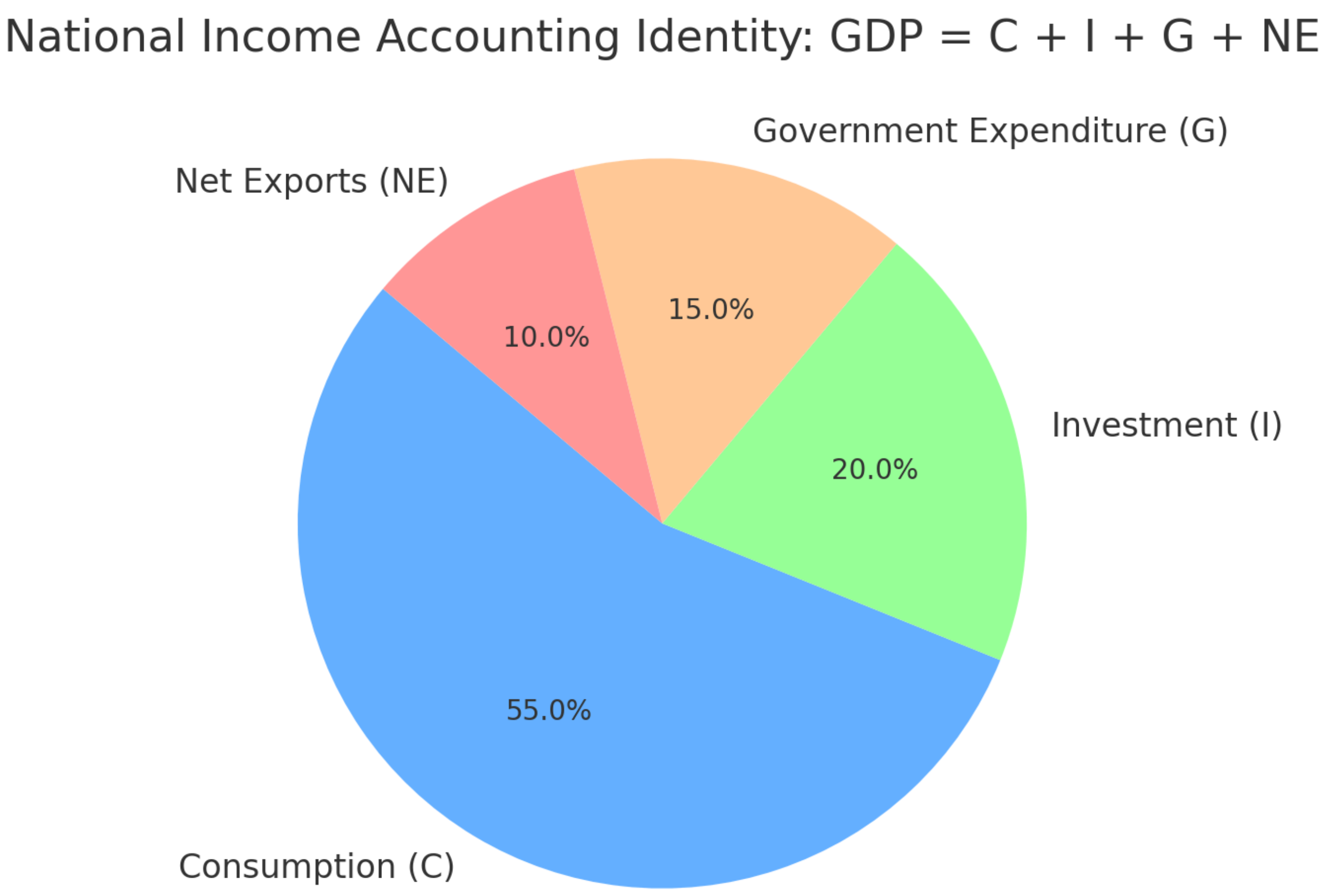
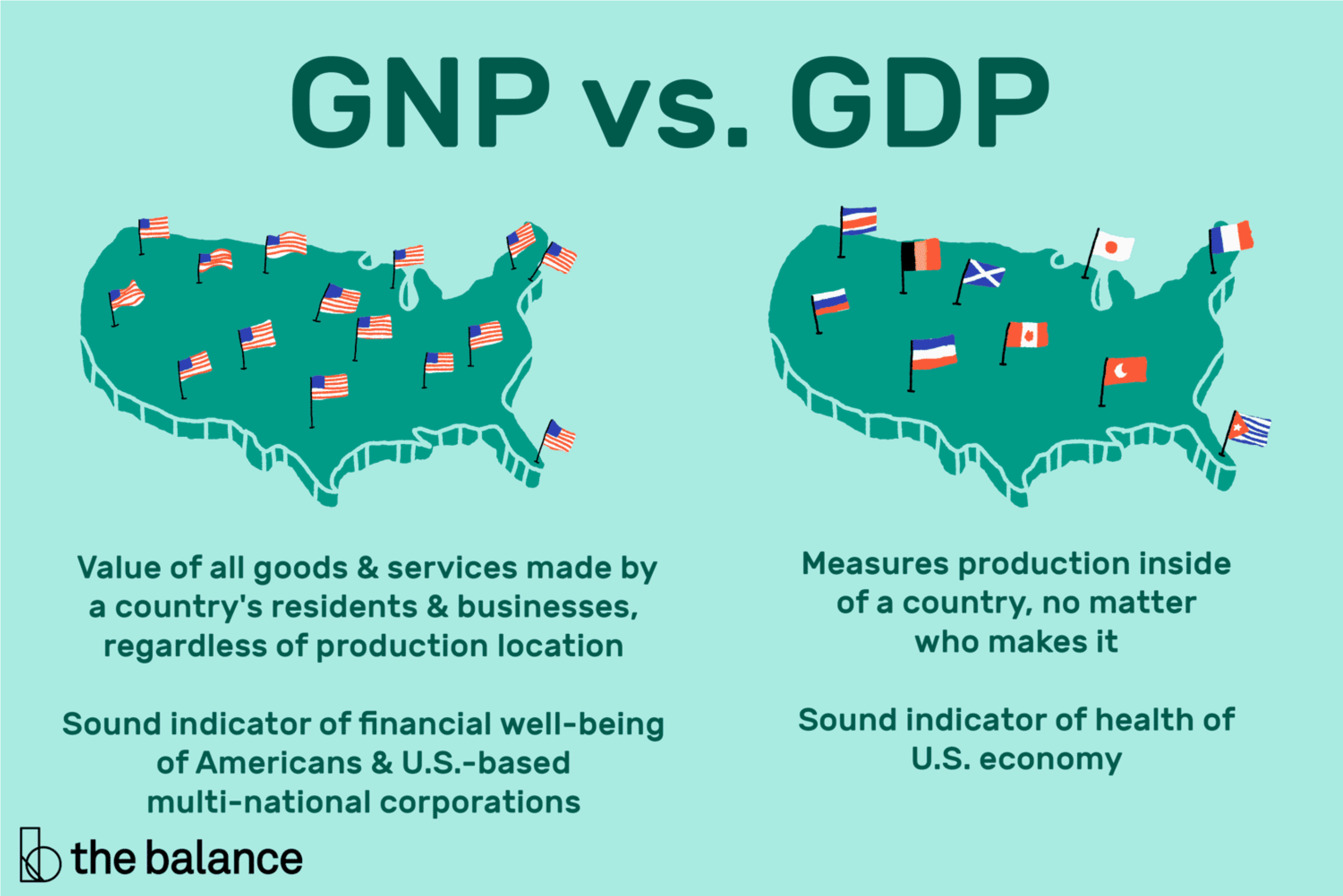
GNP(T) = GDP(T) + NFP(T)
```

  - **NFP(T)**: Net factor payments from ROW to HC.


National Income Accounting Identity: GDP = C + I + G + NE
Government Expenditure (G)
Net Exports (NE)
15.0%
10.0%
Investment (I)
20.0%
55.0%
Consumption (C)



Link Source: the balance

National Income Accounting Identity

- National Income Accounting Identity:

```
GDP(T) = C(T) + I(T) + G(T) + NE(T)
```

- Key Terms:
  - **C(T)**: Consumption Expenditure
  - **I(T)**: Investment Expenditure
  - **G(T)**: Government Expenditure
  - **NE(T)**: Net Exports (EX - IM)

Example of GNP and GDP Calculation

- Suppose a country produces:
  - $100 million worth of goods/services domestically (GDP)
  - $20 million received as income from abroad
  - $10 million paid to foreign factors
- GNP Calculation:

```
GNP = 100 + (20 - 10) = 110 million
```

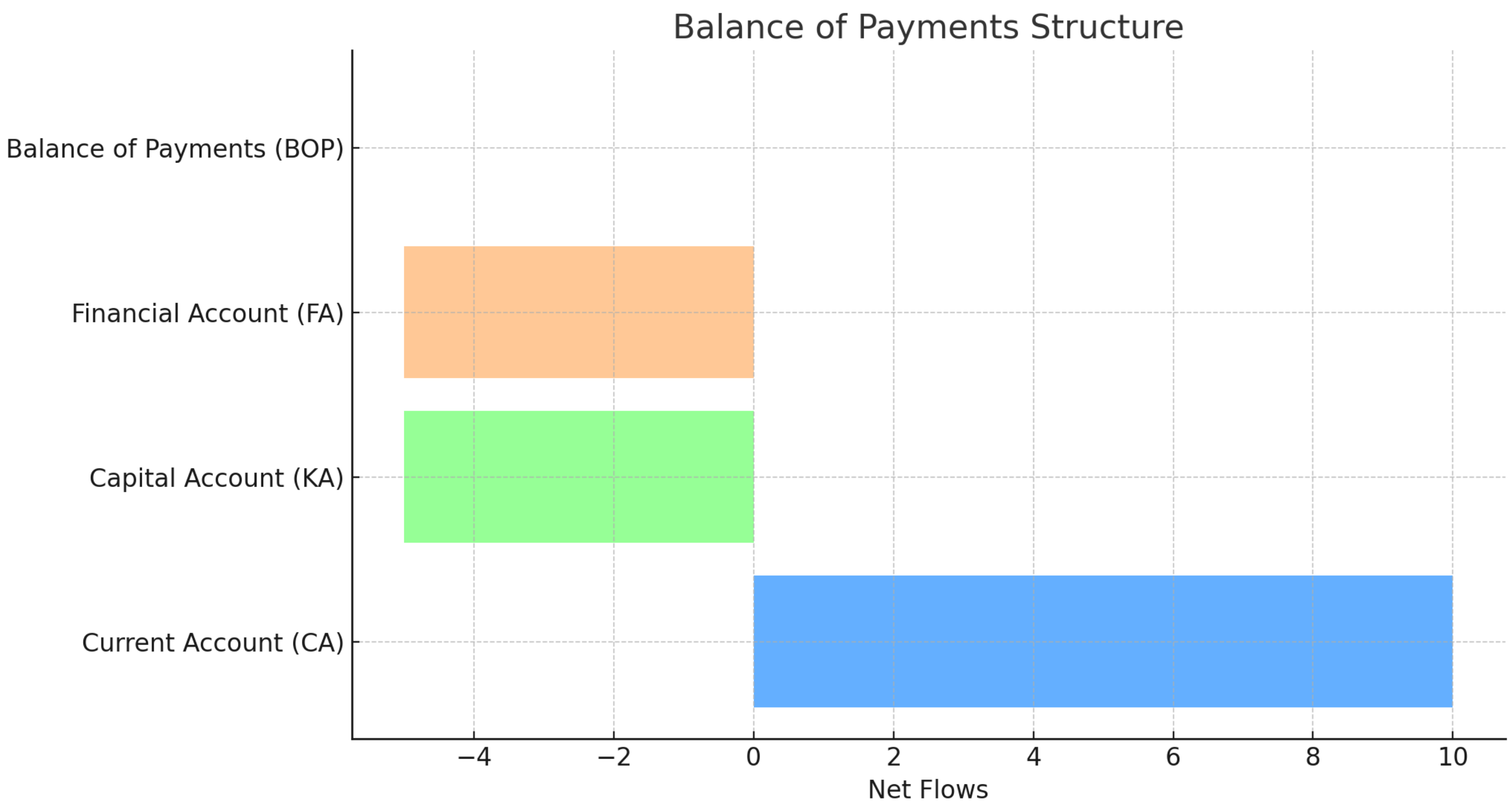
Balance of Payments: Definition and Structure

- BOP Accounts:

  1. Current Account (CA): Net exports, factor income, transfers
  2. Capital and Financial Account (KFA): Asset transfers and financial transactions
  3. Official Reserve Transactions

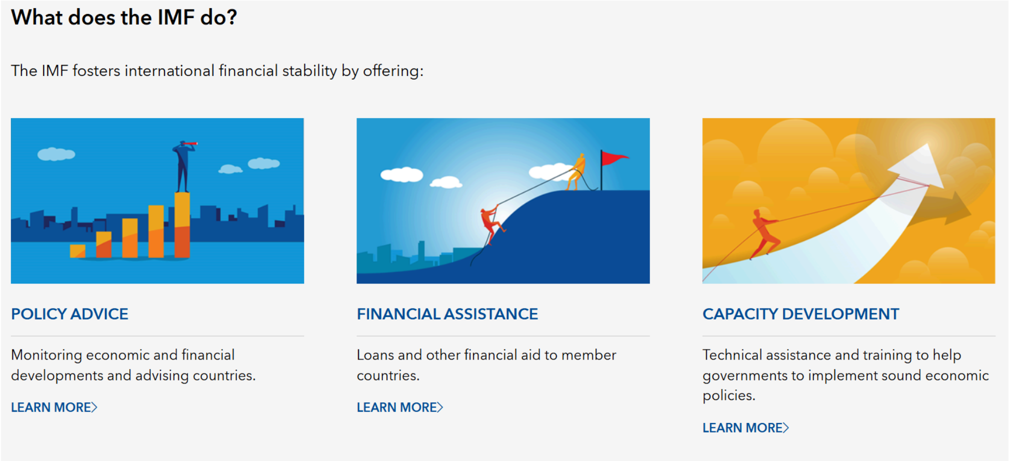
- BOP Identity:

  ```
  BOP = CA + KFA
  ```


Balance of Payments Structure
Balance of Payments (BOP)
Financial Account (FA)
Capital Account (KA)
Current Account (CA)
−4
−2
0
2
4
6
8
10
Net Flows

Role of the International Monetary Fund (IMF)

- Established in 1944 as part of the Bretton Woods Agreement
- Key Functions:
  - Promote international monetary cooperation
  - Provide financial stability
  - Offer financial assistance to member countries
  - Monitor economic policies and provide technical assistance



Link

IMF Controversies and Criticism

- Criticisms of IMF Interventions:
  - Potential inflationary impact
  - Moral hazard concerns
  - Perceived economic imperialism
- Discuss: Do you agree with these criticisms? Why or why not?

Conclusion

- National Income and Product Accounting is essential for understanding a country's economic performance in a global context.
- The Balance of Payments provides insight into a country's financial position relative to the world.
- The IMF plays a critical role in maintaining international financial stability.

3. Class Activity

Any QUESTIONS?

Thank You!

Next Class

- (May 16)
  - **Chap 20.** Quantity Theory, Inflation, and the Demand for Money
  - **Chap 23.** Aggregate Demand and Supply Analysis