



International Financial Management

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People, course materials and more

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- ILIAS password:
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Blackout period (3 days prior to the exam)



What is International Financial Management?

- Simple answer:
 - All financial aspects that concern different currencies and exchange rates
 - Special challenge: Managing involved (currency) risks

- Main objective:
 - Link between exchange rates and other relevant quantities
 - Dealing with payments in different currencies:
 - › Risk management
 - › Analysis of (currency) forwards and futures
 - › Analysis of (currency) options



Why is International Financial Management important?

- Financial analyses become more complex if exchange rates or two different currency areas are incorporated
 - Importance of exchange rates
 - Different interest rates
 - Cash flows in different currency areas

- The lecture deals with typical challenges of treasury divisions in multinational firms



Practical Challenges

Examples of complexity:

- Solution depends on perspective
- Contract: delivery of 800 EUR for 1000 US-\$ in one year
 - Interpretation of this deal:
 - _____
 - _____
- Basis of a deal with private individuals who can't completely assess the consequences (example: foreign currency loan)



Practical Challenges

Foreign currency loan:

- Face value: EUR 100,000 (loan is paid out at par)
- Time to maturity: 10 years
- Interest rate of the loan: 3%
- Fair interest rate level:
 - Interest rate (EUR): 5%
 - Interest rate (CHF): 2%
- Current exchange rate: 1.25 CHF per EUR
- Special feature:
 - Loan is repaid in CHF
 - Redemption amount converted by current exchange rate, i.e. 125,000 CHF

Question:

- What are the costs of this feature for the borrower?



Solution

- Naive Solution:
- Correct approach:
- Difference:



Why is this lecture useful?

- Preparation for internships/entry into the workforce in:
 - Treasury of companies
 - Trade of currency products
 - Asset management
 - Management consultancy in the financial sector

- Personal aspects:
 - Understanding of dealing with different currencies
 - Appropriate assessment of (currency) risks



Content

Chapter 1: Exchange Rate Systems

Chapter 2: Parity Relations

Chapter 3: Currency Risk

Chapter 4: Risk Management

4.1 Forwards and Futures Contracts

4.2 Currency Swaps

4.3 Options on Stocks and Currencies



Literature

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Chapter 1: Exchange Rate Systems



Basics

Foreign currency:

- Absolute amount, e.g. 1 \$

Exchange rate:

- Direct quote (price quotation):
Price of the foreign currency [\$] in terms of the domestic currency [€]
 - Remark: the square brackets contain the „dimension“, i.e. the currency
 - Example: $w_{\$} = 0,80 [\text{€} / \$]$ means “1 \$ costs 0,80 €.”
 - In the following, the direct quote is used by default



Basics

- Indirect quote (quantity quotation):

Number of units of the foreign currency needed to get one unit of the home currency

- Example: $\bar{w}_{\$} = 1,25 [\$ / €]$ means “for 1 € one receives 1,25 \$”

- Conversion of foreign currency in domestic currency:

Multiply (the amount of money) by the exchange rate

$$x [\$] = (x \cdot w_{\$}) [€]$$

- Conversion of domestic currency in foreign currency:

Divide by the exchange rate

$$y [€] = \left(y \cdot \frac{1}{w_{\$}} \right) [\$]$$



Spot vs. forward exchange rates

- Spot exchange rate:
 - Price of currency for immediate delivery
 - Cash flow occurs when contract is entered

- Forward exchange rate:
 - Rate at which a currency is exchanged for another at some specified future date
 - Cash flow in the future
 - No cash flow when contract is initiated



Cross exchange rate

- Implicit exchange rate with three currencies (for example €, \$, £)

$$w_{\text{€},\$} [\text{€} / \$] = \underbrace{w_{\text{€},\text{£}} [\text{€} / \text{£}] \cdot w_{\text{£},\$} [\text{£} / \$]}_{\text{implicit € - \$ - exchange rate}}$$

- Relevant
 - when there's no possibility of direct deals (quite irrelevant for €)
 - for exploitation of price imbalances (arbitrage) when actual and implicit exchange rates differ



Exchange rate changes

Appreciation

- Increase in value of the considered currency
- Two possible cases (EUR/USD-example):

Appreciation of EUR	Appreciation of USD
\$-exchange rate $w_{\$}$ declines	\$-exchange rate $w_{\$}$ increases
USD becomes cheaper	USD becomes more expensive

- Appreciation also implies realignment of parities in regime of fixed exchange rates

Depreciation

- works analogously



Supply and demand for currencies

Question:

- Which economic factors drive changes in exchange rates?

Answer:

- Classical supply and demand arguments



Supply and demand for currencies

- Supply of foreign currency: When will USD be offered in order to buy EUR?
 - Export of goods and services
 - Capital import (foreign countries invest in the home country)
 - Transfers of people living abroad to the home country
 - Central bank sells foreign exchange reserves

- Demand for foreign currency:
 - Import of goods and services
 - Capital export
 - Transfers of people living in the home country to foreign countries
 - Central bank increases the foreign exchange reserves



Supply and demand for currencies

Examples for additional factors:

- Exchange rate expectations and speculative trading
- Expectation of increasing inflation rate
- Attractiveness of investment opportunities/interest rate level in countries concerned
- USD or EUR as a second currency in countries with a weak currency