Supplement

Chapter 10

Foreign Exchange

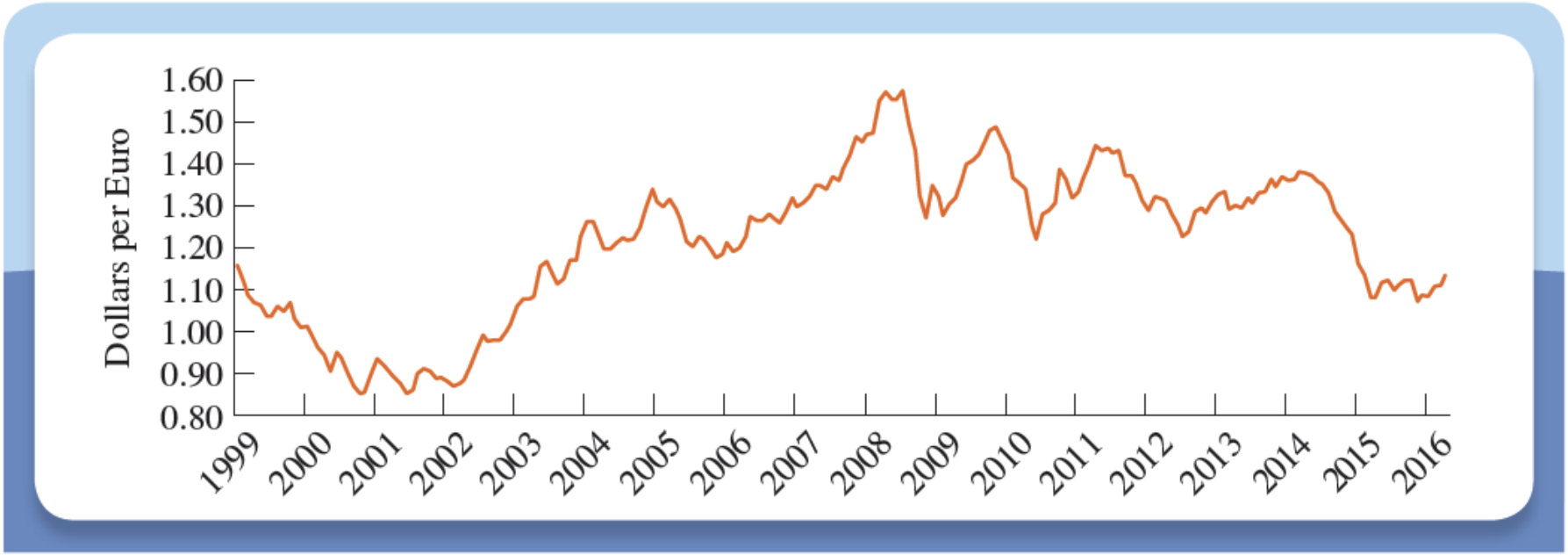
Foreign Exchange Basics

The Nominal Exchange Rate

- The **nominal exchange rate**, or simply the *exchange rate*, is the ***rate*** *at which* ***one can exchange the currency of one country*** *for the* ***currency of another country***.
- The **price of the British pound** is quoted as the ***number of dollars*** *that can be* ***exchanged for one pound (£).***

The Nominal Exchange Rate

Figure 10.3 Dollar–Euro Exchange Rate, 1999–2016



The Nominal Exchange Rate

- A ***decline*** in the *value of one currency relative to another* is called a **depreciation** of the currency that is *falling in value*.
- The ***rise*** in the *value of one currency relative to another* is called an **appreciation** of the currency that is *rising in value*.

The Real Exchange Rate

- The **real exchange rate** is the ***rate*** *at which one can* **exchange** *the* ***goods and services from one country*** for *the* ***goods and services*** *from* ***another country***

The Real Exchange Rate

- The **competitiveness of exports** *depends on* the ***real exchange rate***.
- **Appreciation** *of the real exchange rate* makes ***exports more expensive to foreigners***, reducing competitiveness.

Exchange Rates in the Long Run

The Law of One Price

- The **law of one price** is *based on the concept of* ***arbitrage*** -- the *identical products* ***should sell for the same price***, regardless of *where* they are sold.
- ***If they don't***, **someone can make a profit**.

The Law of One Price

The law of one price fails almost all of the time.

1. **Transportation costs**
2. **Tariffs**, the *taxes countries charge at their borders*, can be high.
3. **Technical specifications** can *differ*.
4. **Tastes differ across countries**, leading to *different pricing*.
5. Some things simply **cannot be traded**.

Purchasing Power Parity

- We can **extend** the *law from a single commodity* ***to a basket of goods and services***.
- The result is the **theory of purchasing power parity (PPP)**, which means that ***one unit of domestic currency*** will buy the ***same basket of good and services*** *anywhere in the world*.

Purchasing Power Parity

- According to the **theory of purchasing power parity**:

$$\text{Dollar price of basket of goods in U.S.} = \text{Dollar price of basket of goods in U.K.}$$

$$\frac{\text{Dollar price of basket of goods in U.S.}}{\text{Dollar price of basket of goods in U.K.}} = 1$$

- Thus, ***purchasing power parity*** *implies that the* ***real exchange rate*** *is* ***always equal to one***.

Purchasing Power Parity

- If we ***quote*** *the price of a basket of goods in the U.K* ***in pounds*** instead of dollars, then:

$$\frac{\text{Dollar price of basket of goods in U.S.}}{(\text{Pound price of basket of goods in U.K.}) \times (\text{Dollars per pound})} = 1$$

$$\frac{\text{Dollar price of basket of goods in U.S.}}{\text{Pound price of basket of goods in U.K.}} = (\text{Dollars per pound})$$

- Purchasing power parity implies that ***when prices change in one country*** but not in another, the **exchange rate should change as well**.

Purchasing Power Parity

- If **inflation occurs** in one country but not in another, the *change in prices* creates an *international inflation differential*.
- The **currency of a *country with high inflation*** will **depreciate**.