Economics

Capital Flows and the FX Market

Exam Focus

- FX quotes
- Nominal vs. real exchange rates
- Direct vs. indirect quotes
- FX and trade balance

Foreign Exchange Quotations

0.5440 GBP/USD means £0.5440 **per** USD

Price currency

Base currency

Nominal exchange rate is the quoted rate at any point in time.

Real exchange rate is the nominal exchange rate adjusted for inflation in each country compared to a base period.

$$\text{real exchange rate (p / b)} = \text{nominal exchange rate (p / b)} \times \left(\frac{CPI_{base}}{CPI_{price}}\right)$$

Real Exchange Rate: Example

Assume that the nominal exchange rate (GBP/EUR) increases by 11%, Eurozone price level increases by 6%, and U.K. price level increases by 3%.

Calculate the change in the real exchange rate (GBP/EUR). Describe a U.K. individual's purchasing power relative to Eurozone goods.

$$\%\Delta \text{ real exchange rate} = (1+\%\Delta\text{nominal})\left(\frac{1+\%\Delta\text{base}}{1+\%\Delta\text{priced}}\right)-1$$

$$\%\Delta \text{ real exchange rate} = (\qquad)\left(\frac{\quad}{\quad}\right)-1=$$

approximately : =

The real exchange rate has for U.K. consumers. Eurozone goods cost in the U.K., and U.K. real purchasing power has

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Real Exchange Rate: Example

A decrease in the real exchange rate (quoted in terms of domestic currency per unit of foreign currency) is *most likely* to be associated with an increase in which of the following?

A. Foreign price level.

B. Domestic price level.

C. Nominal exchange rate.

An in the domestic price level (P_d) he real exchange rate because it implies an n the relative purchasing power of the domestic currency.

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Direct vs. Indirect Quotes

Direct quote—domestic/foreign

Indirect quote—foreign/domestic

Direct and indirect quotes are just inverses of each other.

Direct vs. Indirect Quote: Example

A dealer based in New York City provides a spot exchange rate quote of 18.8590 MXN/USD to a client in Mexico City. The inverse of 18.8590 is 0.0530.

From the perspective of the Mexican client, the *most* accurate statement is that the:

A. direct exchange rate quotation is equal to 0.0530.

B. direct exchange rate quotation is equal to 18.8590.

C. indirect exchange rate quotation is equal to 18.8590.

The is the domestic currency and a direct quote is /

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Bid-Ask Spread

Bid—price at which market maker buys the base

Ask (a.k.a. offer)—price at which market maker sells the base

Example quote: CHF/EUR 1.1483 – 1.1485

Ask is always greater than bid

Bid-Ask Spread: Example

If the bid/offer quote from the dealer was 18.8580–18.8600 MXN/USD, then the bid/offer quote in USD/MXN terms would be *closest* to:

A. 0.05302–0.05303.

B. 0.05303–0.05302.

C. 0.053025–0.053025.

When reciprocated, bid and ask . New bid = 1 / and new ask = 1 / .

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Currency Depreciation: Example

Consider a **USD/GBP** exchange rate that has gone **down** from $1.61 to $1.59.

The USD price of a British pound has gone **down:** =
and we say the pound has **<u>depreciated</u>** relative to the USD by 1.24%

The GBP/USD exchange rate has gone **up** from
= to =

The GBP price of a USD has gone **up** by
= , and we say the USD has **<u>appreciated</u>** relative to the GBP b %.

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Exchange Rates and Trade Balance

- (X – M) = (private savings – investment) + (tax revenue – government spending)
- (X – M) > 0, trade surplus when savings exceed investments and/or when government surplus; leads to capital account deficit
- (X – M) < 0, trade deficit when savings are below investments and/or when government deficit; leads to capital account surplus

Trade Balance: Example

A country with a trade deficit will *most likely:*

A. have an offsetting capital account surplus.

B. save enough to fund its investment spending.

C. buy assets from foreigners to fund the imbalance.

A trade deficit must be exactly matched by an capital account to the deficit.

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Solutions

Real Exchange Rate: Example

Assume that the nominal exchange rate (GBP/EUR) increases by 11%, Eurozone price level increases by 6%, and U.K. price level increases by 3%.

Calculate the change in the real exchange rate (GBP/EUR). Describe a U.K. individual's purchasing power relative to Eurozone goods.

$$\%\Delta \text{ real exchange rate } = (1+\%\Delta\text{nominal})\left(\frac{1+\%\Delta\text{base}}{1+\%\Delta\text{priced}}\right)-1$$

$$\%\Delta \text{ real exchange rate } = (1+0.11)\left(\frac{1+0.06}{1+0.03}\right)-1=14.23\%$$

$$\textit{approximately}: 11\% + 6\% - 3\% = 14\%$$

The real exchange rate has increased for U.K. consumers. Eurozone goods cost more in the U.K., and U.K. real purchasing power has declined.

Real Exchange Rate: Example

A decrease in the real exchange rate (quoted in terms of domestic currency per unit of foreign currency) is *most likely* to be associated with an increase in which of the following?

A. Foreign price level.

B. Domestic price level.

C. Nominal exchange rate.

An increase in the domestic price level (P_d) *decreases* the real exchange rate because it implies an *increase* in the relative purchasing power of the domestic currency.

Direct vs Indirect Quote: Example

A dealer based in New York City provides a spot exchange rate quote of 18.8590 MXN/USD to a client in Mexico City. The inverse of 18.8590 is 0.0530.

From the perspective of the Mexican client, the *most* accurate statement is that the:

A. direct exchange rate quotation is equal to 0.0530.

B. direct exchange rate quotation is equal to 18.8590.

C. indirect exchange rate quotation is equal to 18.8590.

The MXN is the domestic currency and a direct quote is DC / FC.

Bid-Ask Spread: Example

If the bid/offer quote from the dealer was 18.8580–18.8600 MXN/USD, then the bid/offer quote in USD/MXN terms would be *closest* to:

A. 0.05302–0.05303.

B. 0.05303–0.05302.

C. 0.053025–0.053025.

When reciprocated, bid and ask swap places. New bid = 1 / 18.86 and new ask = 1 / 18.858.

Currency Depreciation: Example

Consider a **USD/GBP** exchange rate that has gone **down** from $1.61 to $1.59.

The USD price of a British pound has gone **down:** (1.59 / 1.61) – 1 = –1.24%, and we say the pound has **depreciated** relative to the USD by 1.24%.

The GBP/USD exchange rate has gone **up** from 1 / 1.61 = £0.6211 to 1 / 1.59 = £0.6289.

The GBP price of a USD has gone **up** by (0.6289 / 0.6211) – 1 = 1.26%, and we say the USD has **appreciated** relative to the GBP by 1.26%.

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Trade Balance: Example

A country with a trade deficit will *most likely*:

A. have an offsetting capital account surplus.

B. save enough to fund its investment spending.

C. buy assets from foreigners to fund the imbalance.

A trade deficit must be exactly matched by an offsetting capital account surplus to fund the deficit.

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