International Finance

#1. Course Introduction
Chapter 1: Foreign Exchange Market and the Exchange Rate

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Course Objective

- The objective of this course is to study international finance at a undergraduate level.

- Throughout this course, a number of empirical and case studies related to Vietnam's current economic and policy issues will be presented and discussed so that students can deepen the knowledge and understanding of the theoretical models and their empirical application.

Course Method

- Regular lectures will be given based on the textbooks, other reading materials and handouts.

- Students are required to do in-class discussions, homework, group assignments (to divide into some groups).

Required Textbooks

- Paul Krugman and Maurice Obstfeld, *International Economics: Theory and Policy*, Sixth Edition, Addison Wesley, 2003. (Part III and Part IV, main textbook).

- Robert J. Carbaugh, International Economics, South Western College, USA, 2000.

- Michael Melvin, *International Money and Finance*, Pearson Education Inc, USA, 2004.

References

- Nguyễn Ninh Kiều (1999): Thị trường ngoại hối. NXB Thống kê. Hà Nội.
- Paul R. Krugman và Maurice Obstfeld (1996): Kinh tế học Quốc tế: Lý thuyết và Chính sách. Tập II: Những vấn đề tiền tệ Quốc tế. NXB Chính trị Quốc gia. Hà Nội.
- Nguyễn Thắng. Thâm hụt tài khoản vãng lai: Nguyên nhân và giải pháp. Nghiên cứu kinh tế, No. 363, 8/2008.
- Nguyễn Văn Tiến: Tài chính Quốc tế hiện đại trong nền kinh tế mở. NXB Thống kê, Hà Nội, 2004.
- Nguyễn Hồng Sơn (2001): Khủng hoảng nợ ở các nước đang phát triển: thực trạng, nguyên nhân và những đề xuất khắc phục. Tạp chí Kinh tế Châu Á Thái Bình Dương. Số 4.

References (cont'd)

- Nguyễn Hồng Sơn (2001): Những đề xuất cải tổ hệ thống tài chính-tiền tệ toàn cầu và tính hiện thực của chúng. Tạp chí Những vấn đề kinh tế thế giới. Số 6.
- Nguyễn Hồng Sơn (2003). Tài chính kinh tế thế giới trong 2 thập kỷ đầu của thế kỷ XXI. Tạp chí Nghiên cứu kinh tế. Số 10.
- Nguyễn Hồng Sơn (2005): Điều tiết sự di chuyển của dòng vốn tư nhân nước ngoài gián tiếp ở một số nước đang phát triển. NXB Chính trị Quốc gia, Hà Nội.
- Nguyễn Hồng Sơn và Lê Xuân Hiếu (2003). Chế độ tỷ giá và hiệu quả kinh tế ở các nước đang phát triển. Tạp chí Tài chính. Số 4.

References (cont'd)

- Economic and Financial Websites:

  http://www.imf.org

  http://www.oanda.com

  http://www.ft.com

  http://www.bis.org

  http://www.vietcombank.comvn

  http://www.ubs.com

  http://www.unctad.org

  http://www.worldbank.org

  http://www.saigontimes.com.vn

  http://www.vneconomy.com.vn

Assessment and Grading

- Attendance (5%).
- In-class contribution (discussions, Q&As, chapter review, argument etc.) (5%).
- Group assignment and presentation (15%).
- Midterm exam (15%).
- Final exam (60%).

Chapter 1:
Foreign Exchange Market and the Exchange Rates

Outline

- Exchange rate
- Foreign exchange market
- Equilibrium in the foreign exchange rate
- The effect of changing interest rates on the current exchange rate
- The effect of changing expectations on the current exchange rate

The Exchange Rate

- Definition:
  - The price of the foreign currency in terms of the domestic currency.
  - E.g) Exchange rate of VND vis-à-vis USD
    - USD 1 = VND 20850 (E = 20850)
- Exchange rate plays a central role in international transactions
  - By using exchange rates, we can compare the prices of goods and services produced in different countries.

The Exchange Rate (cont'd)

- Consider the case of VND/USD EXR:
  - E = Exchange rate of VND against USD.
  - E = 20.850 (VND/USD) (July 31, 2012)

- Appreciation of VND against USD:
  - Decrease in E (20.850 → 19.000).
- Depreciation of VND against USD:

  - Increase in E (20.850 → 22.000).

The Exchange Rate (cont'd)

	Value of the domestic currency	E (= Exchange rate)
Appreciation	Increase	Decrease
Depreciation	Decrease	Increase

Impact of Exchange Rate Changes on Trade

- Example 1:
  - Vietnam imports a laptop from Japan.
  - The price of a Sony Vaio laptop is 1000 USD.
  - The initial EXR is 20.850 VND/USD
- The VND price of a laptop before and after appreciation of VND (20.850 → 18.000) is:
  - (1000 USD) x (20.850 VND/USD) = 20.850.000 VND
  - (1000 USD) x (18.000 VND/USD) = 18.000.000 VND
- Effect of VND appreciation:
  - Import price from Japan will be cheaper in terms of VND.

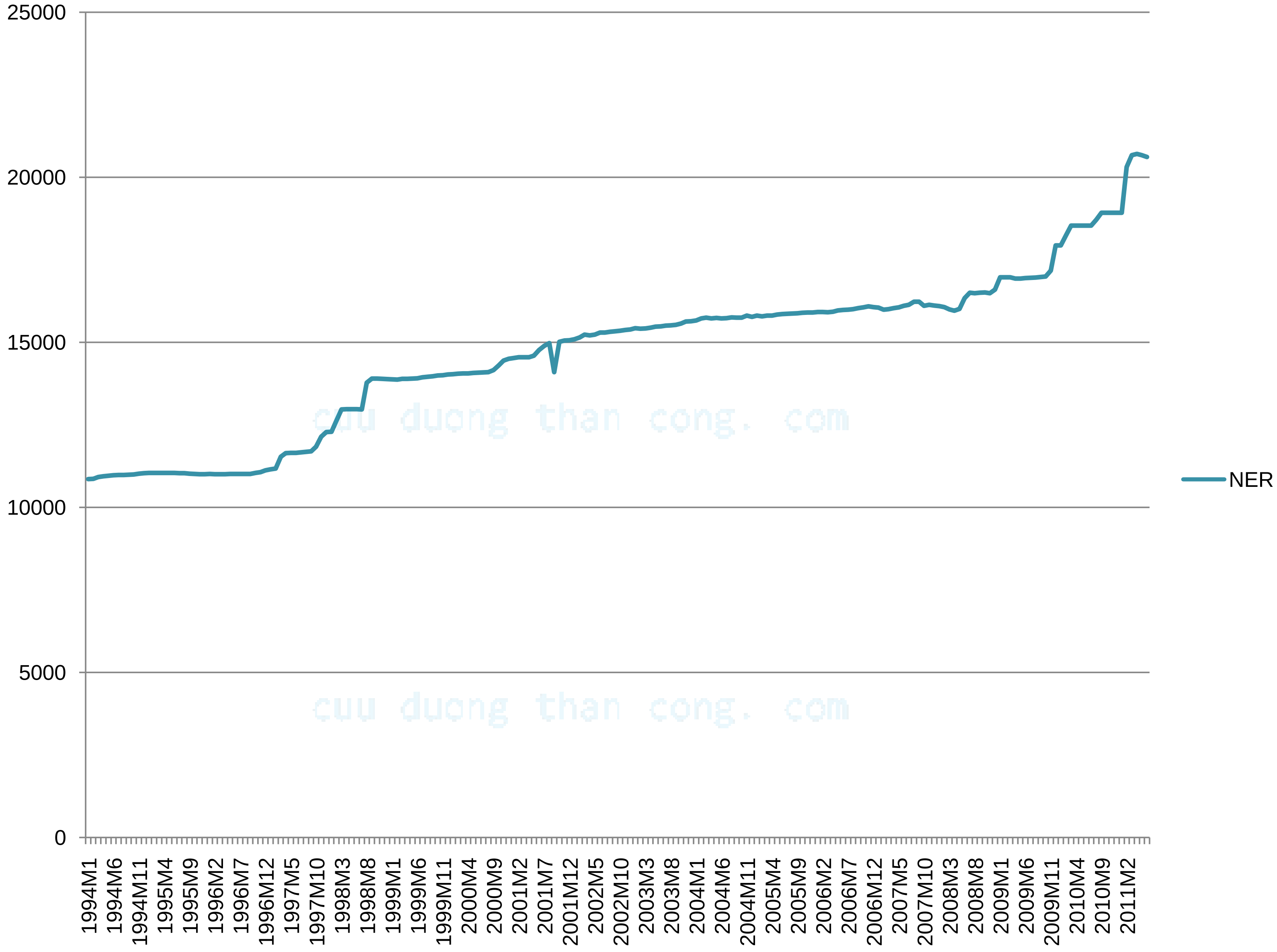
Impact of Exchange Rate Changes on Trade (cont'd)

- Example 2:
  - Vietnam exports rice to Philippines.
  - The price of one ton of rice is 10.000.000 VND.
  - The initial EXR is 20.850 VND/USD
- The VND price of one ton of rice before and after appreciation of VND (20.850 → 18.000) is:
  - (10.000.000 VND) / (20.850 VND/USD) = 479,6 USD
  - (10.000.000 VND) / (18.000 VND/USD) = 555,5 USD
- Effect of VND appreciation:
  - Export price to Philippines will be higher in terms of USD.

Impact of Exchange Rate Changes on Trade (cont'd)

- Summary:
  - When VND depreciates, Philippines residents find that Vietnamese products are cheaper and Vietnamese residents find that Japanese products are more expensive. (in case that USD is used in trading)
  - An appreciation of VND has opposite effects. Philippines residents pay more for the Vietnamese products and Vietnamese consumers pay less for the Japanese products.

VND/USD Exchange Rate



The Foreign Exchange Market

- Forex Market:
  - The market in which international currency trades take place.
  - A network of banks and other financial institutions, liked by telephone and computer, that buy and sell currencies.

The Foreign Exchange Market (cont'd)

- Major participants:
  - Commercial banks: are at the center of the foreign exchange market because almost every sizable international transaction involves the debiting and crediting of accounts at commercial banks in various financial centers.
  - Corporations: with operations in several countries frequently make or receive payments in currencies other than that of the country in which they are head-quartered.

The Foreign Exchange Market (cont'd)

- Major participants:
  - Nonbank financial institutions: to offer their customers services involving foreign exchange transactions.
  - Central banks: are the most regular official participants who intervene in the foreign exchange rate in order to achieve macroeconomic objectives such as fighting inflation and market stability.

Characteristics of the Market

- Forex trading takes place in many financial centers such as London (the largest market), New York, Tokyo, Frankfurt, and Singapore.
- The amount of forex transactions in major markets:
  - USD 590 billion *per day* (April 1989)
  - USD 1.2 trillion *per day* (April 2001)
  - USD 1.88 trillion *per day* (April 2004)
  - USD 3.98 trillion per day (April 2010) (Bank for Int'l Settlements)
- The amount of exports plus imports:
  - USD 12.5 trillion *per day* (2001, World total)
  - USD 1.91 trillion *per day* (2001, US total)
- The US dollar = vehicle currency:
  - The US dollar is widely used in international transactions that do not involve the US actors.

Functions of the Forex Market

- Serve the international trade activities
- Facilitate international capital movements
- Determine exchange rates by supply and demand forces
- The place where Central Banks directly intervene in exchange rates
- Provide trading environment and hedging instruments

Exchange Rate Classifications

- Bid rate: is the rate at which the quoting bank is ready to buy the commodity currency.
- Offer (or Ask) rate: is the rate at which the quoting bank is ready to sell the commodity currency.
- Spot rate is the rate formed directly via supply and demand forces in the Forex market.
- Derivative rate: include rates used in the Forward, Swap, Future, and Options. They are not directly formulated via the supply and demand forces in the Forex market but calculated from the available variables in the market such as spot rates, interest rates of two currencies, etc. Derivative rates are terms rates. The exchange rate is contracted today, but the value date is after at least three working days.

Exchange Rate Classifications (cont'd)

- Opening rate: is the rate used for the first transaction of the business day.
- Closing rate: is the rate used for the last transaction of the business day. Normally, the rates used for all contracts conducted in a day are not published, but only the closing rate is. Today's closing rate is not opening rate of the next business day.
- Cross rate: is the rate of two currencies derived from the third one (or medium currency).
- Transfer rate: is the rate used for the transactions of the currencies which are deposited at bank accounts.

Exchange Rate Classifications (cont'd)

- Bank note rate: is the rate used for the cash transactions such as coins, bank notes, travelers' cheques and credit cards. Normally, bank note bid rate is lower and bank note ask rate is higher than the transfer rate.

- Telegraphic rate: is the rate used for the telegraphic-transferred transactions. Nowadays, most of the transactions are telegraphic-transferred transactions; thus, the exchange rates quoted at the banks are telegraphic-transferred rates.

Spot Rates and Forward Rates

- Spot exchange rates:
  - The forex transactions that take place on the spot.
  - The value date for a spot transaction (i.e., the date on which we actually receive the funds) occurs 2 business days after the deal is made
- Forward exchange rates:
  - The exchange rate quoted in transactions that specify a value date further away than 2 days (30 days, 90 days, 180 days, or longer).
  - Forward and spot exchange rates are not necessarily equal, but do more closely together (Figure 13-1, p.333 in Krugman & Obstfeld, 2006)

Forward Exchange Transactions

- Example:
  - A Vietnamese company imports a car from the US (the contract date is April 1st).
  - Current exchange rate (April 1st): USD 1 = VND 20.850
  - He must pay USD in 30 days to the US exporters

  - Suppose he expects that VND will depreciate:

    USD 1 = VND 20.850 (April 1st) $\longrightarrow$ USD 1 = VND 22.000 (May 1st)

  - To avoid the exchange rate risk, he can make a 30-day forward exchange deal with his bank.

Equilibrium in the Forex Market

- The Rate of Return:
  - The percentage increase in value an asset offers over some time period.

- Equilibrium in forex market:
  - In equilibrium, deposits of all currencies must offer the same expected rate of return.
  - The rate of return on VND assets $\rightarrow R$
  - The rate of return on USD assets:
    - $R^* + (E(e) – E)/E$
    - The sum of (i) USD interest rate and (ii) the expected rate of VND depreciation against USD.

Equilibrium in the Forex Market (cont'd)

- Interest Parity Condition:
  - Expected returns on deposits of any two currencies are equal when measured in the same currency.

$$R = R^* + [E(e) – E]/E$$

  - R: (today's) VND interest rate
  - R^* : (today's) USD interest rate
  - E: (today's) VND/USD exchange rate
  - E(e): expected VND/USD exchange rate

Start

(*time T*)

Goal

(*time T+1*)

M^{D0} = VND 10.000.000

(VND interest rate)

$R^{VND} = 0.05$

$(M^{D1} = (1+ R^{VND})*M^{D0})$

M^{D1} = VND 10.500.000

(Rate of Return on US Asset)

$R^{\$} = 0.1025$

M^{VN1} = VND 11.025.000

(VND/USD Rate)

$E^0 = 20.000$

$(M^{S0} = M^{D0}/E^0)$

M^{S0} = USD 500

(US interest rate)

$R^{US} = 0.05$

$(M^{S1} = (1+ R^{US})*M^{S0})$

M^{S1} = USD 525

(VND/USD Rate)

$E^1 = 21.000$

$(M^{VN1} = M^{S1}*E^1)$

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Comparing VND Rates of Return on VND and USD Assets

	R	R*	E(e)	E	[E(e) – E]/E	R*+ [E(e) – E]/E
(1)	0.10	0.06	20.800	20.000	0.04	0.10
(2)	0.10	0.06	20.000	20.000	0.00	0.06
(3)	0.10	0.06	20.000	19.230	0.04	0.10
(4)	0.10	0.06	22.000	20.000	0.10	0.16
(5)	0.10	0.06	22.000	21.153	0.04	0.10

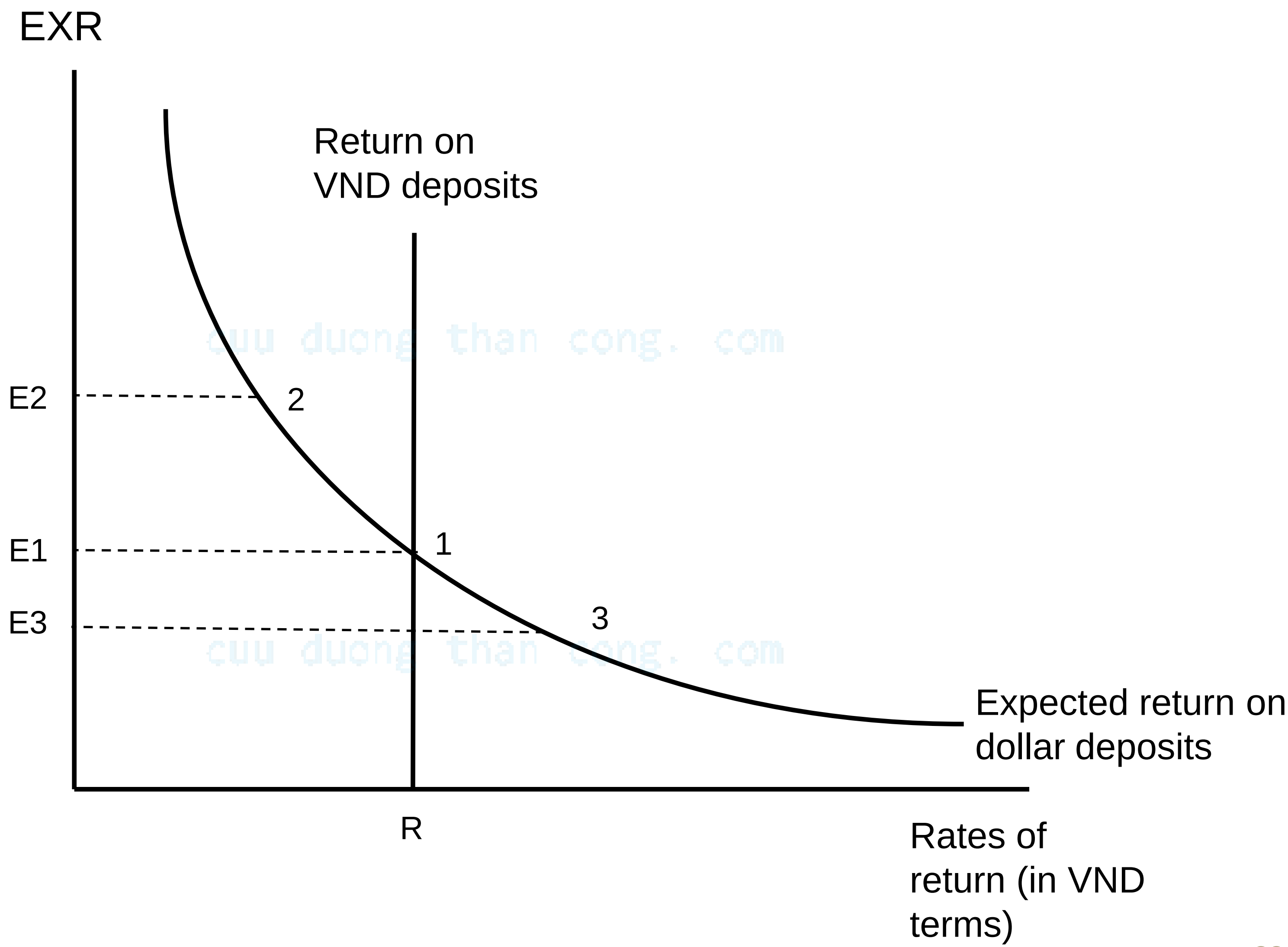
* Case 2: Excess demand for VND → E down → Case 3.

* Case 4: Excess demand for USD → E up → Case 5.

The Equilibrium Exchange Rate

- How are equilibrium exchange rates determined?
  - See Figure 13-4 (p.346) in K&O (2006).
  - Assume that the expected future VND/USD exchange rate (E(e)) is given
  - Suppose that interest rates are determined in each country's market.
  - Then, (current) exchange rates always adjust to maintain interest parity.

Figure 13-4: Determination of Equilibrium VND/USD EXR



The Effect of Changing Interest Rates on the Current Exchange Rate

- Effect of a rise in the VND interest rate:
  - A rightward shift of the vertical VND deposit schedule.
  - VND appreciates. (Fig. 13-5)
  - Expected VND return on USD deposits increases.
- Effect of a rise in the USD interest rate:
  - The downward-sloping schedule shifts to the right.
  - VND depreciates. (Fig. 13-6)
  - Expected VND return on USD deposits decreases.

Figure 13-5: Effect of a rise in the VND interest rate

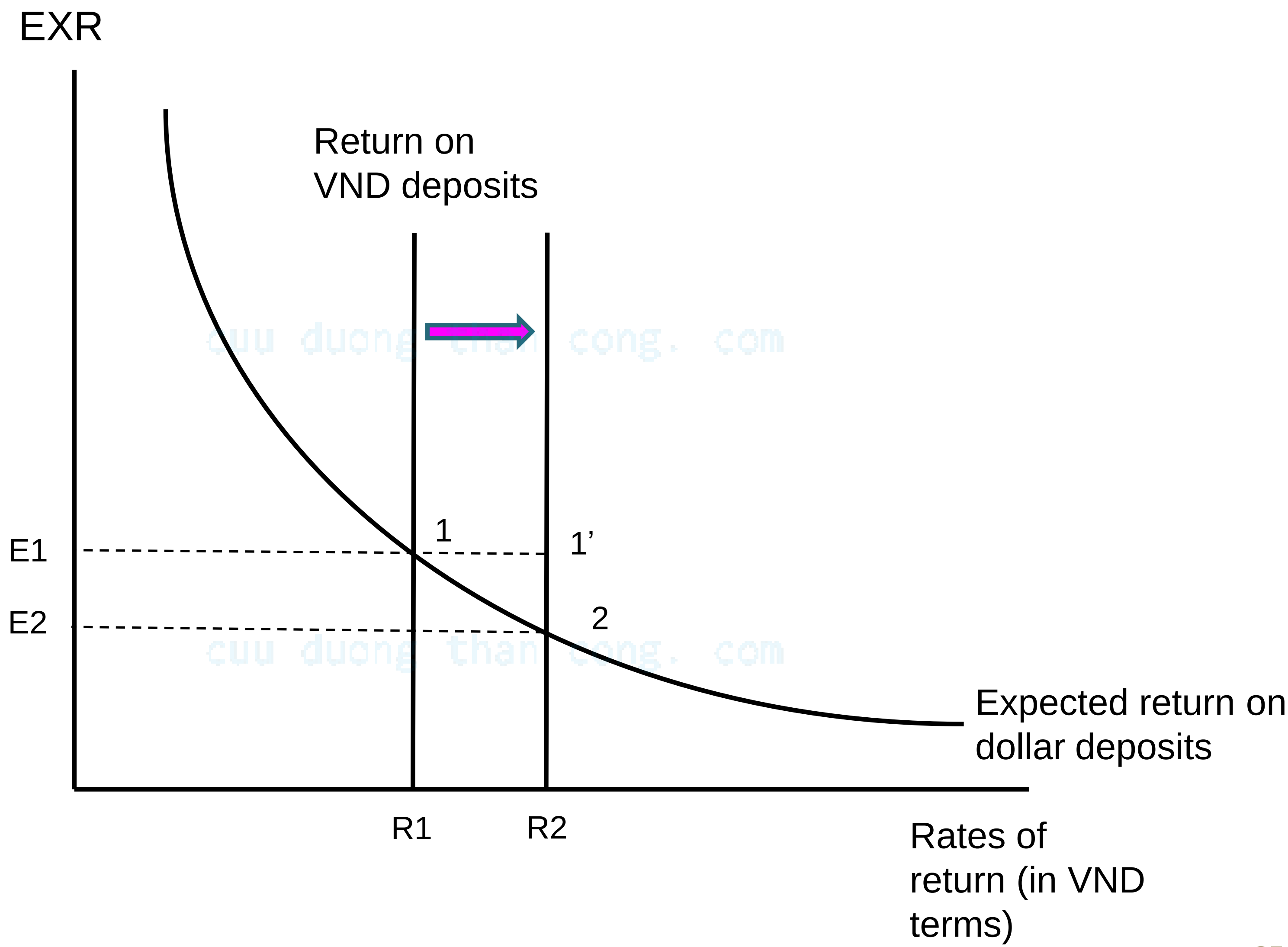
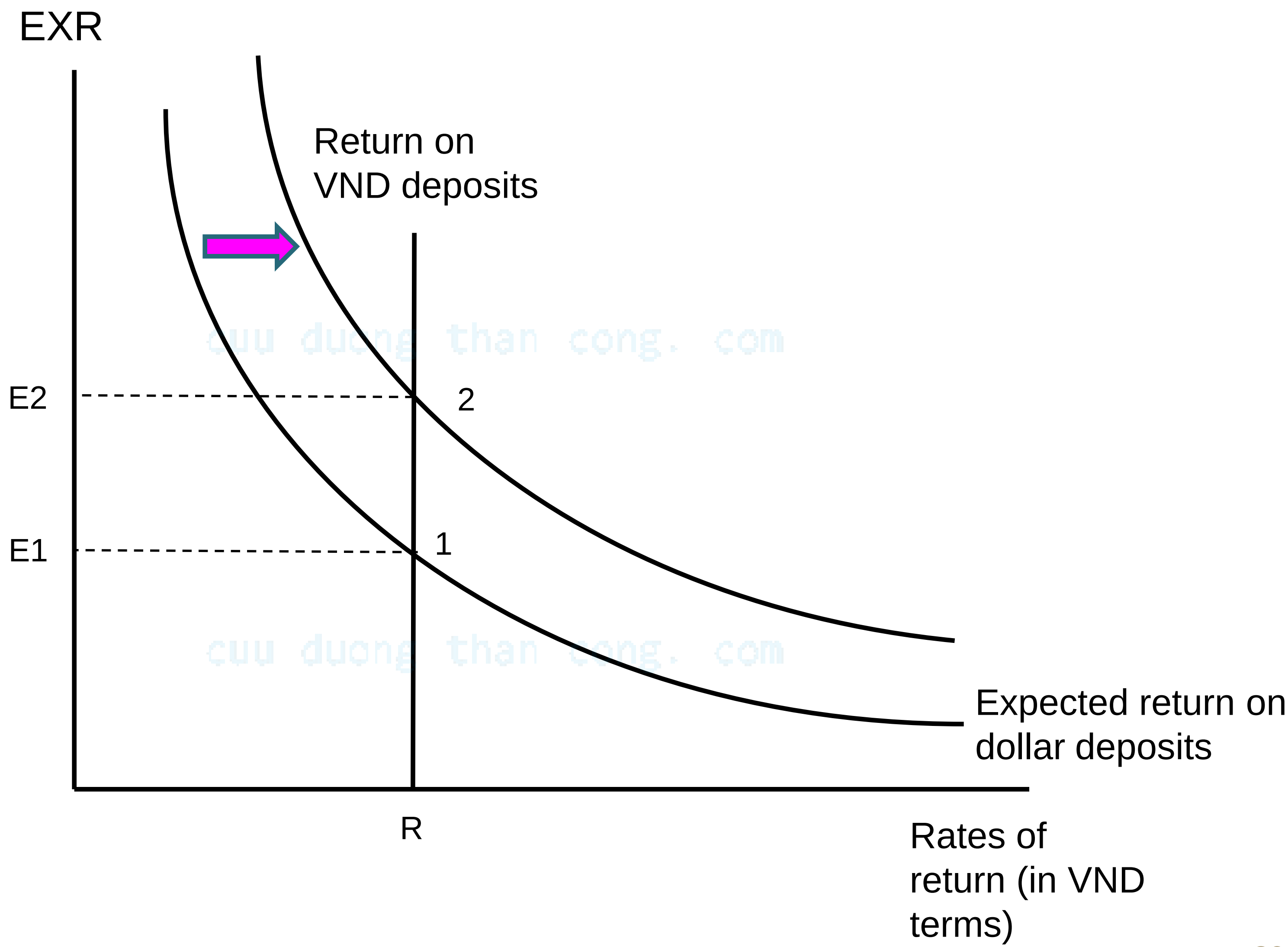


Figure 13-6: Effect of a rise in the Dollar interest rate



The Effect of Changing Interest Rates on the Current Exchange Rate

- Summary:
  - All else equal, an increase (decrease) in the VND interest rate causes the VND to appreciate (depreciate) against the USD.

- Comment on the assumption of a constant expected future exchange rate:
  - This assumption is unrealistic, but useful to understand the exchange rate determination.

The Effect of Changing Expectations on the Current Exchange Rate

- The effect of a rise in E(e) on today's exchange rate (E):
  - Increase in the expected depreciation rate of the VND.
  - The downward-sloping schedule shifts to the right.
  - The VND depreciates to reach equilibrium.

- Summary:
  - A rise (fall) in the expected future exchange rate causes a rise (fall) in the current exchange rate.

Figure: Effect of changing expectations on current EXR