

**3543 Fiscal and Financial System in Japan A
/ KC3002 International Finance**

Fall 2012

Lecture 4 (Oct 30)

A. Balance of Payments (cont)

B. Exchange Rates

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A. Balance of Payments (cont)

Fundamental BOP Identity

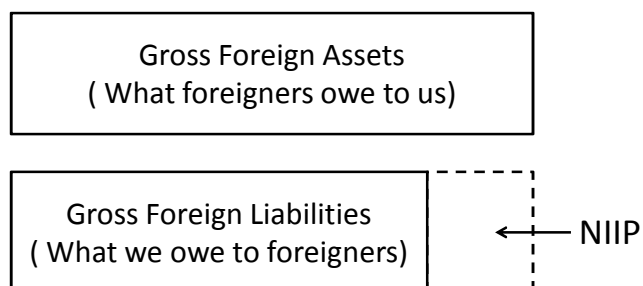
Any international transaction automatically gives rise to two offsetting entries in the balance of payments resulting in a fundamental identity:

$$\begin{array}{|c|} \hline \text{Current} \\ \text{Account} \\ \text{Balance} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Financial} \\ \text{Account} \\ \text{Balance} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Capital} \\ \text{Account} \\ \text{Balance} \\ \hline \end{array} = 0$$

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Net International Investment Position

NIIP is a country's net foreign wealth, the difference between foreign assets owned by domestic residents and domestic assets owned by foreigners.



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Current Account and *Changes* in NIIP

From the BOP identity,

$$\boxed{\text{Current Account Balance}} = - \left[\boxed{\text{Financial Account Balance}} + \boxed{\text{Capital Account Balance}} \right]$$

Current Account $> 0 \leftrightarrow$ Financial Account < 0 \leftrightarrow Increase in NIIP
 + Capital Account < 0

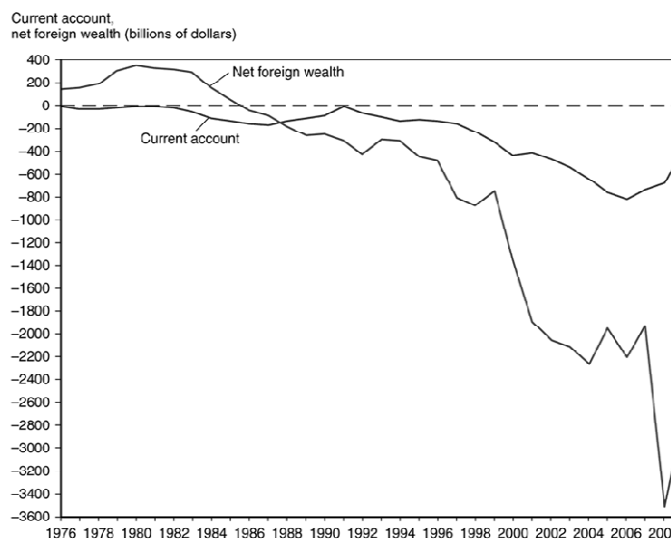
The country imports more assets than it exports,
 thus increasing its NIIP.

Current Account $< 0 \leftrightarrow$ Financial Account > 0 \leftrightarrow Decrease in NIIP
 + Capital Account > 0

The country exports more assets than it imports,
 thus decreasing its NIIP.

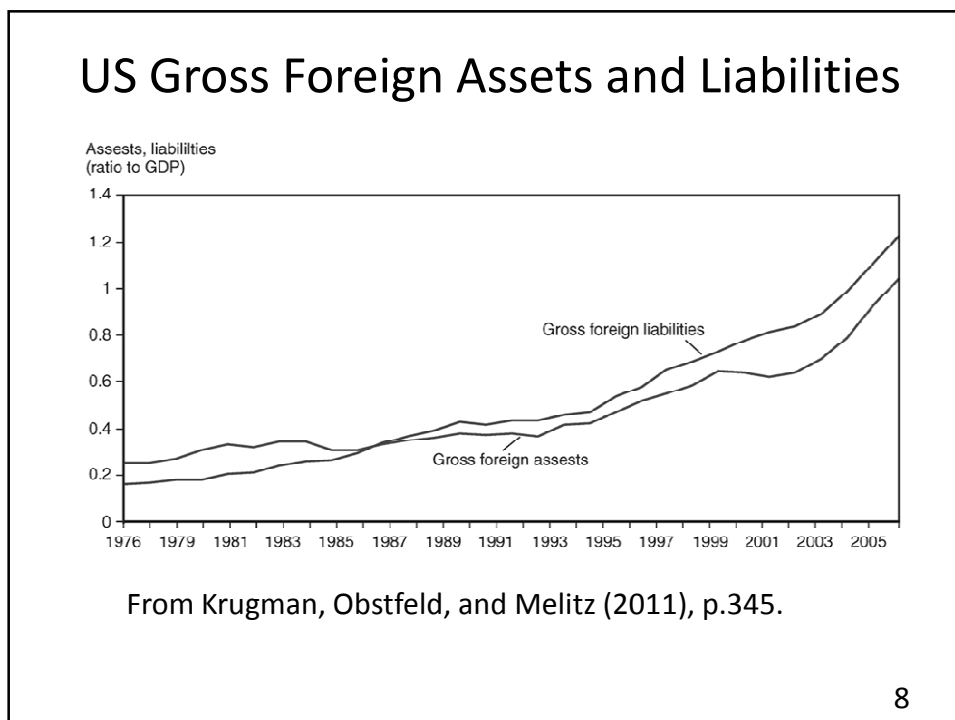
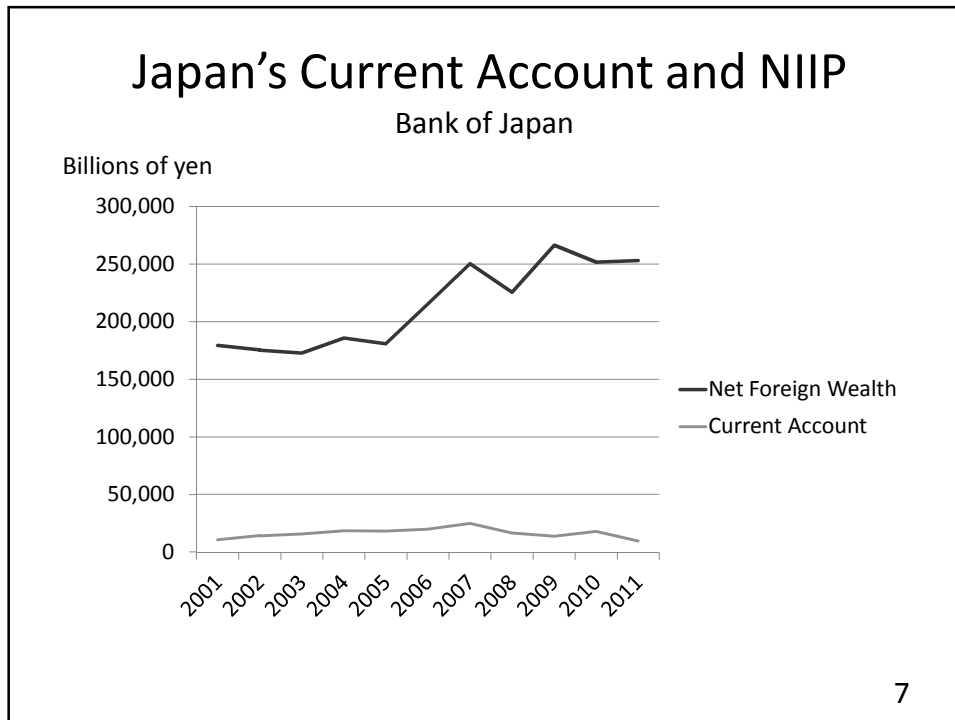
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US Current Account and NIIP



From Krugman, Obstfeld, and Melitz (2011), p.332.

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Why Current Account relates to NIIP?

Suppose a country exports 100 cars, but imports only 80 cars.

The current account surplus of 20 cars is the value of lending to foreigners, which the country will be repaid in the future.

The equal change in net foreign wealth.

Do financial transactions affect NIIP in any way?

Suppose domestic residents buy a share of stock from foreigners by bank transfer. What happens to NIIP?

Financial transactions affect only “gross” foreign assets and liabilities with no change in “net” foreign assets.

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Official International Reserve Assets

Financial account also records the transactions of “official international reserve assets” by the central bank.

“Official international reserve assets” is foreign assets held by the central bank to cushion against instability in international markets.

“Official international reserve assets” includes foreign (mainly, US) government bonds, foreign (mainly, US) currency, gold and accounts at the IMF.

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Official Reserve Account / Changes in Reserve Assets

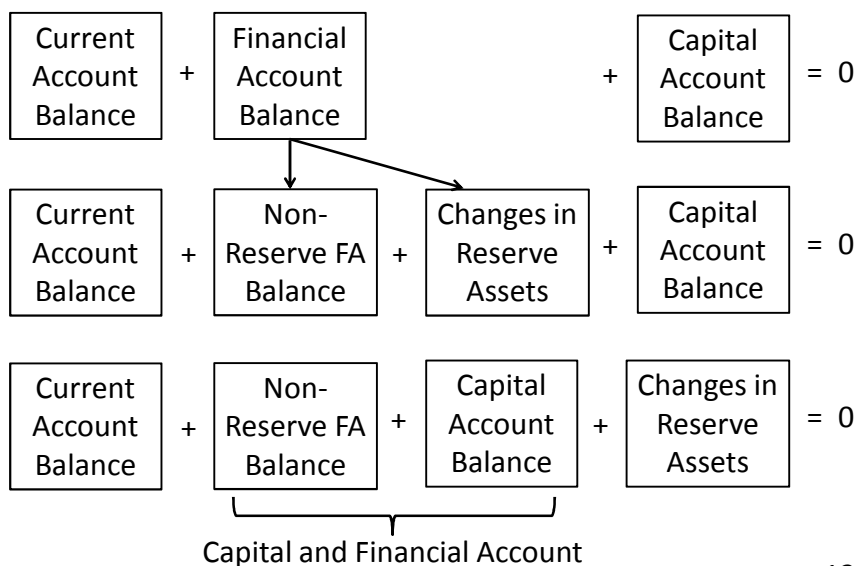
Financial Account

- Official Reserve Assets → Official Reserve Account
 - All Other Assets → Non-Reserve Portion of the FA
- ✓ Decreases in reserve assets by the domestic central bank are a credit (+).
- ✓ Increases in reserve assets by the domestic central bank are a debit (-).

Notice that official reserve account is in deficit when the central bank has increased the reserve assets.

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Fundamental Identity Again



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Japan's BOP for 2011

Ministry of Finance

(単位：億円、%)
(¥100 million, %)

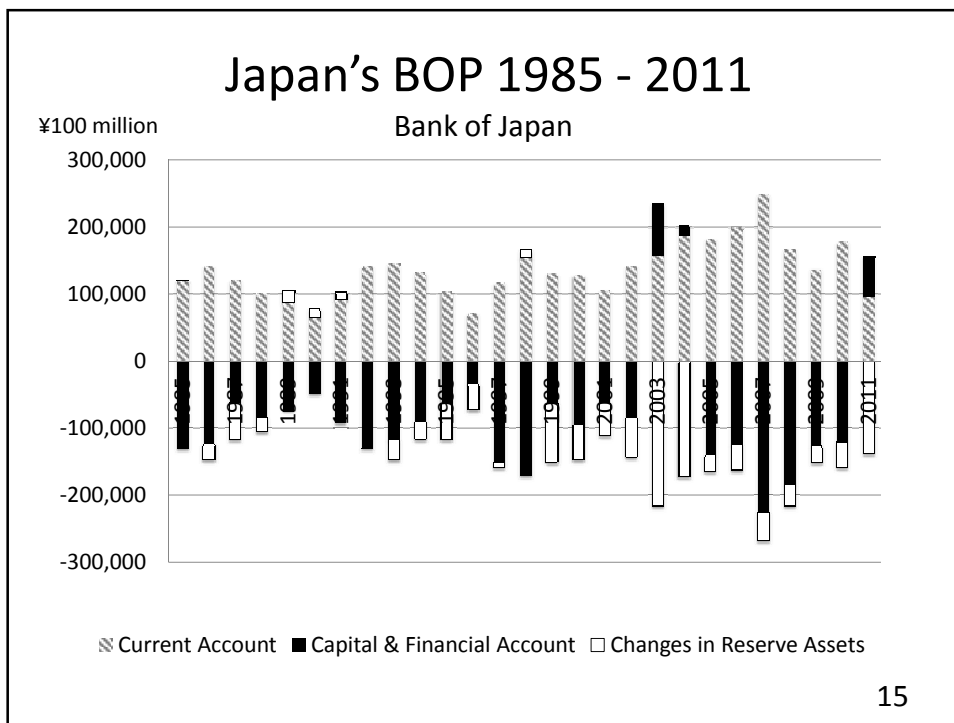
項目	平成23年度 2011F.Y.	前年度 2010F.Y.	対前年度比増減 Changes from previous year	Item
貿易・サービス収支 (対前年度比)	- 53,020 (-)	52,225 (9.2)	- 105,246	Goods & Services (year-on-year changes)
貿易収支 (対前年度比)	- 34,495 (-)	64,955 (- 1.6)	- 99,450	Trade balance (year-on-year changes)
輸出 (対前年度比)	626,272 (- 2.8)	644,513 (16.0)	- 18,240	Exports (year-on-year changes)
輸入 (対前年度比)	660,767 (14.0)	579,557 (18.4)	81,210	Imports (year-on-year changes)
サービス収支	- 18,525	- 12,730	- 5,795	Services
所得収支	142,883	126,117	16,766	Income
経常移転収支	- 10,929	- 11,749	820	Current transfers
経常収支 (対前年度比)	78,934 (- 52.6)	166,593 (2.0)	- 87,659	Current Account (year-on-year changes)

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Japan's BOP for 2011 (cont.)

投資収支	75,819	- 92,416	168,235	Financial Account
直接投資	- 102,997	- 52,140	- 50,858	Direct investment
証券投資 (証券貸借取引を除く)	57,207 (54,780)	- 71,170 (- 79,556)	128,377 (134,436)	Portfolio investment (Excl. securities lending)
金融派生商品	14,045	6,701	7,345	Financial derivatives
その他投資 (証券貸借取引を除く)	107,564 (109,947)	24,193 (32,546)	83,371 (77,301)	Other investment (Excl. securities lending)
その他資本収支	2,468	- 4,804	7,272	Capital Account
資本収支	78,287	- 97,220	175,507	Capital & Financial Account
外貨準備増(-)減	- 114,939	- 52,035	- 62,904	Changes in Reserve Assets
誤差脱漏	- 42,282	- 17,337	- 24,945	Errors & Omissions

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B. Exchange Rates:
Equilibrium in the FX Market

Exchange Rates

The exchange rate is the “price” of one currency measured in terms of another currency.

The yen/dollar exchange rate is the “price” of dollar measured in terms of yen.

It is expressed as “80 yen per dollar” or “¥80/\$.”

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Depreciation and Appreciation

Depreciation is a decrease in the value of currency relative to another currency.

Dollar’s depreciation: ¥80/\$ → ¥79/\$

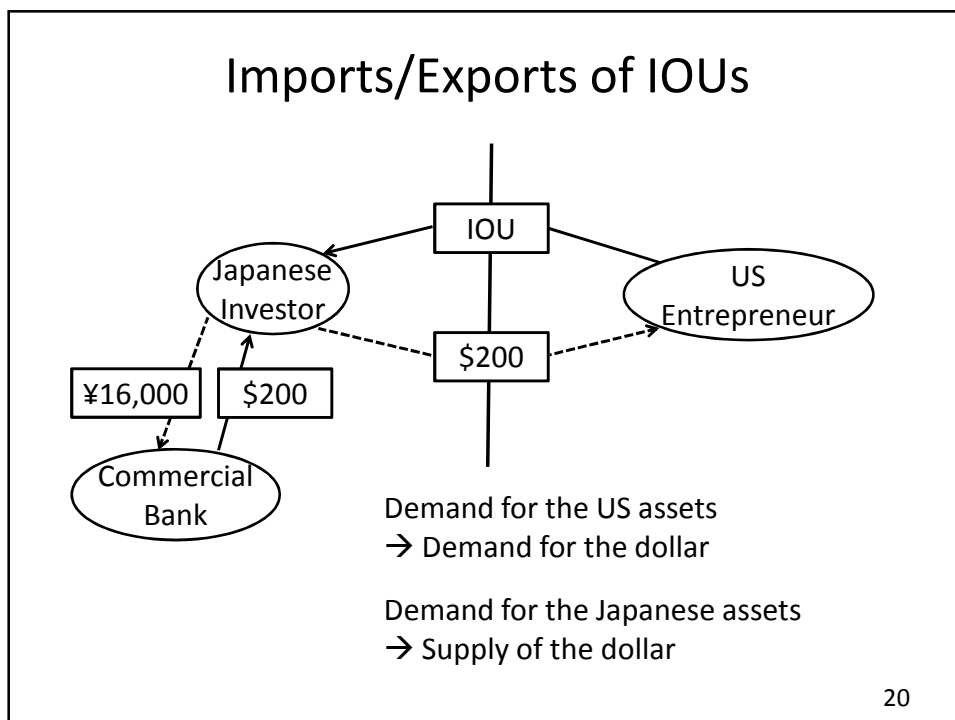
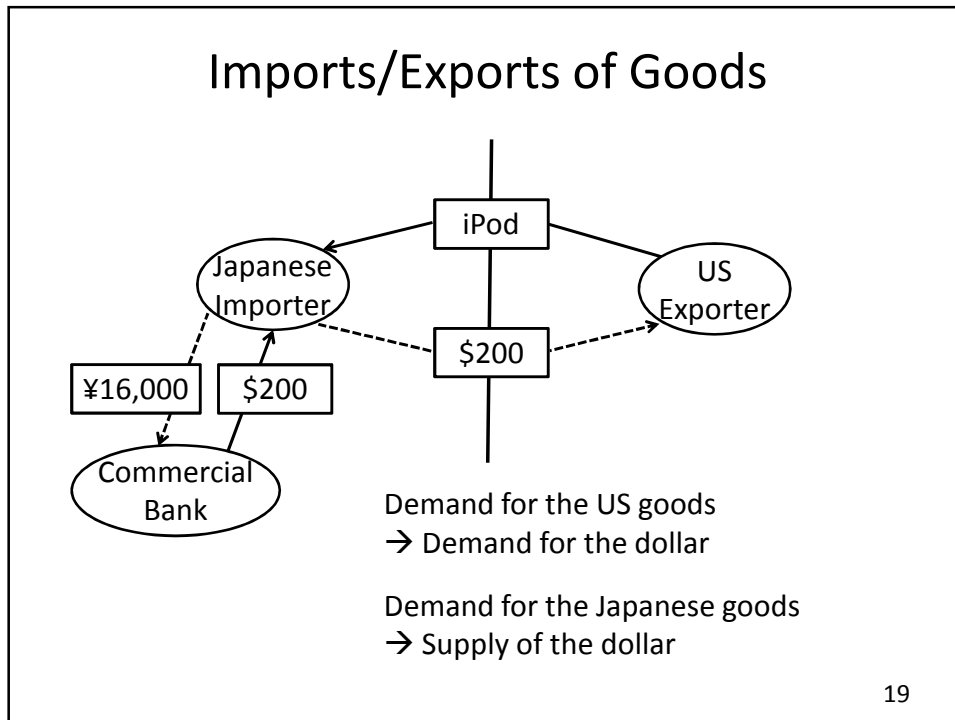
Depreciated currency is less valuable and therefore can buy smaller amount of another currency.

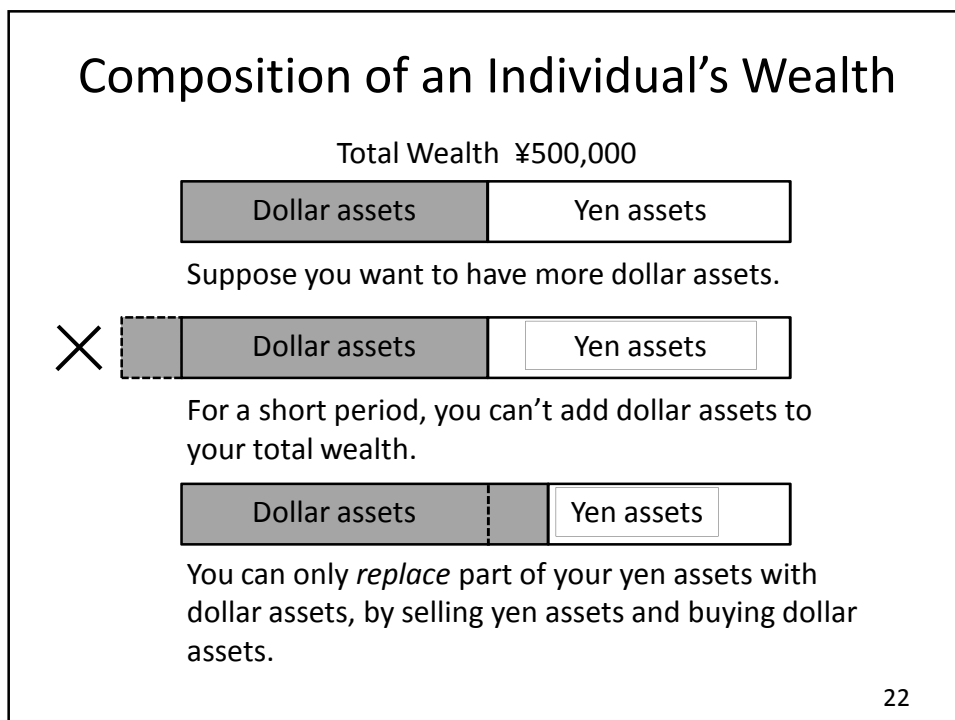
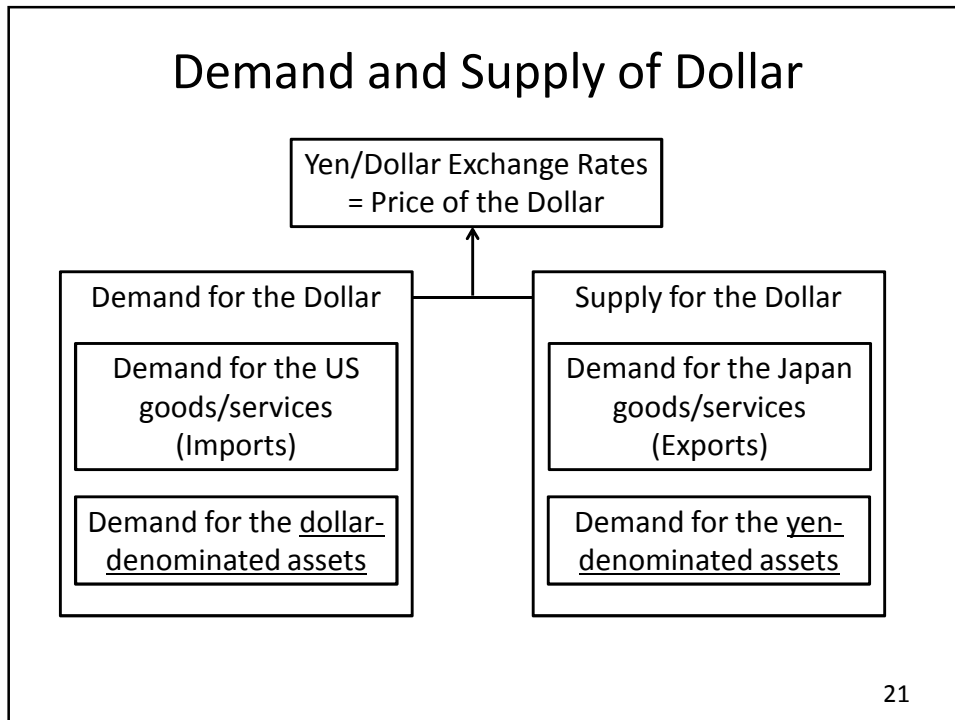
Appreciation is an increase in the value of currency relative to another currency.

Dollar’s appreciation: ¥80/\$ → ¥81/\$

Appreciated currency is more valuable and therefore can buy larger amount of another currency.

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When you want to increase dollar assets;

1. Sell part of your yen assets for dollars.
2. Buy dollars in exchange for yens.
3. Buy dollar assets for dollars.

Demand for dollar assets \Leftrightarrow Demand for the dollar

When you want to increase yen assets;

1. Sell part of your dollar assets for dollars.
2. Sell dollars in exchange for yens.
3. Buy yen assets for dollars.

Demand for yen assets \Leftrightarrow Supply of the dollar

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Asset Approach

Transactions of “stock” of assets:

- Transaction of “accumulated” assets
 - ➔ Volume of transactions can be large.
- Transaction of “existing” assets
 - ➔ Transactions can happen in a minute.

A large amount of demand/supply of the assets could rise for a very short time.

For a short period of time, the demand and supply of the dollar are mainly driven by the demand for the dollar/yen **assets**, rather than the demand for the US/Japan **goods**.

*An Asset Approach to the Short-term
Exchange Rate Determination*

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“Export and import transactions are small relative to the amount of domestic and foreign assets at any given time. For example, foreign exchange transactions in the United States each year are well over 25 times greater than the amount of U.S. exports and imports.” (Mishkin, p.511)

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When dollar assets are more attractive than yen assets, investors try to replace part of yen assets with dollar assets: demand for the dollar.

When dollar assets are less attractive than yen assets, investors try to replace part of dollar assets with yen assets: supply of the dollar.

What factors make dollar assets more/less attractive than yen assets ?

What factors affect the demand and supply of the dollar?

➔ Asset returns

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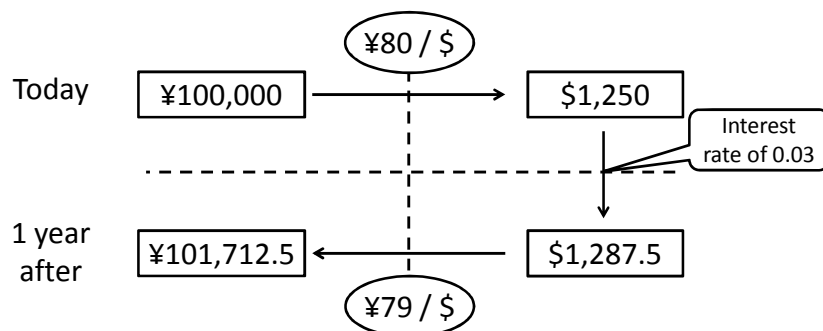
Interest Rates and Asset Returns

Asset returns: the percentage increase in value an asset offers over some time period.

A currency's interest rate: the amount of a currency an individual earn by lending a unit of the currency for a year.

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Interest Rates and Asset Returns



Dollar return of dollar denominated asset
= interest rate of that asset (= 0.03)

Yen return of dollar denominated asset

$$= \frac{101,712.5 - 100,000}{100,000} = 0.017125$$

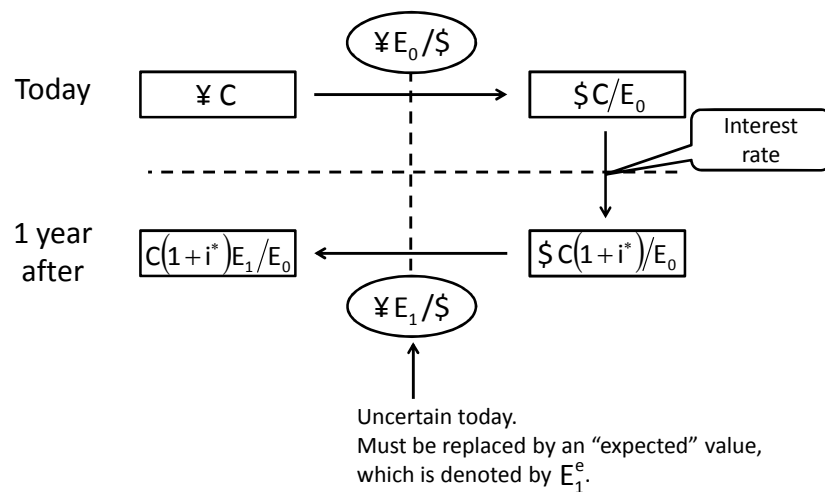
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Generally, the *Yen* return on dollar denominated assets is **not** equal to the interest rate of dollar denominated assets.

- If the dollar appreciates against the yen, the yen return on dollar assets is greater than the interest rate.
- If the dollar depreciates against the yen, the yen return on dollar assets is smaller than the interest rate.

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Simple Rules for Returns on Foreign Assets



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Simple Rules for Returns on Foreign Assets

$$R^e \cong i^* + \frac{E_1^e - E_0}{E_0}$$

Expected rate of
yen return of
a dollar asset

\cong

Interest rate of
a dollar asset

+

Expected rate
of dollar
appreciation

All else equal,

- An increase in the interest paid on dollar-denominated assets raises the expected rate of yen return of the assets
- A depreciation of the “current” dollar raises the expected rate of yen return of the assets
- A depreciation of the “future” dollar lowers the expected rate of yen return of the assets

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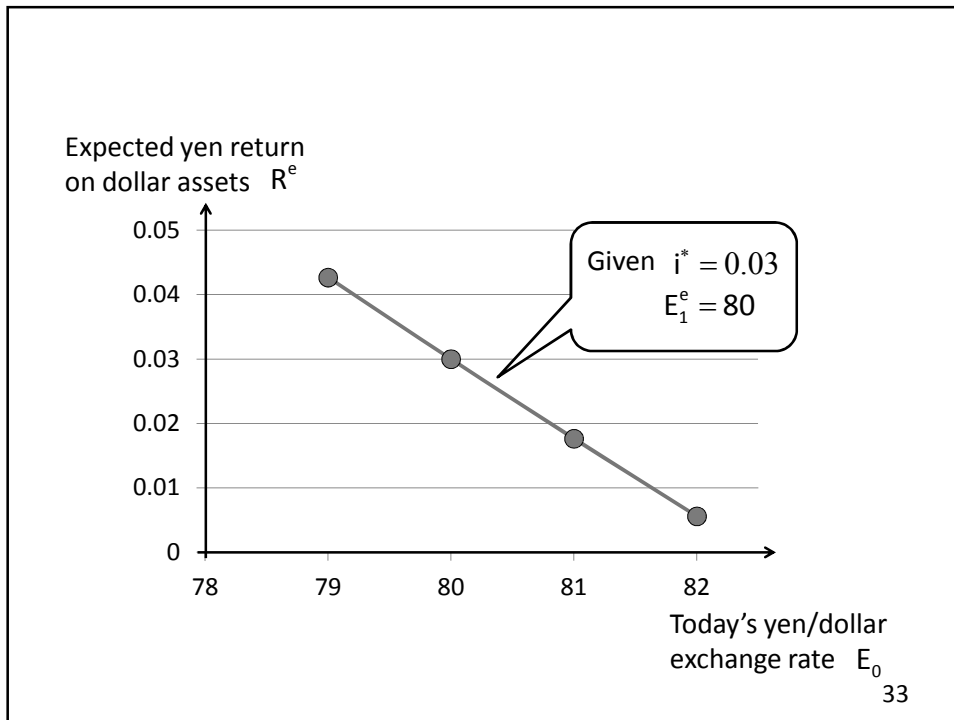
Depreciation of the Current Dollar

How changes in the current exchange rate affect the expected yen return on dollar assets when $E_1^e = 80$

$$R^e \cong 0.03 + \frac{80 - E_0}{E_0}$$

Today's yen/dollar exchange rate	Expected yen/dollar exchange rate	Expected yen return on dollar assets
81	80	0.01765
80	80	0.03
79	80	0.04265
78	80	0.05564

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Depreciation of the Future Dollar

How changes in the future exchange rate affect the expected yen return on dollar assets when $E_0 = 80$

$$R^e \cong 0.03 + \frac{E_1^e - 80}{80}$$

Today's yen/dollar exchange rate	Expected yen/dollar exchange rate	Expected yen return on dollar assets
80	81	0.0425
80	80	0.03
80	79	0.0175
80	78	0.005

