

# Section 4

International Economics

4.5 – 4.8



# Overview of International Economics

4.5 Balance of Payments

4.6 Exchange Rates

4.7 Balance of Payments Problems

4.8 Terms of Trade



# 4.5 What is the Balance of Payments (BOP)



Key Economic Question:

How well is an economy performing in the global economy?

This is determined by calculating the Balance of Payments



```
graph LR; A[Current Account] --> B[Capital Account]; B --> C[Balance of Payments];
```

Current  
Account

Capital  
Account

Balance of  
Payments

Visible  
Trade  
Imports  
and



Invisible  
Trade  
Imports  
and



Net  
Transfers



Current  
Account



Net Transfers of  
Capital



Net Investment  
and loans



Changes in  
National Reserves



Capital  
Account  
(Financial  
Account)



## 4.6 What are Exchange Rates?



Exchange Rates express the value of one currency in terms of another currency.



# Exchange Rate Systems



Fixed Exchange Rate System

Government intervention to maintain a fixed exchange rate

Floating (Flexible) Exchange Rate System

Supply and Demand determine the exchange rate

Managed Exchange Rate System

Exchange rate generally allowed to float but governments intervene to avoid sudden

# Exchange Rate Systems



## Fixed Exchange Rate System

Government intervention to maintain a fixed exchange rate

## Floating (Flexible) Exchange Rate System

Supply and Demand determine the exchange rate

## Managed Exchange Rate System

Exchange rate generally allowed to float but governments intervene to avoid sudden

# Currency Movements in a Floating Exchange Rate System



**Appreciation**



**Depreciation**

# Currency Movements in a Fixed Exchange Rate System



**Revaluation**



**Devaluation**

# Currency Movements in Floating Exchange Rate System



Currency Appreciates

Increase in  
Demand

Decrease in Supply

# Currency Movements in Floating Exchange Rate System



Currency Depreciates

Decrease in  
Demand

Increase in Supply

# Demand and Supply and Exchange Rates



Currency appreciates when demand increases



Currency depreciates if demand decreases

# Demand and Supply and Exchange Rates



**Currency appreciates  
when supply decreases**



**Currency depreciates  
when supply increases**

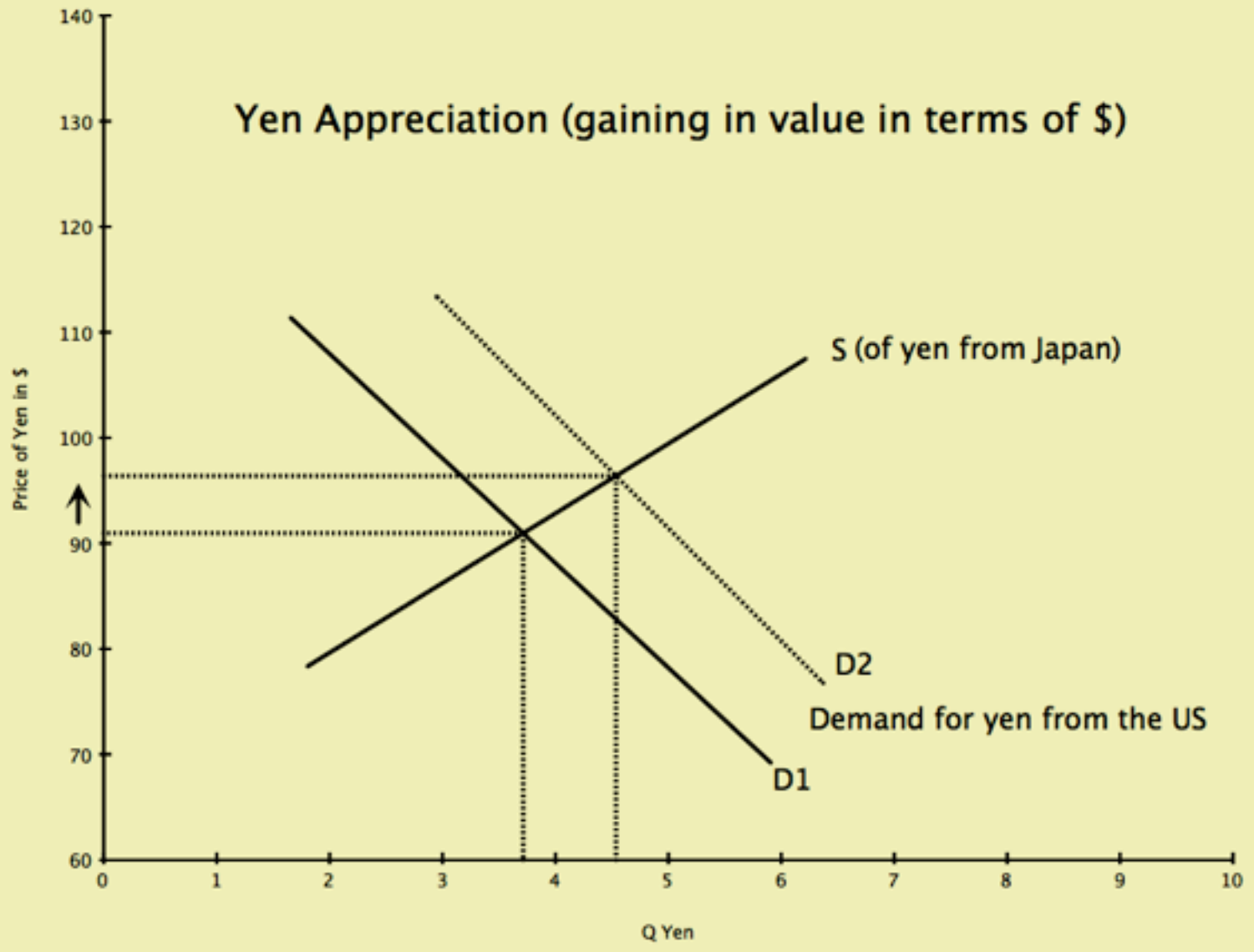
# Example: The Japanese Yen Appreciating to the US Dollar



Increasing demand for  
Yen when holders of  
US dollars:



## Yen Appreciation (gaining in value in terms of \$)



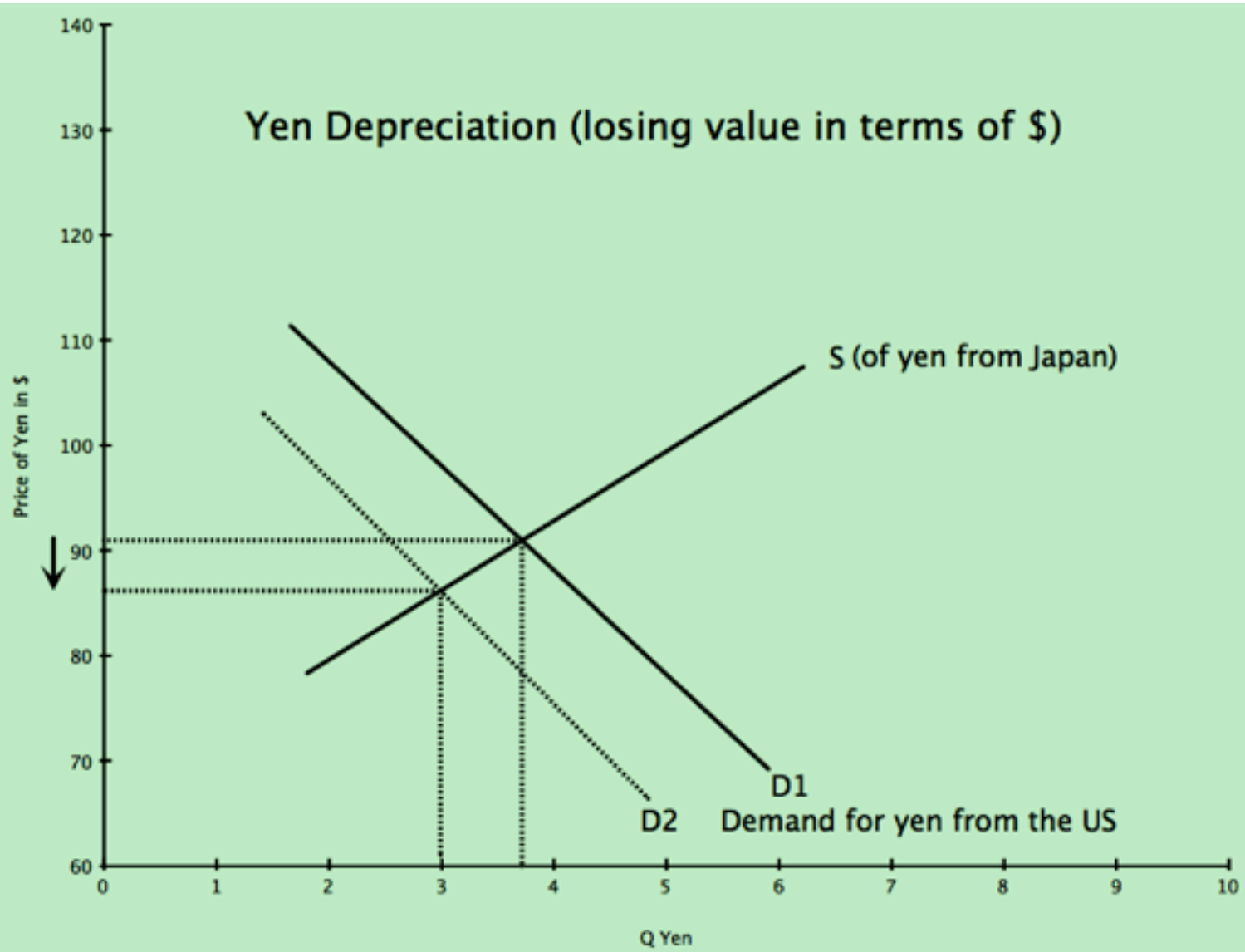
# Example: The Japanese Yen Depreciating to the US Dollar



Less demand for Yen  
when holders of US  
dollars



## Yen Depreciation (losing value in terms of \$)



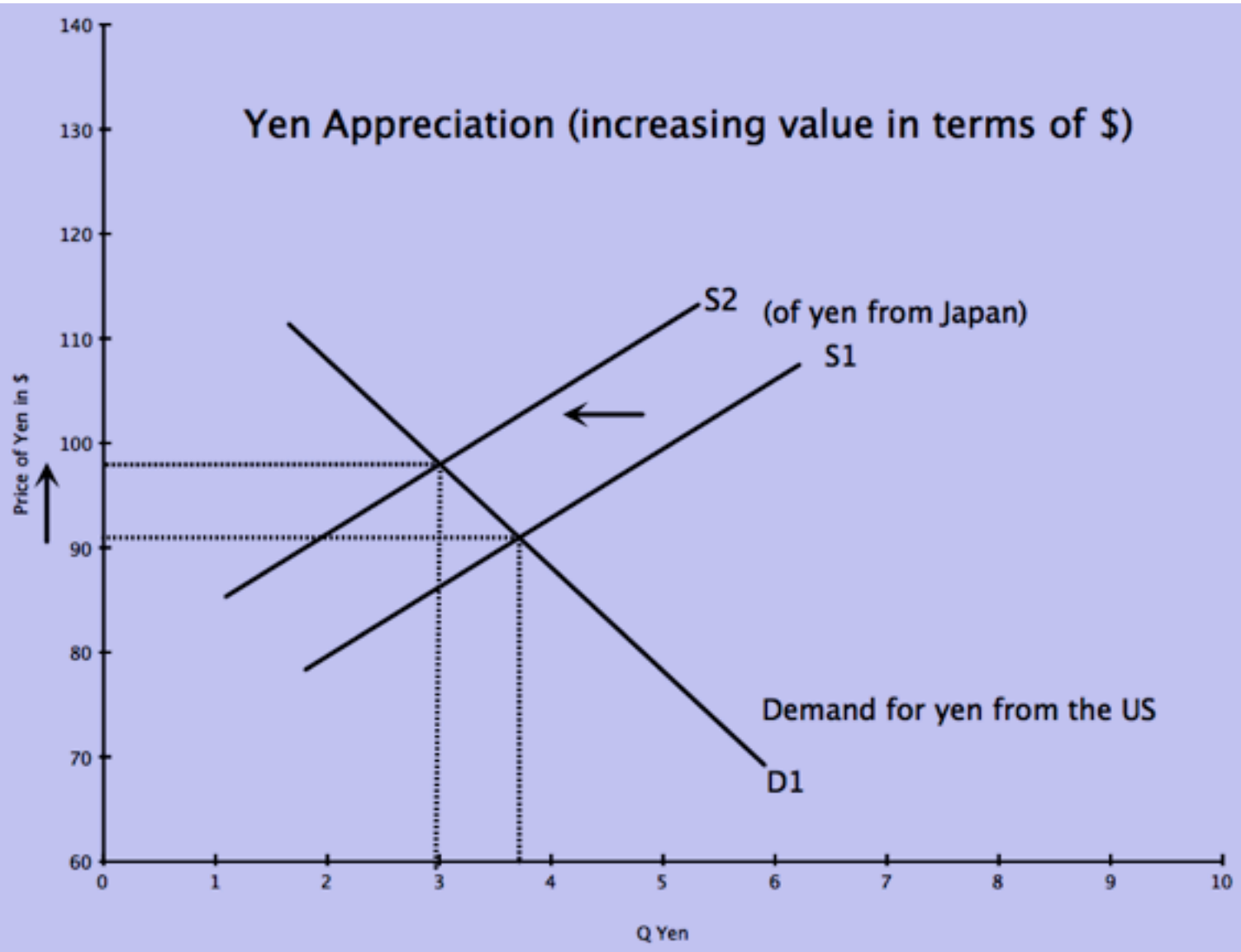
# Example: The Japanese Yen Appreciating to the US Dollar



Decreasing supply of  
Yen because



# Yen Appreciation (increasing value in terms of \$)



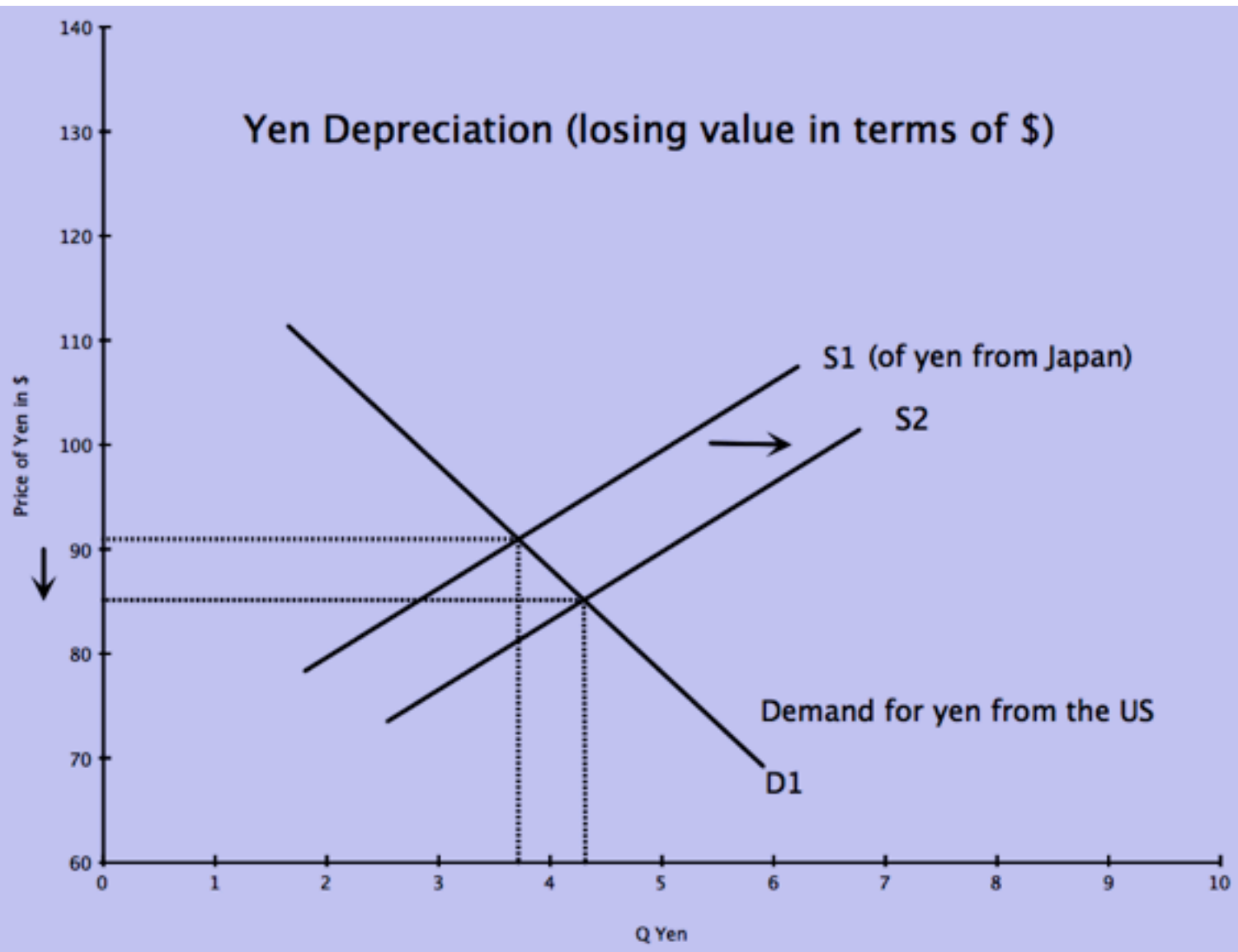
# Example: The Japanese Yen Depreciating to the US Dollar



## Increased supply of Yen

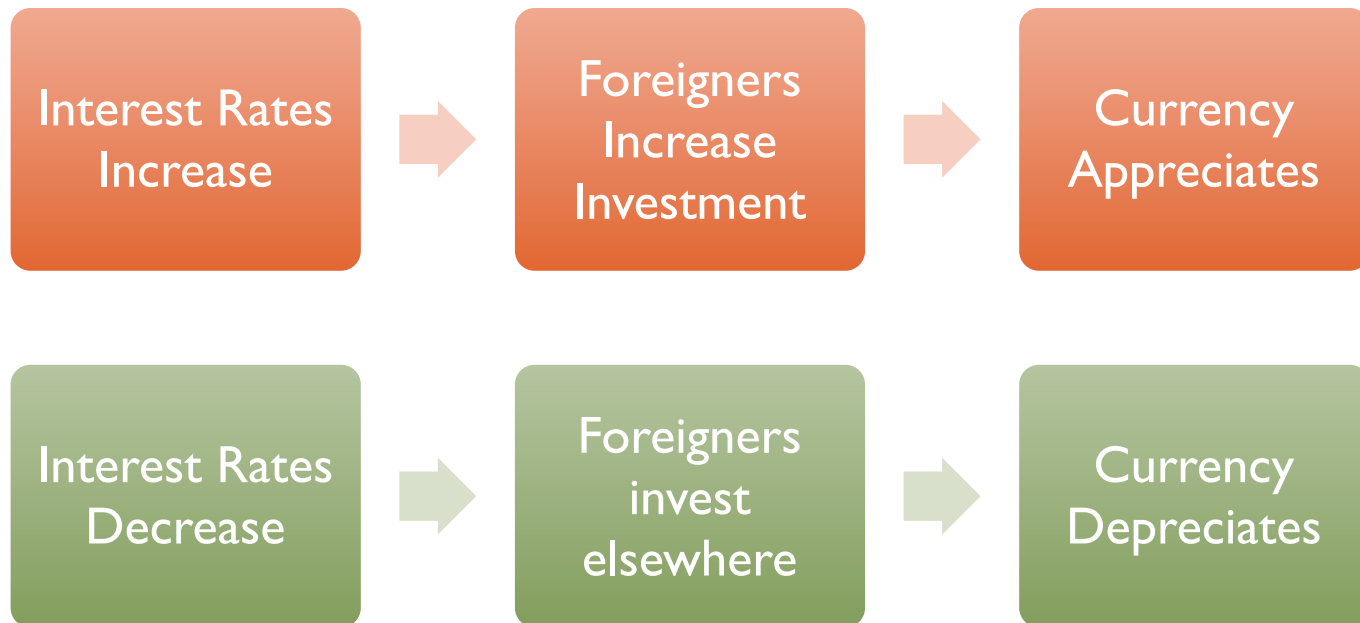


## Yen Depreciation (losing value in terms of \$)



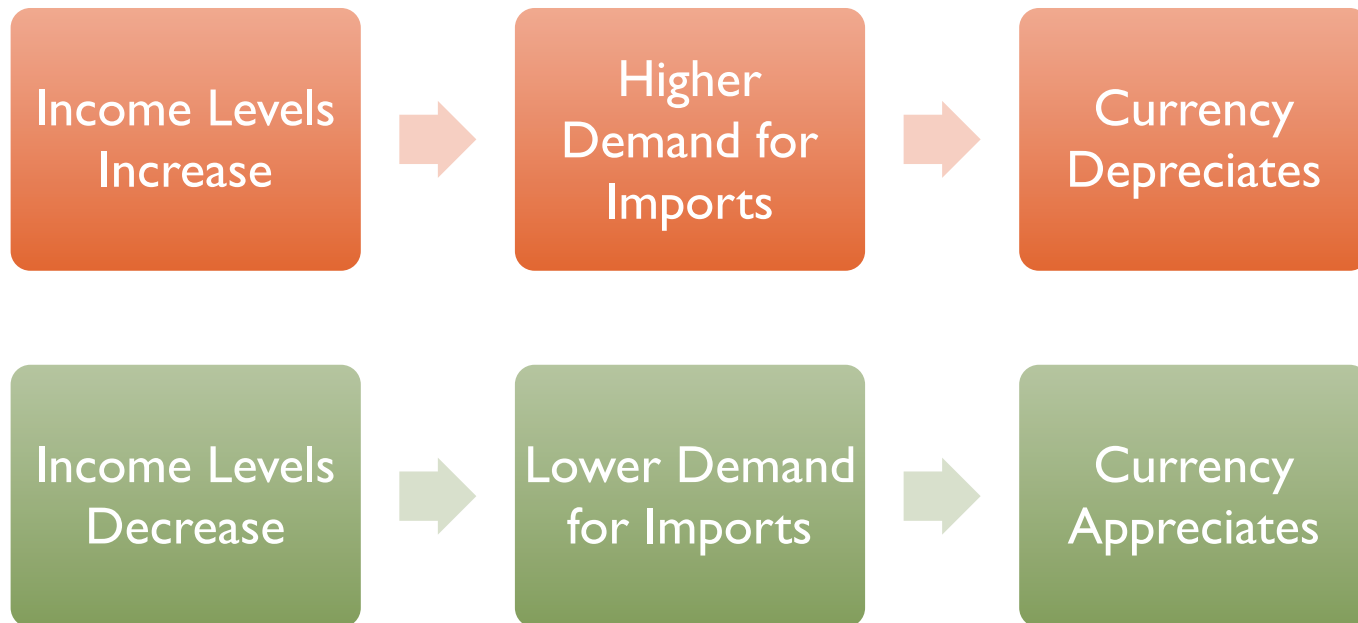
# Underlying Causes of Changing Exchange Rates

## Interest Rates



# Underlying Causes of Changing Exchange Rates

## Changes in Income



# Underlying Causes of Changing Exchange Rates

## Changes in Preferences



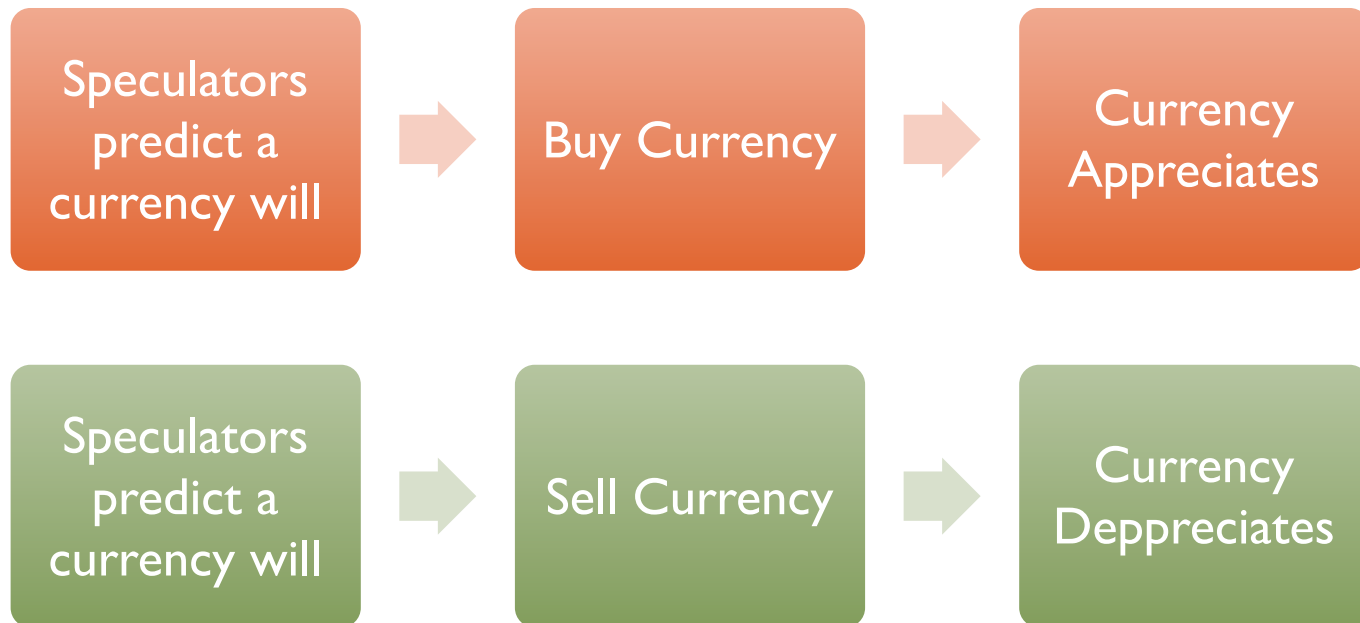
# Underlying Causes of Changing Exchange Rates

## Relative Rates of Inflation



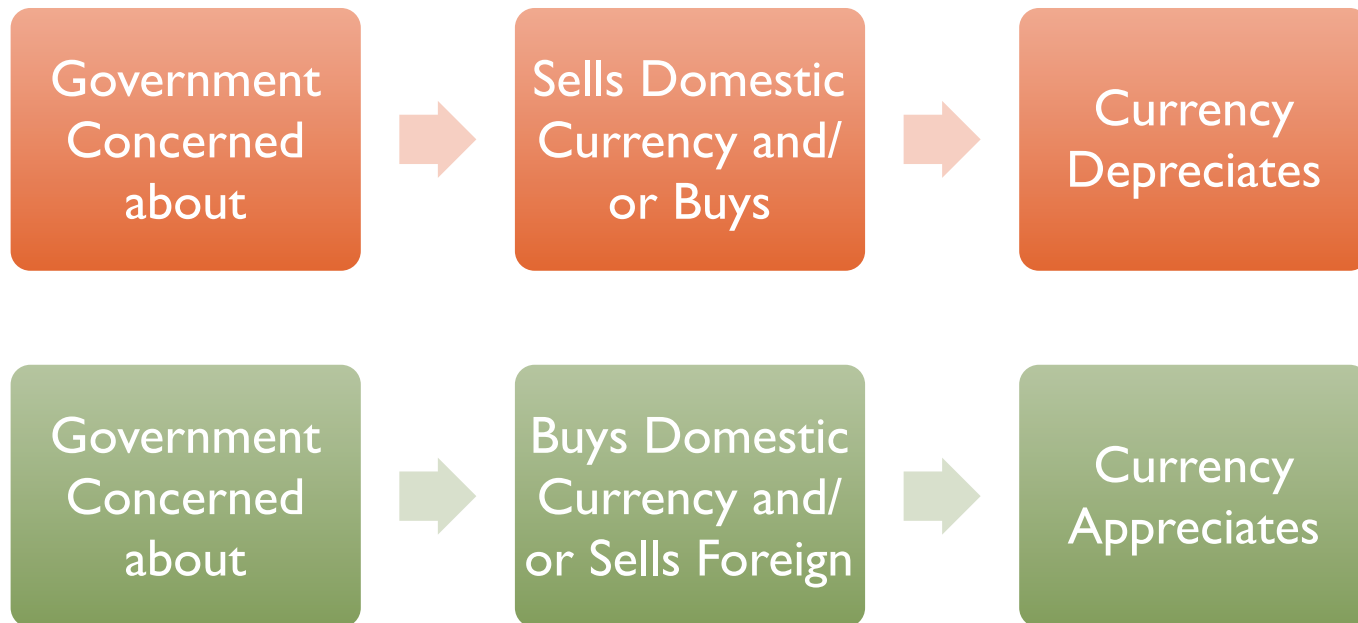
# Underlying Causes of Changing Exchange Rates

## Speculation



# Underlying Causes of Changing Exchange Rates

## Foreign Currency Reserves



# Impact of exchange rates on trade



Yen Appreciates

Exports more expensive for overseas buyers

Imports cheaper for Japanese buyers

Potential unemployment in export industries

Reduction in import induced inflation



# Impact of exchange rates on trade



Yen Depreciates

Exports cheaper for overseas buyers

Imports more expensive

Potential increased employment in export Industries  
Increase in import induced inflation



## 4.7 What problems can emerge with an economy's is Balance of Payments (BOP)



Key Economic Question:  
How can an economy  
maintain a consistent balance  
of payments?



# Current Account Deficit Causes and Consequences



A persistent and large deficit (high percentage of GDP) is perceived as economic weakness.

Preference for  
foreign goods

Domestic  
goods not  
competitive in  
price or  
quality

High exchange  
rates makes  
imports cheap  
and exports  
expensive

No domestic  
capacity to  
meet demand

# Current Account Surplus Causes and Consequences



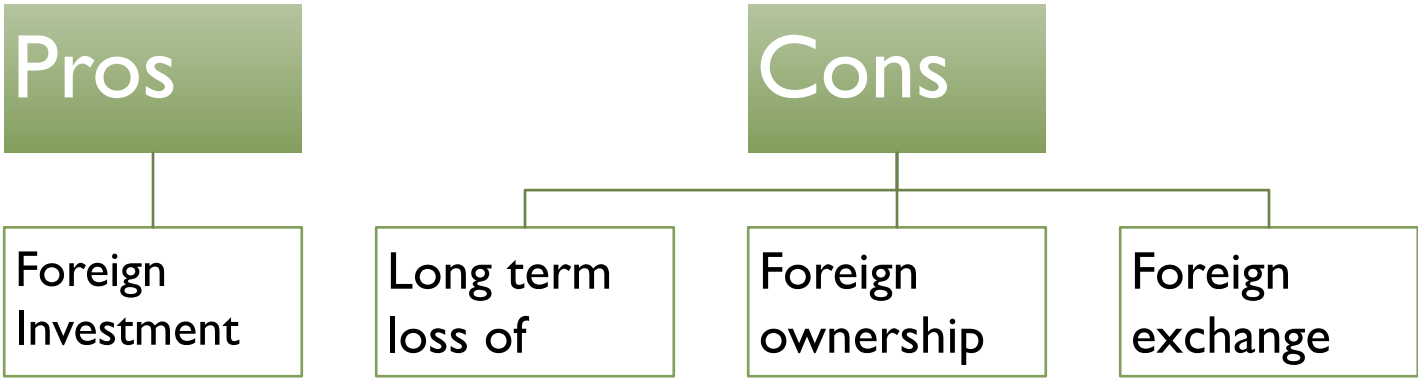
An enduring and a large (high percentage of GDP) perceived as economic strength.

High savings rates and little expenditure on imported goods and services

Domestic goods competitive in price or quality

Low exchange rates makes imports expensive and exports cheap

Domestic capacity to meet demand



# Current Account Deficit

Pros and Cons



# Pros

Foreign investments made overseas

National Saving for future consumption

# Cons

Political tension (one country's surplus is

Tax loss as overseas investments

## A Current Account Surplus

Pros and Cons



# How to correct a Current Account Deficit

## Correct

### Short Term Strategies

### Long Term Strategies

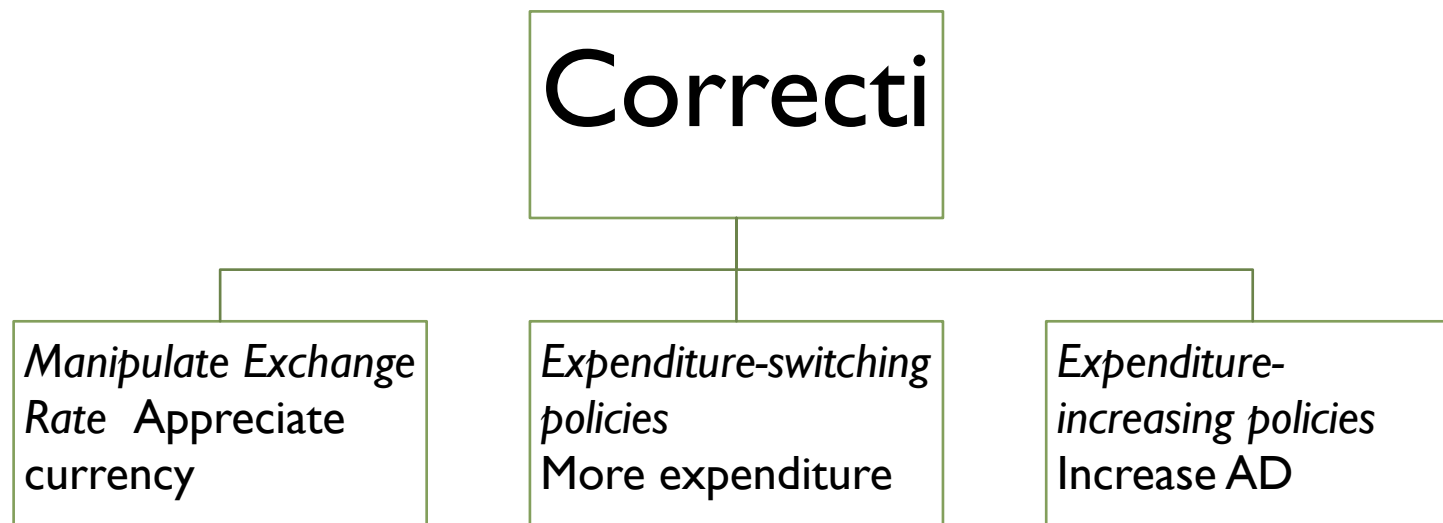
*Manipulate Exchange Rate*

*Expenditure-switching*

*Expenditure-reducing*

*Supply-side policies*

# How to correct a Current Account Surplus



# What is the link between BOP and Exchange?



BOP Equilibrium

Current Account  
Deficit or Surplus

No pressure on  
exchange rates

Pressures on exchange  
rates

# Currency Depreciates



- ▶ Recall that a depreciating currency makes exports cheaper and imports more expensive
- ▶ Theoretically it will reduce the Current Account Deficit
- ▶ In the real world however two factors need to be considered when determined how a change in import and export prices will impact the Current Account.

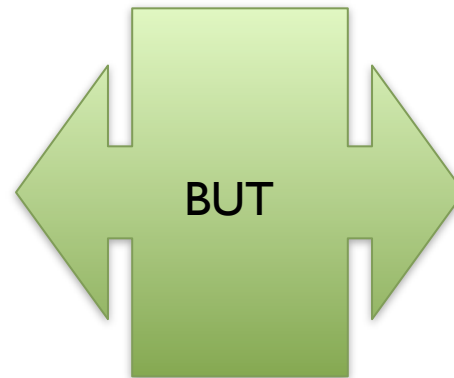
**What are these two factors?**

# Currency Depreciates



- ▶ Recall that a depreciating currency makes exports cheaper and imports more expensive
- ▶ Theoretically it will reduce the Current Account Deficit

**Elasticity**

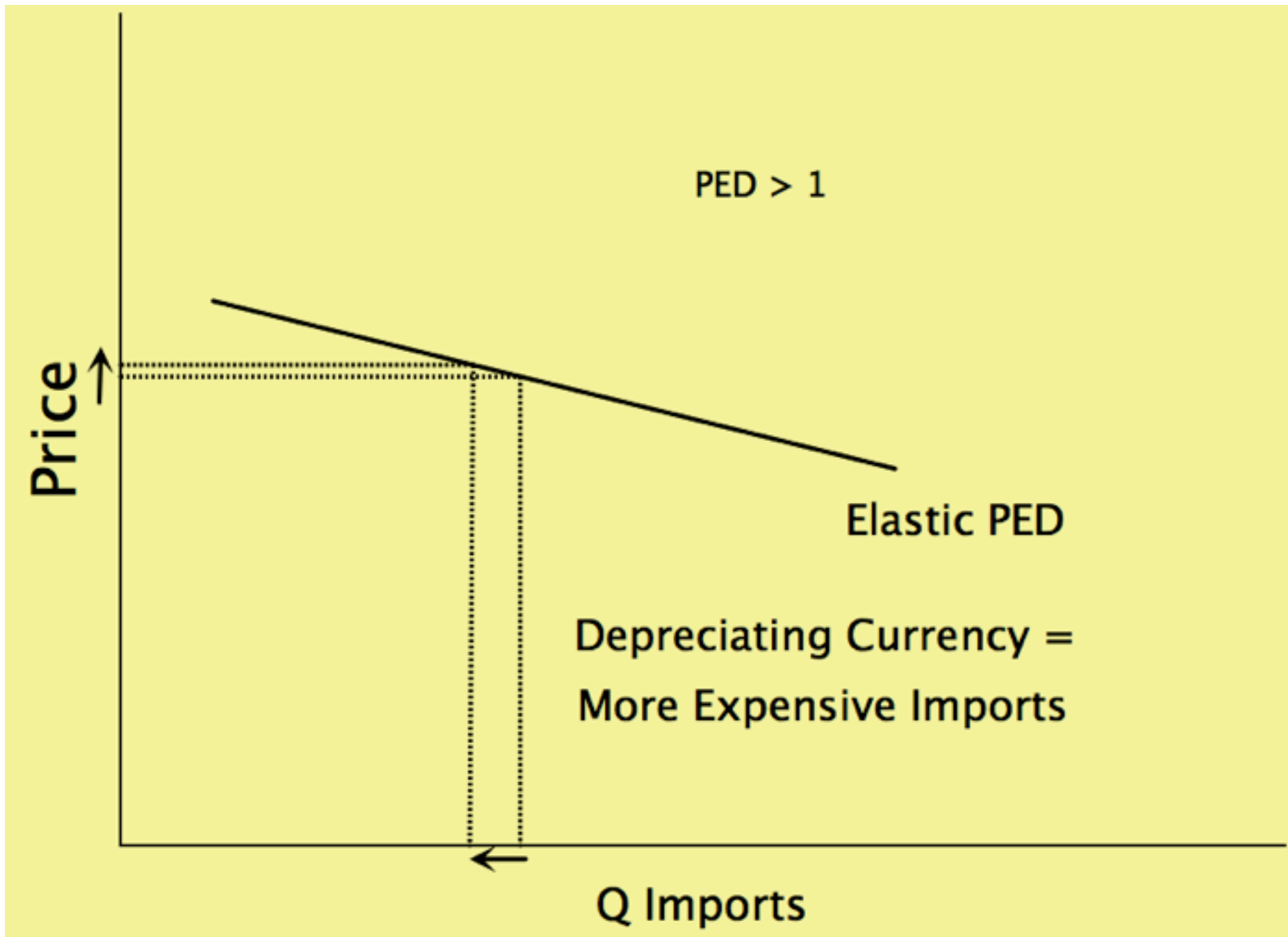


**Time**

# Marshall-Lerner Condition

►  $\text{PED of Exports} + \text{PED of imports} > 1$

In other words reducing the currency exchange rate will only reduce the Current Account deficit when the PED of Exports together with the PED of imports is greater than one i.e. elastic.



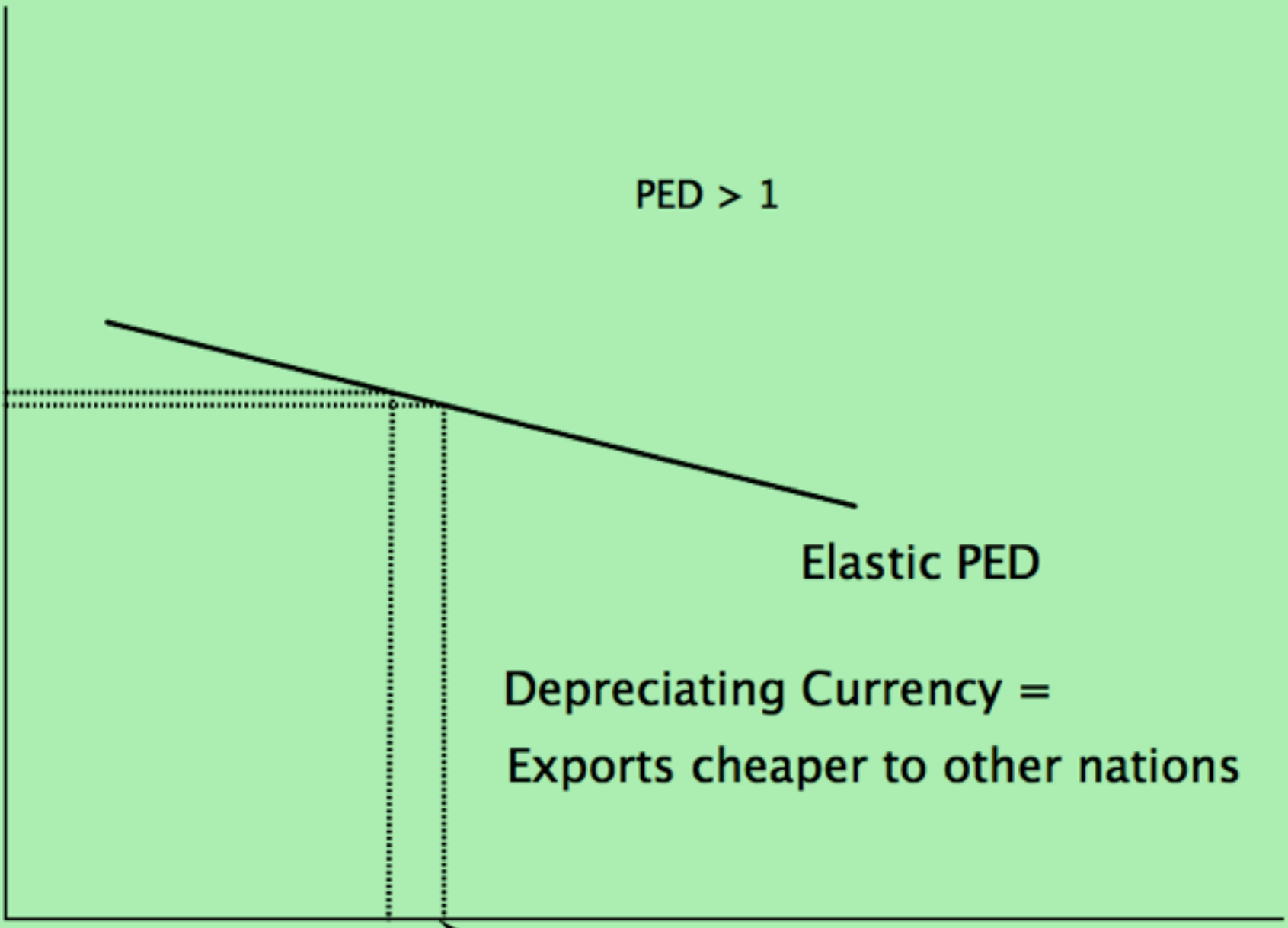
Price

$PED > 1$

Elastic PED

Depreciating Currency =  
Exports cheaper to other nations

Q Exports



# J-Curve



- ▶ Recall that time is a major determinant of elasticity
- ▶ Therefore the Short-Run PED and the Long-Run PED need to be considered.



PRINCETON STUDIES IN INTERNATIONAL ECONOMICS

No. 87, August 2000

TRADE ELASTICITIES  
FOR THE G-7 COUNTRIES

PETER HOOPER

KAREN JOHNSON

AND

JAIME MARQUEZ

TABLE 2  
Short-Run Elasticities

	Income		Price	
	Exports	Imports	Exports	Imports
Canada	1.1*	1.3*	-0.5*	-0.1
France	1.8*	1.7*	-0.1	-0.1
Germany	0.5	1.0*	-0.1	-0.2*
Italy	2.3*	1.0*	-0.3*	-0.0
Japan	0.6	1.0*	-0.5*	-0.1
United Kingdom	1.1*	1.0*	-0.2*	-0.0
United States	1.8*	2.3*	-0.5*	-0.6

Note: \* denotes statistical significance at the 5 percent level.

TABLE 1  
Long-Run Elasticities

	Income		Price	
	Exports	Imports	Exports	Imports
Canada	1.1*	1.4*	-0.9*	-0.9*
France	1.5*	1.6*	-0.2	-0.4*
Germany	1.4*	1.5*	-0.3	-0.06*
Italy	1.6*	1.4*	-0.9*	-0.4*
Japan	1.1*	0.9*	-1.0*	-0.3*
United Kingdom	1.1*	2.2*	-1.6*	-0.6
United States	0.8*	1.8*	-1.5*	-0.3*

Note: \* denotes statistical significance at the 5 percent level.

# Comparing SR and LR PED

Country	SR PED Exports	SR PED Imports	Total SR PED	LR PED Exports	LR PED Imports	Total LR PED
Japan	.5	.1	.6	1.0	.3	1.3
US	.5	.6	1.1	1.5	.3	1.8

Does this trend meet theoretical expectations?  
What are the implications of these figures for Japan and the US?

# The J-Curve

- ▶ Though policy makers may hope that a currency depreciation will improve the Current Account deficit in the short-run the Current Account Deficit will worsen even when the Marshall-Lerner Condition is met.
- ▶ Why do you think that would be so?

# The J-Curve



# 4.8 What are Terms of Trade (TOT)?



## Key Economic Question:

What quantity of imported goods and services can be bought with the proceeds of an economy's exports?

The Terms of Trade answers this question by providing a ratio of export prices to import prices expressed as an index value.



# The Terms of Trade



- ▶ The Terms of Trade looks at the relationship between the price received for exports and the amount of imports a country is able to buy with that money.

$$\text{Terms of Trade} = \frac{\text{Weighted Index of Average Price of Exports}}{\text{Weighted Index of Average Price of Imports}} \times 100$$

Year	Index of Average Export Price	Index of average import prices	Calculation	Term of Trade
2000 (Base Year)	100	100	$100/100 \times 100$	100
2001	102	100	$102/100 \times 100$	102
2002	106	104	$106/104 \times 100$	101.92
2003	110	110	$110/110 \times 100$	100

2001 Improvement in the TOT = On average the country's exports will buy 2% more imports

2002 Deterioration of TOT = On average the country's exports now buy less than 2001 but better than 2000

2003 TOT falls back to 100 = Given amount of exports will buy the same amount in imports as in 2000

## TOT Example

# Movements in TOT



## **Improving TOT**

Export prices rise more relative to Import prices or if Export prices fall relatively less than Import prices



## **Deteriorating TOT**

Import Prices Rise more relative to Export prices or if Import Prices fall relatively less than Export prices.



## Improving TOT

Rise in Standard of Living  
but International  
Competitiveness can be  
jeopardized (Your  
exports are more  
expensive)



## Deteriorating TOT

Fall in Standard of Living  
but International  
Competitiveness improves  
(Your exports are  
cheaper)



# Causes of Changes in the TOT



## Short Term Changes in TOT

Changes in  
Supply and  
Demand

Changes in  
Relative  
Inflations  
Rates

Exchange  
Rates

# Causes of Changes in the TOT



## Long Term Changes in TOT

Changing  
Income  
Levels

Changes in  
Productivity

Oversupply  
(Gluts)