CHAPTER 7

THE INSTRUMENTS OF TRADE POLICY: TARIFFS

(Chapter 9 of the textbook)

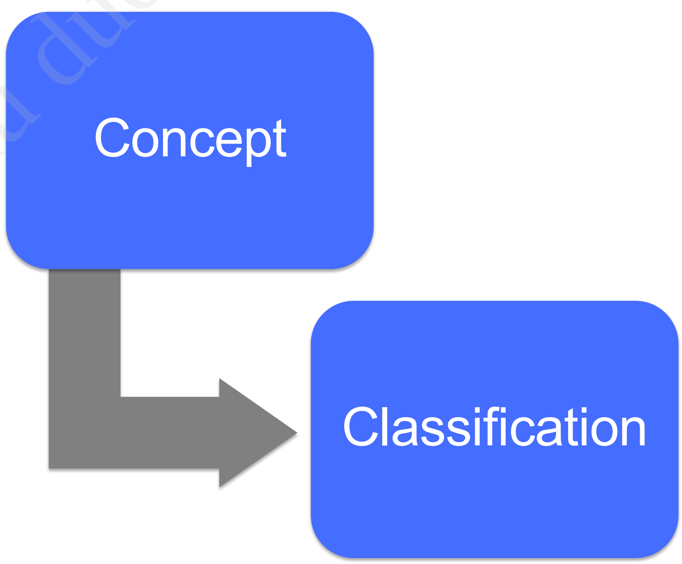
Dr. Vu Thanh Huong
Faculty of International Business and Economics
UEB - VNU

Learning goals

- Concept and classification of a tariff
- Evaluate the costs and benefits of tariffs
- Analyze the welfare effects, and winners and losers of tariff policies
- Measure level of protection

Preview

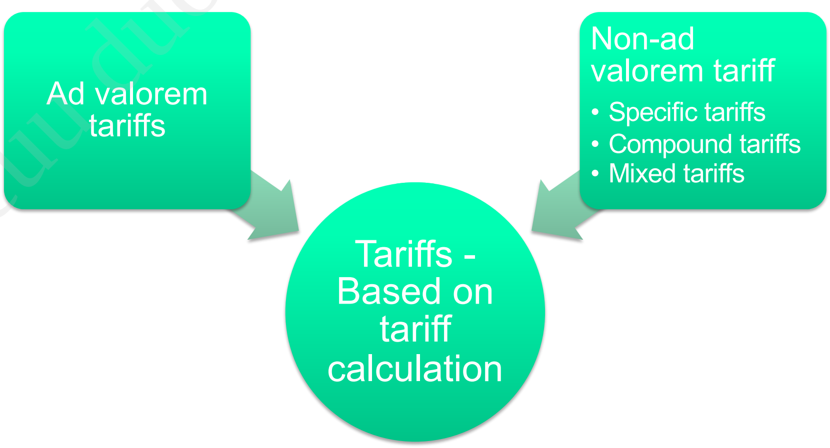
- Concepts and classifications of a tariff
- Basic tariff analysis
- Costs and benefits of a tariff in a large country case
- Costs and benefits of a tariff in a small country case
- Measuring the amount of protection



Concept

- Tariff: an charge on imports or exports
- Notes:
  - Both import and export tariffs
  - Indirect tax
  - Reduce competitiveness of imported and exported products

Different forms of tariffs



Ad valorem tariffs

- Levied as a fraction of the value of imported and exported goods (%)
  - E.g: 80% on car (50,000 USD/car) imported
- Tariff per unit = $P_0 * t$
- Depends on market price
- $P_t = P_0 + P_0 * t$
  - Pt: Price with tariff, P_0: Imported/Exported Price, t: tariff rate %

Specific tariffs

- A fixed monetary value per unit of the dutiable item
- Levied on the basis of volume (US$100/m^3), quantity ($3 per oil barrel) or weight (US$ 2/kg of cheese)…
- Tariff per unit: Not depend on market price, simple and easy to calculate
- $P_t = P_0 + t$
  - Pt: Price with tariff, P_0: Imported/Exported Price, t: tariff rate

Specific tariffs (cont.)

- Specific tariff and other non ad valorem tariffs can be converted to ad valorem tariff:
  - AVE: Ad valorem equivalent

AVE = Tariff per unit/Price

  - E.g: beef price is $ 3/kg - AVE = 600%
  - Compare with ad valorem tariff: Less transparent, more distortion on relative good prices and less stable protection

Compound tariffs

- A combination of ad valorem and a specific tariff
  - VD: US tariff on chocolate of 43% and USD 528/ton (HS 18.06.32.08)

Swiss chocolate
$ 6 356/tom

+

43%: Ad valorem

$ 528/ton Specific

⇔

$ 2,733

$ 528 /ton

Tariff = $ 3,261/ton
AVE = 5,,3%

Mixed tariffs

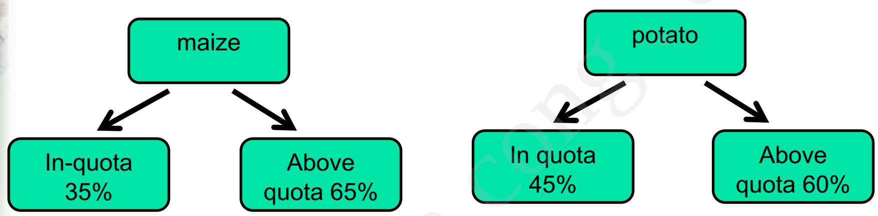
- A choice between ad valorem and/or specific tariffs depending on the condition attached: whichever is greater (normally); or whichever is lower (sometimes)
- A minimum or maximum of tow kinds of tariffs.
  - E.g:
    - India imposes a tariff on fabrics of 15% or Rs. 87 per m2, depending on whichever is greater
    - A minimum of 10% or 2USD/kg on fish imported

Other types of tariffs

- **GSP tariffs (Generalized Systems of Preferences)**
  - The developed nations lower or eliminate tariffs for the least and developing countries
  - GSP EU, Japan, US
- **MFN tariffs (Most favored nation)**
  - The tariff level that a member of the GATT/WTO charges on a good to other members.
  - Non WTO countries can sign bilateral or multilateral trade to get MFN tariff
  - US: Toys will be imposed a MFN tariff of 7.4% or normal tariff of 38%

Other types of tariff (cont.)

- **Quota tariff:**
  - A two-tiered tariff
  - A lower in-quota tariff is applied to units of imports below/within quota
  - A high over-quota tariff is applied to imports above/out of quota
  - Complicated to administer
  - E.g: Philippines.



Other types of tariff (cont.)

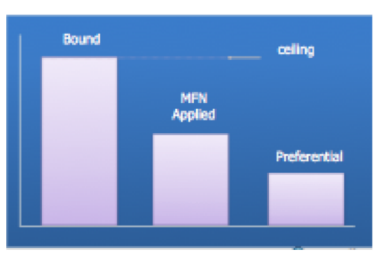
- **Season tariffs**
  - Tariff depending on season/times during the year
- **Escalated tariffs**
  - Tariff is levied based on level of processing content in goods.
  - The import duties on components or raw materials are lowest, and move progressively higher on semi-finished goods upwards to the finished goods.
  - Objectives: protect domestic processing industries and limit the scope of trade-related industrialization in other countries.
  - Commonly used in the developed nations on agricultural products, e.g US
  - Tariff escalation persists and has become one of the most debated issues in the current Doha Round

Other types of tariff

- Bound tariffs
  - Bound tariffs are specific commitments made by individual WTO member government
  - The maximum tariff level for a given commodity line.
- Applied MFN tariffs
  - Tariffs actually applied to all imports except where preferences
  - Bound tariffs ≥ Applied tariffs
  - No or little binding overhang for most developed countries but high for developing countries.

Other types of tariffs (cont.)

- Preferential tariffs
  - Lower than MFN tariffs
  - Preferences differ between partners and agreements
  - E.g: Vietnam benefits from preferences under BTAs and FTAs



Tariffs in Vietnam

- **Preferential tariffs (MFN tariffs):**
  - Apply for countries/groups of countries originated from WTO countries or countries signing MFN agreement with Vietnam.
- **Normal tariffs**
  - Apply for countries that do not have MFN agreement with Vietnam.
  - Normal tariff = Preferential tariff * 150%
- **Special preferential tariffs**
  - E.g: Tariff in ATIGA, VKFTA, VJEPA…

Preview

- Concepts and classifications of a tariff
- Basic tariff analysis
- Costs and benefits of a tariff in a large country case
- Costs and benefits of a tariff in a small country case
- Measuring the amount of protection

Assumptions

- Two countries: Home and Foreign
- Both countries produces and consumes wheat.
- Wheat price (P_w) is quoted in terms of Home currency
- Suppose: in the absence of trade the price of wheat in Foreign (P^*_w) is lower than that in Home (P_w).
  - With trade, Foreign will export wheat => construct an export supply curve
  - With trade, Home will import wheat => construct an import demand curve

Supply, Demand and Trade in a Single Industry (cont.)

- Export supply curve and Import demand curve are derived from the underlying domestic supply and demand curves.
- Foreign export supply curve:
  - the excess of what Foreign producers supply over what Foreign consumers demand, at each price.
- Home import demand curve:
  - the excess of what Home consumers demand over what Home producers supply, at each price.

Home's Import Demand Curve

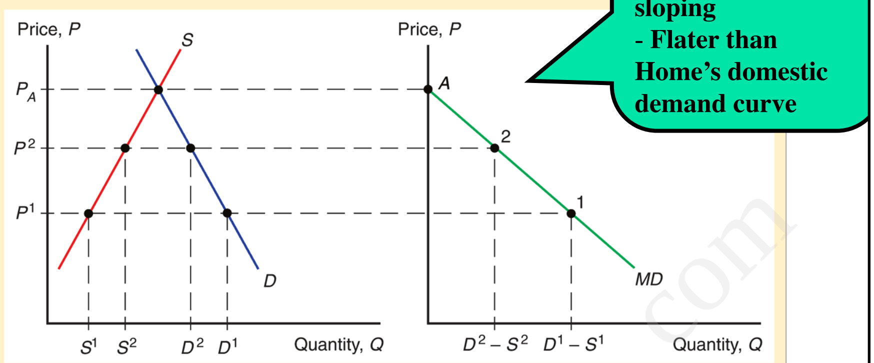


Figure 8-1

Deriving Home's Import Demand Curve

As the price of the good increases, Home consumers demand less, while Home producers supply more, so that the demand for imports declines.

Foreign' Export Supply Curve

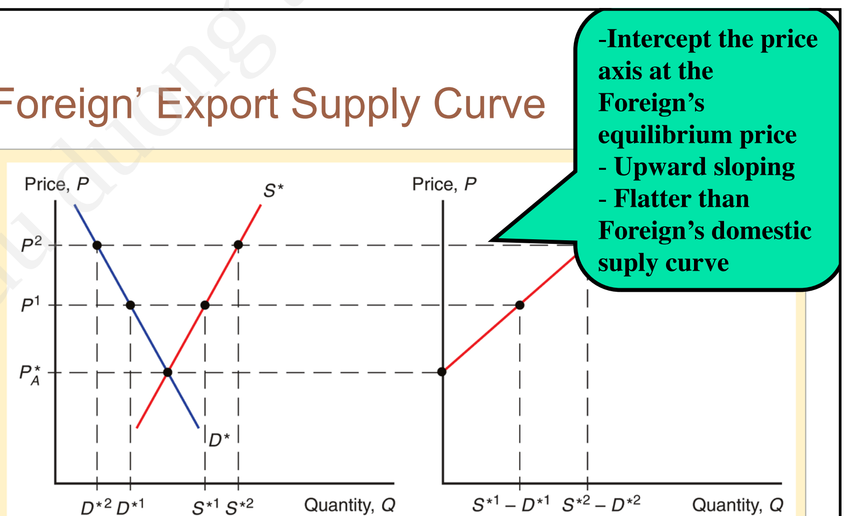


Figure 8-2

Deriving Foreign's Export Supply Curve

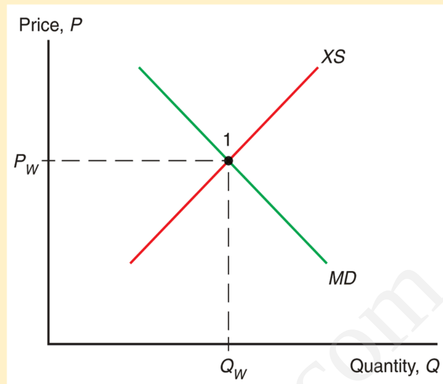
As the price of the good rises, Foreign producers supply more while Foreign consumers demand less, so that the supply available for export rises.

The equilibrium

Figure 8-3

World Equilibrium

The equilibrium world price is where Home import demand (*MD* curve) equals Foreign export supply (*XS* curve).



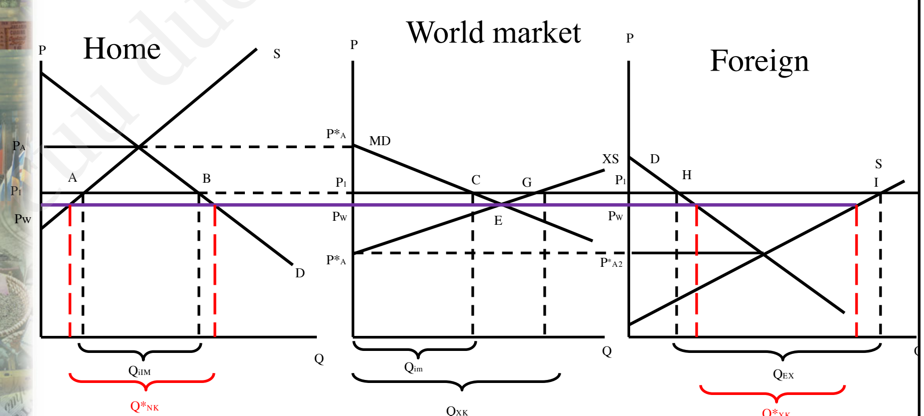
- In equilibrium

Import demand = Export supply

Home demand – Home supply = Foreign supply – Foreign demand

$$\underbrace{\text{Home demand + Foreign demand}}_{\text{World demand}} = \underbrace{\text{Home supply + Foreign supply}}_{\text{World supply}}$$

The equilibrium in free trade



World equilibrium price is Pw

Prices in Home and Foreign are equal = P_W

Quantity traded is $Q'_{im} = Q'_{ex}$

Preview

- Concepts and classifications of a tariff
- Basic tariff analysis
- Costs and benefits of a tariff in a large country case
- Costs and benefits of a tariff in a small country case
- Effective rate of protection

Measuring the costs and benefits

- Suppose Home imposes a specific tariff *t* per unit of wheat imported
- Prices of Home and Foreign will change and different from Pw
- Shippers are unwilling to ship wheat (trade does not arise) if the price difference between the domestic and foreign markets is lower than the tariff.
- If shippers are unwilling to ship wheat
  - There is *excess demand* for wheat in Home => Price will tend to rise in Home to P_T
  - There is *excess supply* in Foreign => Price will tend to fall in Foreign to P_{T^*}

Equilibrium in tariff case

Tariff

Price of Home ↑ from Pw to P_T

Price of Foreign ↓from Pw to P^*_T

Trade does not occur if $P_T - P_T^* < T$

- $P_T - P^*_T = T$
- $P_T = P^*_T + T$

Equilibrium in a tariff case

Measuring the costs and benefits

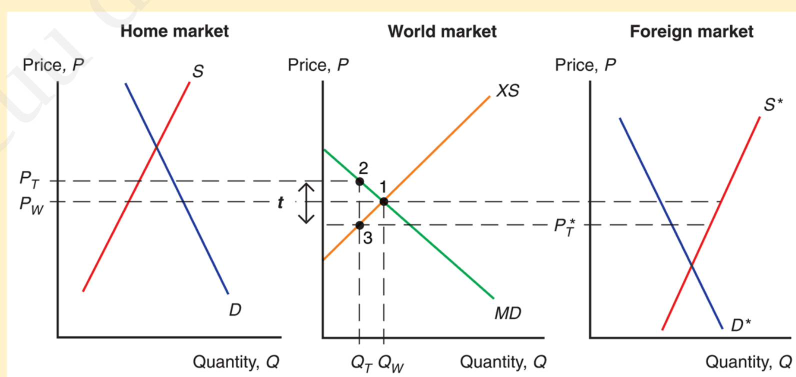


Figure 8-4

Effects of a Tariff

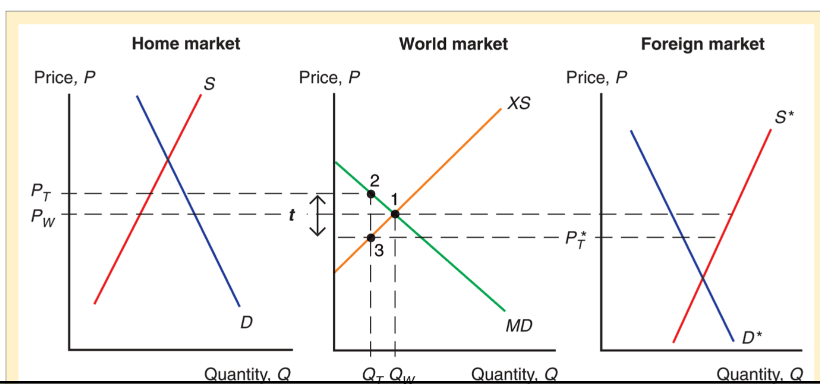
A tariff raises the price in Home while lowering the price in Foreign. The volume traded declines.

Measuring the costs and benefits (cont.)

- The price in Home rises to P_T
  - Domestic producers should supply more and domestic consumers should demand less.
  - The quantity of imports falls from Q_W to Q_T
- The price in Foreign falls to P^*_T
  - Foreign producers should supply less and foreign consumers should demand more.
  - The quantity of exports falls from Q_W to Q_T
- Home import demand = Foreign export supply when $P_T – P^*_T = t$

Measuring the costs and benefits (cont.)

- The increase in the price of the good in Home, from P_W to P_T, is less than the amount of the tariff.
  - Part of the tariff is reflected in a decline of Foreign's export price => is not passed on to domestic consumers.
  - But the size of the effect is in practice very small.



Measuring the costs and benefits (cont.)

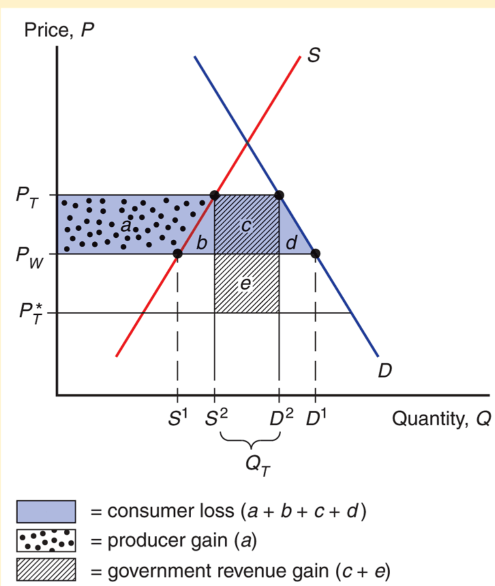
- A tariff raises the price of a good in the importing country
  - Hurt consumers
  - Benefit producers
  - Benefit government
- A tariff lowers the price of a good in the exporting country
  - Hurt producers
  - Benefit consumers

Measuring the costs and benefits (cont.)

Figure 8-9

Costs and Benefits of a Tariff for the Importing Country

The costs and benefits to different groups can be represented as sums of the five areas *a, b, c, d,* and *e.*



Measuring the costs and benefits (cont.)

- Domestic producers: better off
- Domestic consumers: worse off
- Government revenue = *c* + *e*
- Part of government revenue (rectangle *e*) represents the terms of trade gain, and part (rectangle *c*) represents part of the value of lost consumer surplus.

Costs and Benefits of Tariffs of a large country (cont.)

Net cost of a tariff

Consumer loss – Producer Gain – Government revenue

= e – (b+d)

b: efficiency loss due to production distortion

d: efficiency loss due to consumption distortion

e: terms of trade gain due to lower export prices

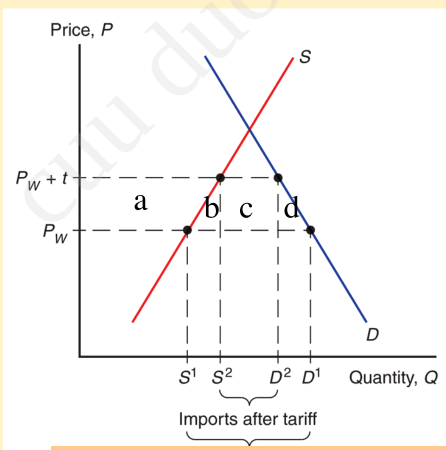
For a large country, the welfare effect is ambiguous.

- e exceeds (b+d) => national welfare will increase under a tariff
- e is lower than (b+d), national welfare will decrease.

Preview

- Concepts and classifications of a tariff
- Basic tariff analysis
- Costs and benefits of a tariff in a large country case
- Costs and benefits of a tariff in a small country case
- Effective rate of protection

The Effects of a Tariff in a Small Country



- When a country is "small"
  - Has no effect on the foreign (world) price.

  => Foreign price will not fall, but will remain at P_w

  ⇒ Home price will rise to $P_T = P_w + t$

  ⇒ *Difference between Home and Foreign price is the tariff*

Consumer loss =	(a+b+c+d)
Producer gain =	a
Government revenue gain =	c
Cost of a tariff =	(b+d) => efficiency loss

Preview

- Concepts and classifications of a tariff
- Basic tariff analysis
- Costs and benefits of a tariff in a large country case
- Costs and benefits of a tariff in a small large country case
- Measuring the amount of protection

How much protection a tariff or other trade policies actually provides?

- Tariffs protect domestic producers => how much protection?
- Use tariff rates to measure, 2 problems
  - Large country case: part of the effect of a tariff passes to foreign consumers
  - Tariffs may have different effects on different stages of production; Tariffs on different stages of production will have different effects on final producers

Effective Rate of Protection (ERP)

- Measures how much protection a tariff/ other trade policies actually provides domestic producers.
- Measures the protection by a tariff offered to domestic value added (VA)
  - Represents the change in value that an industry adds to the production process when trade policy changes (value added).
  - The change in value that an industry provides depends on the change in prices when trade policies change.

Effective Rate of Protection (ERP) (cont.)

$$\boxed{ERP = \frac{V_t - V_w}{V_w}}$$

- ERP: Effective Rate of Protection

- V_t: Value added in presence of tariff

- V_w: Value added in free trade

Effective Rate of Protection (ERP) (cont.)

$$\boxed{ERP = \frac{t - a_i t_i}{1 - a_i} \ (1)}$$

ERP: Effective of protection to producers of the final commodity

t : The nominal tariff on consumers of the final commodity

a_i: The ratio of the cost of the imported inputs to the price of the final commodity in the absence of tariffs

t_i: The nominal tariff rate on the imported input

Numerical example

- Example:
  - World price of a car: $8,000
  - Parts $6,000
- Compare two nations:
  - Nation 1: wants to develop an auto assembly industry
  - Nation 2: (already has an assembly industry) and wants to develop a parts industry.

Numerical example (cont.)

- Nation 1: wants to develop an auto assembly industry
  - World price of a car: $8,000
  - Parts $6,000
  - Impose a tariff of 25% on cars imported and no tariff on parts
  - Price of car post 25% tariff $10,000
  - ERP = 100%
  - The amount of protection, offered by the nominal tariff for cars industry of 25%, is 100% - much higher than the tariff rate itself.

Numerical example (cont.)

- Nation 2: wants to develop a parts industry
  - World price of a car: $8,000
  - Parts $6,000
  - Impose a tariff of 10% on imported parts but 0% on cars imported
    - Price of car $8,000
    - Price of Parts after 10% tariff $6,600
  - EPR = -30%
  - The tariff on parts provides positive protection to parts manufacturers, but negative effective protection to assembling industry.
  - Negative ERP reveals that it would be cheaper to import cars rather than assemble cars domestically.

Measuring the amount of protection

- If a tariff imposed on final car > a tariff imposed on parts => positive ERP and ERP > t
- If a tariff imposed on final car < a tariff imposed on parts => negative ERP and ERP < t
- If a tariff imposed on final car = a tariff imposed on parts => ERP = t (nominal tariff)
- Escalation tariff => positive ERP and ERP > t

ERP with multiple inputs

ERP with many inputs

	A pair of shoes	Leather	Embroider
Price in free trade (USD)	100	60	10
Import tariff (%)	20	20	30
Price with tariff (USD)	120	72	13

- Value added of a pair of shoes in free trade: *30 USD*
- Value added of a pair of shoes with tariff: *35 USD*
- Nominal tariff on a pair of shoes is *20%*
- ERP for a pair of shoes: *16.67% = (35-30)/30*

Mid-term exam

- Friday Next week (2/11/2018)
- Time: 90 minutes
- Closed book examination
- Structure:
  - 25 MCQs (Multiple choice questions): 50%
  - 2 short essay questions: 50%
- Cover from chapter 1 to chapter 7

END OF CHAPTER 7

GOOD LUCK FOR MID-TERM EXAM