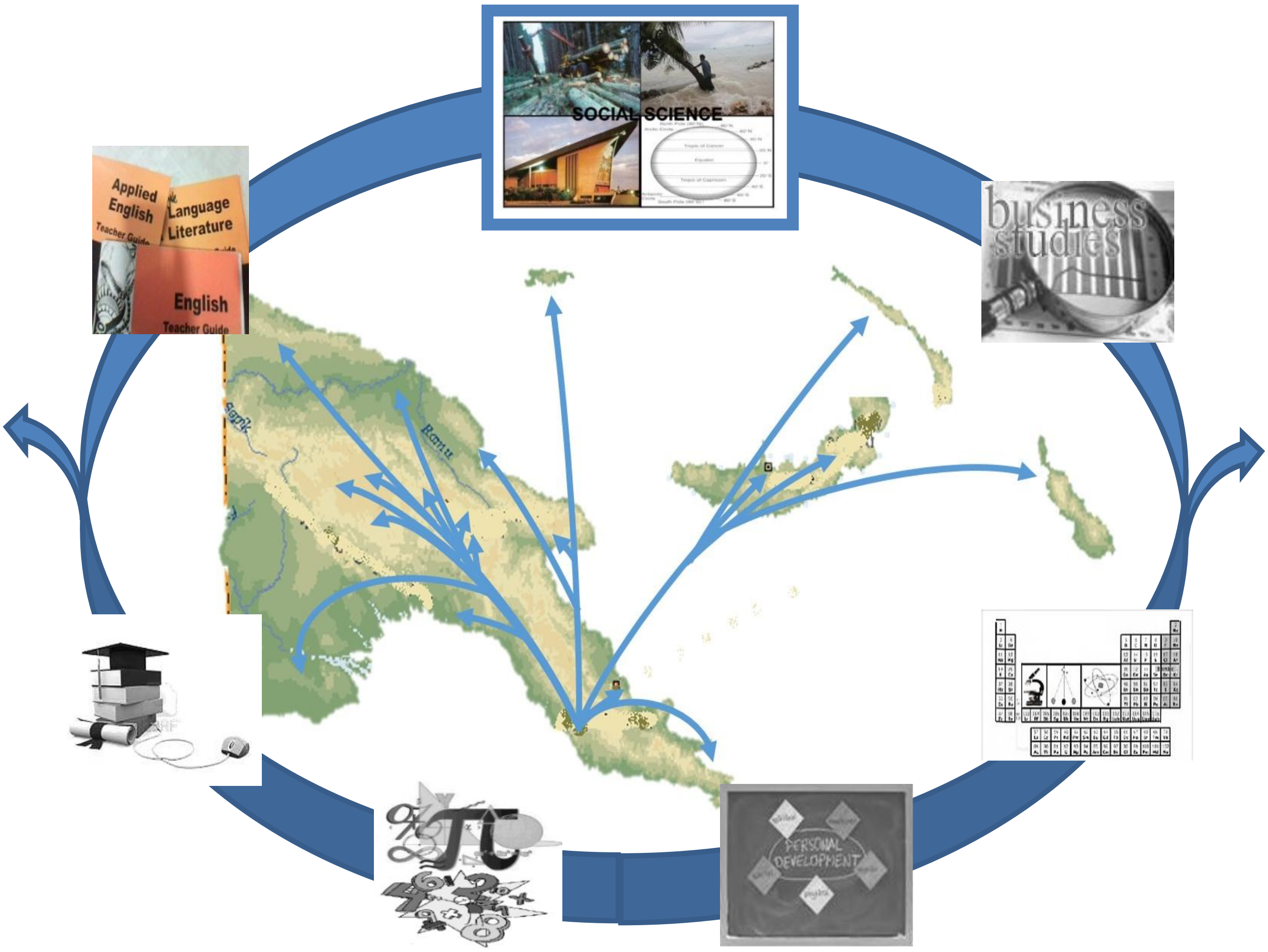
DEPARTMENT OF EDUCATION

GRADE 12 ECONOMICS MODULE

UNIT 3: THE GLOBAL ECONOMY



FODE DISTANCE LEARNING

PUBLISHED BY FLEXIBLE OPEN AND DISTANCE EDUCATION
FOR THE DEPARTMENT OF EDUCATION
PAPUA NEW GUINEA

GRADE 12

ECONOMICS

UNIT MODULE 3

THE GLOBAL ECONOMY

TOPIC 1: INTERNATIONAL TRADE AND PROTECTION

TOPIC 2: BALANCE OF PAYMENTS

TOPIC 3: EXCHANGE RATES

Acknowledgements

We acknowledge the contribution of all Secondary teachers who in one way or another helped to develop this Course.

Special thanks are given to the staff of the Social Science Department - FODE who played active role in coordinating writing workshops, outsourcing of lesson writing and editing processes involving selected teachers in NCD.

We also acknowledge the professional guidance and services provided through-out the processes of writing by the members of:

Economics Subject Review Committee-FODE
Academic Advisory Committee-FODE
Social Science Department- CDAD

This book was developed with the invaluable support and co-funding of the GO-PNG and World Bank.

MR. DEMAS TONGOGO
Principal-FODE

Flexible Open and Distance Education
Papua New Guinea

Published in 2014

ISBN
National Library Services of Papua New Guinea

Compiled and finalised by: Social Science Department-FODE
Written by: Tonny Vivina, BEcB UPNG

Printed by the Flexible, Open and Distance Education

TABLE OF CONTENTS

SECRETARY'S MESSAGE

Achieving a better future by individuals, students, their families, communities or the nation as a whole, depends on the curriculum and the way it is delivered.

This course is part and parcel of the new reformed curriculum – the Outcome Base Education (OBE). Its learning outcomes are student centred and written in terms that allow them to be demonstrated, assessed and measured.

It maintains the rationale, goals, aims and principles of the National OBE Curriculum and identifies the knowledge, skills, attitudes and values that students should achieve.

This is a provision of Flexible, Open and Distance Education as an alternative pathway of formal education.

The Course promotes Papua New Guinea values and beliefs which are found in our constitution, Government policies and reports. It is developed in line with the National Education Plan (2005 – 2014) and addresses an increase in the number of school leavers which has been coupled with a limited access to secondary and higher educational institutions.

Flexible, Open and Distance Education is guided by the Department of Education's Mission which is fivefold;

- facilitate and promote integral development of every individual
- develop and encourage an education system which satisfies the requirements of Papua New Guinea and its people
- establish, preserve, and improve standards of education throughout Papua New Guinea
- make the benefits of such education available as widely as possible to all of the people
- make education accessible to the physically, mentally and socially handicapped as well as to those who are educationally disadvantaged

The College is enhanced to provide alternative and comparable path ways for students and adults to complete their education, through one system, many path ways and same learning outcomes.

It is our vision that Papua New Guineans harness all appropriate and affordable technologies to pursue this program.

I commend all those teachers, curriculum writers and instructional designers, who have contributed so much in developing this course.

DR. UKE KOMBRA, EdD
Secretary for Education

12.3: THE GLOBAL ECONOMY

This unit talks about the importance of Papua New Guinea's trade relations with other countries. The basis for, and the costs and benefits of international trade and the issues surrounding globalisation are the main focus in this unit. Students develop an understanding of foreign relationships by identifying trade motives behind trade and defining and analysing the key economic concepts, principles and economic theories that apply to Papua New Guinea's international relations with the rest of the world.

Broad Learning Outcomes

On successful completion of this module, students will be able to:

- use trends in Balance of Payments, Terms of Trade and Exchange Rates to identify key issues facing the domestic and external economy of Papua New Guinea
- discuss the likely effects of these issues on the domestic economy and propose appropriate micro-economic and macro-economic strategies to manage these issues
- describe and illustrate the impacts of globalization on the economy of Papua New Guinea

Time Frame

This unit should be completed within 10 weeks.

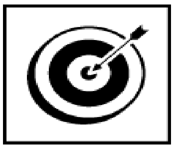
If you set an average of 3 hours per day, you should be able to complete the unit comfortably by the end of the assigned week.

Try to do all the learning activities and compare your answers with the ones provided at the end of the unit. If you do not get a particular exercise right in the first attempt, you should not get discouraged but instead, go back and attempt it again. If you still do not get it right after several attempts then you should seek help from your friend or even your tutor. Do not pass any question without solving it first.

12.3.1: INTERNATIONAL TRADE AND PROTECTION

Topic 1: Introduction

In this topic we will discuss the importance of trade within and between countries, the reasons and benefits gained, advantages of free trade and trade protection and the emergence of global economy. Trade has played a critical role in the emergence of the global economy. Historically, trade brought countries together, created significant wealth and resulted in the type of economic system to adopt. If there were no trade, there would only be national economies (countries would exist in isolation) and the emergence of a global economy would never have occurred.



Specific Learning Outcomes

On successful completion of this topic, students will be able to:

- define trade
- identify reasons for trade
- explain principles of trade in terms of absolute and comparative advantage
- identify and describe various methods of trade protection

12.3.1.1: Reasons for Trade

Let us define and differentiate international and domestic trade before we discuss the reasons and benefits of trade.

What is trade? **Trade** is swapping or exchanging of goods and services between two individuals or groups. Trade existed in traditional economy called **Barter**. Barter is the swapping of goods for goods without the use of money.

Now, we will discuss trade in modern economy in which money is widely used as a standard of payment or a medium of exchange.

What is a domestic trade? **Domestic (local) trade** is a trade within a country. For example, Ramu Sugar Company supplies its product to wholesalers and retail stores in the country.

In modern economy, a country does not only trade within the country but goes beyond its shore to trade with other countries and this is called **International trade.** International trade is the exchange of goods and services in payment for money between countries.

International trade involves exports and imports of commodities between countries. **Export** is the selling of goods and services to foreign countries. For example, RD Tuna cannery exports its Dolly brand to Europe. **Import** is the buying of goods and services from foreign countries. For example, Ela Motors imports Toyota Land Cruizer vehicles from Japan.

What is a commodity? It is something that has value and can be traded on the market.

Some examples of Papua New Guinea's exports from Primary, Secondary and Tertiary sectors of the country are listed in the table below.

Table 1: This table shows Papua New Guinea's Exports

Papua New Guinea's Exports		
Primary products (raw materials)	**Secondary products** (manufactured goods)	**Tertiary products** (services provided to foreigners)
Timber Fish Oil palm Copra Coffee Minerals (gold, copper) Crude oil Liquefied Natural Gas (LNG)	British American Tobacco RD Tuna –Dolly Ox & Palm Export Lager Beer	Air Niugini Airbus Tourism services (Tour firms) Accommodation (Hotels, Lodges, Inns, Guesthouses) Buses, Taxis, Hire cars Shipping services

Some examples of Papua New Guinea's imports from other countries are listed in the table below.

Table 2: This table shows Papua New Guinea's Imports

Papua New Guinea's Imports		
Primary products (raw materials)	**Secondary products** (manufactured goods)	**Tertiary products** (services received from foreign countries)
-Apples -Grapes -Onions -Capsicum -Orange (mainly fruits and vegetables)	-Clothes -Capital goods (machineries / Equipment) -Medicines -Consumer goods (butter, salt, fresh meat, rice) -Stationeries	-Quantas Airbus -Expatriate workers -Nautilus undersea mining -Australian Federal Police attached to PNG Constabulary

We can identify from the exports and imports of PNG listed in the above two (2) tables that, PNG mainly exports primary products (raw materials) and imports secondary products (manufactured goods).

The main trading partners of Papua New Guinea are:

- Australia
- New Zealand
- Japan
- China
- Indonesia
- Singapore
- Malaysia
- India

The Honorable Member of Parliament and Governor of Western Highlands Province Paias Wingti, when he was a Prime Minister in the mid 1980s he introduced the 'Look North policy'. This policy resulted in increased trade with Asian countries and multi-million investments in PNG from the Asian companies.

These are some reasons countries trade:

1. Lack resources such as raw materials, technology, finance or labour. Therefore, countries need to trade to get resource inputs for the production of goods and services.
2. Countries trade to have variety of goods and services in their country so that its people should satisfy their basic needs and wants to improve their standard of living.

3. Countries specialize in the production of certain products in which they have absolute advantage and/or comparative advantage in order to achieve efficiency in production.
4. Countries trade to improve international relations in terms of political, economic and cultural relations.

Some benefits of trade are:

1. Countries earn revenue through exports.
2. Countries acquire (get) resources they lack in production.
3. People (consumers) are exposed to variety of foreign made goods.
4. Countries specialize in producing what they are good at and trade with others.
5. Countries establish relationship through trade.
6. Countries can learn and adopt efficient production methods from other countries.

Below is an extract taken from *The National* newspaper that highlights benefits of a trade.

Trade delegation from French, New Caledonia firms visit Lae

A trade delegation consisting of 12 French and New Caledonian companies have visited Lae looking for business opportunities in Papua New Guinea and in the Pacific.
Lae Chamber of Commerce Inc president Alan McLay told *The National*: "we are hopeful to be able to sister the New Caledonia Chamber of Commerce."
"The visit was very positive one and I think the delegation was quite surprised at what they saw in Lae. This was more an exploration visit to make some initial contacts," McLay said.

Prime Minister Peter O'Neill had said earlier that France was a potential market for Papua New Guinea's exports and was a gateway for Papua New Guinea products to European Union.".........

Source*: The National, November 9, 2015.*

The benefits emphasized (said) in the articles are:

- PNG has established a trade relationship or link the two countries (named)
- Find new markets for PNG exports in those two countries.

12.3.1.2: Principle of Trade: Absolute Advantage and Comparative Advantage

The basic principle of international trade is absolute advantage and comparative advantage. Importantly, a country should specialise in producing a product which it has either an absolute advantage or comparative advantage.

Let us first discuss the concept (idea) of absolute advantage in production.

Absolute advantage basically looks at how efficiently resources are used in production process. It is assumed that PNG and Australia use the same amount of resources in production.

What is efficiency? It is maximizing (increasing) output with minimum (less) resource input in the production process.

Now, let us use the example below to work out the absolute advantage for PNG and Australia in producing rice and tea.

Example; PNG and Australia, with an equal amount of resources can produce rice and tea as shown in the table. The absolute advantage in producing both rice and tea can be worked out using the data provided on basis of efficiency in production

Product	**PNG (Quantity produced) (in tons)**	**Australia (Quantity produced) (in tons)**
Rice	**100**	**400**
Tea	**200**	**100**

Explanation:

- **Absolute advantage in rice production;** It can be seen from the data provided that PNG produces 100 tons while Australia produces 400 tons with the given amount of resources. Australia has produced greater quantity of rice than PNG. This means Australia is more efficient in production of rice than PNG. Therefore, Australia has absolute advantage in producing rice and should specialise in rice production and trade with PNG.

- **Absolute advantage in tea production;** It can be seen from the data provided that PNG produces 200 tons while Australia produces 100 tons with the given amount of resources. PNG has produced greater quantity of tea than Australia. This means PNG is more efficient in production of tea than Australia. Therefore, PNG has absolute advantage in producing tea and should specialise in tea production and trade with Australia.

Now, we can discuss the concept of comparative advantage in production

Comparative advantage is when a country can produce a particular product at a **least or lower opportunity cost** than the others. What is opportunity cost? It is the sacrifice or given up of one best alternative to produce the other. For instance, a farmer has a fixed amount of resources including land, finance, capital, labour, etc. and faced with two alternatives whether to produce rice or tea. A higher market demand for rice attracted the farmer to divert (use) all resources to produce rice. This means the opportunity cost or sacrifice made to produce rice is producing tea.

However, the opportunity cost is measurable when the quantities of output of two alternative productions are given. In this case, the opportunity cost can be calculated to find out the comparative advantage of a country.

The formula used for calculating opportunity cost (OC) is:

Opportunity Cost = Loss /Gain.

For example, PNG and Australia, with a given amount of resources can produce rice and tea as stated below in the table. Calculate the opportunity cost to determine the comparative advantage in production of rice and tea.

Product	PNG (Quantity produced) (in tons)		Australia (Quantity produced) (in tons)	
	Output	Opportunity cost	Output	Opportunity cost
Rice	100	OC = 200/100 = 2.0	400	OC = 100/400 = 0.25
Tea	200	OC = 100/200 = 0.5	100	OC = 400/100 = 4.0

What is:

- **Loss?** It is the value of one good sacrificed or given up to produce another.

For example, PNG sacrificed 200 tons of tea to produce 100 tons of rice. The loss is the 200 tons of tea sacrificed. Therefore, the opportunity cost of producing 100 tons of rice is calculated as; OC = 200/100 = 2.0.

- **Gain?** It is the value of the good produced by sacrificing the other commodity. For instance, based on the above example, the gain for PNG is 100 tons of rice produced at the loss (sacrifice) of 200 tons of tea.

Explanation for comparative advantage:

It basically looks at opportunity cost involved in production of a commodity. It is assumed that PNG and Australia used the same amount of resources in production of rice and tea. Now, let us explain comparative advantage in terms of the calculations of opportunity cost in the table above.

- **Opportunity cost in production of Rice;**

Solutions:

1. PNG sacrificed 200 tons of tea to produce 100 tons of rice. The loss is the 200 tons of Tea sacrificed. Therefore, the opportunity cost of producing 100 tons of rice is calculated as; OC = 200/100 = 2.0. That is, 2 tons of tea sacrificed to produce 1 ton of rice.

2. Australia sacrificed 100 tons of tea to produce 400 tons of rice. The loss is the 100 tons of tea sacrificed. Therefore, the opportunity cost of producing 400 tons of rice is calculated as; OC = 100/400 = 0.25. That is, 0.25 tons of tea sacrificed to produce 1 ton of rice.

Interpretation: The opportunity cost for PNG is 2.0 while Australia is 0.25. It can be seen that Australia has the lowest opportunity cost in producing rice. This means Australia has the comparative advantage in producing rice because it can produce rice at a lower opportunity cost (0.25) than PNG (2.0). Therefore, Australia should specialise in producing rice and trade with PNG.

- **Opportunity cost in production of Tea;**

Solutions:

1. PNG sacrificed 100 tons of rice to produce 200 tons of tea. The loss is the 100 tons of rice sacrificed. Therefore, the opportunity cost of producing 200 tons of tea is calculated as; OC = 100/200 = 0.5. That is, 0.5 tons of rice sacrificed to produce 1 ton of tea.

2. Australia sacrificed 400 tons of rice to produce 100 tons of tea. The loss is the 400 tons of rice sacrificed. Therefore, the opportunity cost of producing 100 tons of tea is calculated as; OC = 400/100 = 4.0. That is, 4.0 tons of rice sacrificed to produce 1 ton of tea.

Interpretation: The opportunity cost for PNG is 0.5 while Australia is 4.0. It can be seen that PNG has the lowest opportunity cost in producing tea. This means PNG has the comparative advantage in producing tea because it can produce tea at a lower opportunity cost (0.5) than Australia (4.0). Therefore, PNG should specialise in producing tea and to trade with Australia.

Conclusions:

- PNG has both absolute and comparative advantages in producing tea. Therefore, it should specialize in producing tea to trade with Australia.
- Australia has both absolute and comparative advantages in producing rice. Therefore, it should specialize in producing rice to trade with PNG.
- A country specializes or concentrates in producing one particular good in which it has either an absolute or a comparative advantage in producing it.

12.3.1.3: Free Trade

Free trade is a situation where there are no artificial barriers to trade imposed by governments that restrict the free exchange of goods and services between countries. Or it can be simply defined as a trade without trade protection or restrictions placed such as embargo, import tariff, import quota, trade discrimination, etc.

Advantages of free trade are:

- It allows countries to obtain sufficient amount of goods which they cannot produce to satisfy the domestic demand.
- It allows countries to specialize in production of goods for which they have an absolute advantage or comparative advantage.
- It helps to improve the efficient allocation of resources since producers in countries are exposed to international competition and try to produce at a lower opportunity cost.
- It allows for specialisation, which leads to economics of scale, in which achieve lower average cost in production and increase efficiency and productivity.
- International competitiveness will improve since the government will promote domestic industrial efficiency.
- It encourages innovation and spread of technology and production processes throughout the world.
- It leads to higher standard of living as a result of lower prices, increased quantities and increased variety as countries would have greater access to goods and services.

On the other hand, there are several disadvantages associated with free trade:

1. A rise in short term unemployment may be experienced as some domestic businesses may find it hard to compete with imports.
2. New industries may find it more difficult to establish themselves when they receive no short term establishment protection.

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

12.3.1.4: Trade Protection

Protected trade is the opposite of free trade that is, it is a trade where artificial barriers are imposed by the government that restrict the free exchange of goods and services between countries. Trade protection barriers are such as import tariff, quotas, embargo, etc. Protected trade is also called restricted trade.

Reasons for trade protection

Below are some arguments that justify why countries impose protectionist barriers to trade, including the need to assist **infant industries**, protecting industries from overseas firms **dumping goods**, reducing **unemployment** and arguments for **self-sufficiency** in certain items.

- **Protect infant (new) industries**: Usually new industries generally face many difficulties and risks in their early years of operation. These *'infant industries'* or new firms may need protection so that they can compete with the rest of the world. For example, if a new local company is producing rice then the PNG government should protect the infant or new company from competition from overseas companies. That is, the government may pay subsidy to the local company to reduce its cost of production, hence, local rice can be cheaper than the imported rice.

- **Prevention of dumping**: Dumping occurs when foreign firms attempt to sell their surplus goods in another country's domestic market at an unrealistically lower price (lower than the domestic market price). This sort of practice can push out domestic producers from market and eventually shut down of business. Hence, in the best interest of the economy a restriction is imposed to stop such imports. For example, Japanese used vehicle is a dumping of surplus vehicle in Japan. The PNG government can protect the local car dealers by imposing a higher import tariff.

- **Protection for domestic employment**: Importation of foreign goods at a cheaper price and selling them at the lower prices than the domestic firm in the domestic market can push out local firms from operation which results in increased unemployment. Therefore, protection such as high import tariff ensure prices for imported goods are expensive than locally produced goods which maintains or increases demand for locally produced goods and keep the local firms in operation which may results in increased employment.

- **Self-sufficiency*:*** Countries would want to produce their own products even though it may be expensive. They should be independent and can be able to produce that good, and it is not that they have absolute advantage or comparative advantage in production.

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

Below is an article taken from 'The National' on the concept of self-sufficiency proposition made by Honourable MP and Opposition Leader, Don Polye.

Focus on agriculture, Polye says

Opposition Leader Don Polye has called on the Government to begin focussing on developing the country's agriculture sector.

Polye said PNG's future depends on agriculture because the majority of the county's population lives in the rural areas.

He said the Government continue to ignore agriculture which had the potential to cushion the effects of the downturn in commodity prices.

Polye said he would push to establish major agricultural projects in the country's fertile basins, plains and valleys.

He added that the Sepik Plains had the potential to become country's food basket.
"The Sepik Plains present to PNG the best solution as the food basket for PNG's economy prosperity, so do other valleys like Markharm and Ramu, New Guinea Islands and Papuan Basin," said Polye said.

He said an alternative government would establish major oil palm and cocoa among other cash crops in these basins and plains.

Source: *The National, September 24, 2015*

Methods of Protection

Most countries now agree that overall free trade is beneficial. However, no country in the world follows a policy of absolute/complete free trade. Most countries attempt to shield their domestic producers from foreign competition which with protectionist measures. The methods of protection are:

1. Import tariff
2. Import Quota
3. Paying Subsidies
4. Embargo

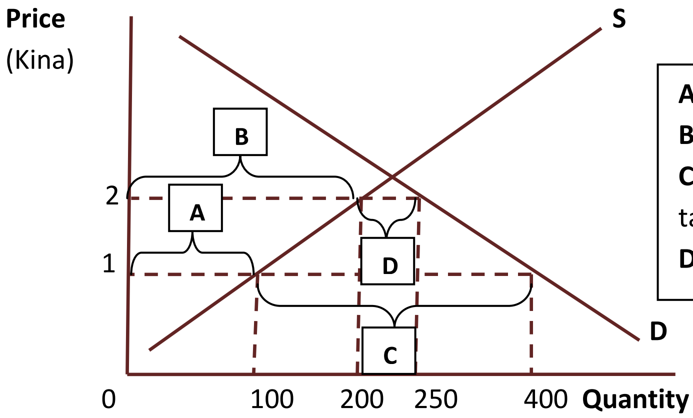
Let us discuss each of trade protection methods and their effects on the international trade and the economy of a country as a whole.

1. **Import tariff**

What is tariff? It is a tax placed by the government on the importation of goods from overseas. It has the effect of raising the price of the imported goods, making the domestic (local) products cheaper and more competitive on the international market.

Refer to graph on the next page for further explanation on effects of tariff on price, domestic supply and demand for imports to solve excess demand in the domestic market.

The effects of a tariff are show in the following graph.



A: Domestic (local) supply before tariff
B: Domestic (local) supply after tariff
C: Demand for imported goods before tariff
D: Demand for imported goods after tariff

Supply (S) and demand (D) curves represent the domestic (local) supply and demand of a certain good.

Before tariff:

- existence of free trade
- domestic market price is K1
- domestic supply is 100
- at price K1 the shortage in the domestic market is 300 (Os–Qs = 100 – 400).
- quantity of imported goods before import tariff is 300 (shortage amount)

The Effect of a tariff:

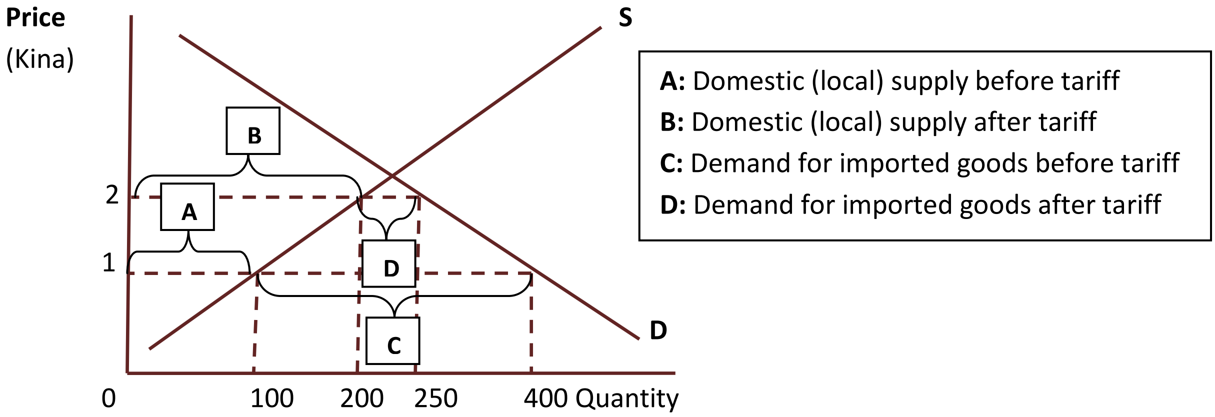
1. price of imported goods increased from K1 to K2
2. quantity of imported good after import tariff is 50 (200 – 250)
3. imposition of import tariff decreased the quantity of imported good (300 to 50) as tariff increases cost of importation thus, increases its price (K1 to K2) in the domestic market
4. hence, increased demand for cheap locally produced good so domestic supply extended from 100 to 200
5. so at price K2 the shortage is 50 (200-250) which is the quantity to be imported

2. Import Quotas

Import quota is imposed by the government to limit or control the volume (quantity) of a particular good that is allowed to be imported over a given period of time. The quota guarantees domestic producers a share of the market, that is, it reduces foreign imports and encourages increased supply of locally produced goods.

Import quota has a similar effect as import tariff; let us look at its effect graphically.

The graphical illustration of the effects a quota is shown below.



Supply (s) and demand (D) curves represent the domestic supply and demand of a certain good.

Before import quota

The imported goods would be sold at K1 if there was no quota imposed. At this price consumers demand 400 goods but, domestic producers supply only 100 goods. It results in shortage of 300 goods. Therefore, the quantity imported would be 300 goods to solve the shortage problem in the domestic market.

After import quota imposed

Imposition of import quota restricts (reduces) imports to 50 goods (200 – 250), thus rise in price for imported goods from K1 to K2. This price allows domestic supply to extend to 200 (from 100 to 200).

The effects of an import quota are largely the same as those of import tariff, except that import quota does not contribute to government revenue while import tariff does.

Countries can use a system of **tariff quotas**. Here, goods imported up to the quota pay a standard tariff rate, whereas goods imported above the quota pay a higher rate of tariff. For instance, in the past, many of Australia's most highly protected industries such as textiles, clothing, footwear and motor vehicle were shield from foreign competition in this way.

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

3. Subsidies

Subsidies are financial assistance given by the government to domestic producers, which enable them to decrease their cost of production in terms of average cost (AC) thus reducing their selling price and compete more easily with imported goods.

Economists generally favour subsidies over tariff as a form of protection as subsidies tend to reduce prices, thus lowering inflation and benefiting the consumers.

New SME policy needs government funding: Maru

Trade, Commerce and Industry Minister Richard Maru says the new small medium enterprises (SME) policy will not be successful if there is no Government funding.

Maru said the policy recently approved by the Government, aimed at the SME sector from 50 000 businesses to 500 companies by 2030.

However, the lack of government funding would be a setback to implementing the policy, he said.

Source: *The National, September 24, 2015*

4. Embargo

Embargo is a ban placed on the importation of certain goods. It totally stops bringing of those goods embargoed and gives a greater market share for the local producers to increase their supply in the domestic market.

However, embargo can result in decreasing a variety of goods available for consumers in the domestic market and may possibly lead to retaliation by that country by also putting an embargo on importation.

Some advantages of trade protection are:

1. Encourage local infant (new) industries
2. Encourage investors to invest in the domestic market
3. Protection of employment
4. Encourage economic growth
5. Use of local resources

Some disadvantages of trade protection are:

i. Countries which trade restrictions are placed against can retaliate and do the same.

ii. Imposing import tariff results in high pricing for imported goods in the domestic market.

iii. Trade restriction discourages importing foreign made goods and thus reduces variety of goods available for people or consumers in the domestic market.

iv. Trade restrictions or protection shield domestic producers from foreign competition and may lead to lack of local producers' ability to be competitive on the international market and result in production of low quality goods.

v. Lead to food security problem in the domestic market as trade protection limit amount and variety of goods available in the domestic market.

vi. Local producers might not be able to get the needed resource inputs like raw materials, technology, etc. for production due to trade protection.

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

Let us read the newspaper extract taken from ‘’The National’ which highlights a trade restriction placed on PNG tuna export to European Union countries by European Union.

Yellow-card on PNG tuna export removed

The European Union (EU) has lifted the “yellow-card” it imposed on the country’s tuna industry, thus removing the threat of a complete ban on the multi-billion kina export commodity.

National Fisheries Authority (NFA) managing director John Kasu said the lifting of the yellow-card meant EU countries would continue to import tuna from PNG. It is estimated that PNG’s annual export of tuna is around US$1.5 billion (K4.3 billion).

The yellow-card is a warning issued to tuna-exporting countries such as PNG that fail to provide sufficient measures to curb (control) illegal fishing in their waters. If they fail to fix that within a specified time, EU issues a red card – which means a total ban on the export of tuna to EU countries.

“The European Commission has threatened to ban our high revenue export earnings from our marine products to them due to our incapability to prevent the increasing and unmonitored illegal fishing activities in our waters,” Kasu said.......................

Source: *The National, October 5, 2015*

YOU HAVE COME TO THE END OF TOPIC 1. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.

Summary 12.3.1

- International trade is the exchange of goods and services between countries due to lack of resources for production, to have variety of goods and services in the domestic market, specialize in producing goods in which they have absolute and/or comparative advantages, and to improve and maintain international relations with trading partners.
- The principle of absolute advantage states that a country has an absolute advantage in the production of a product if it can maximize output with a fewer resources than another country.
- The principle of comparative advantage states that a country has a comparative advantage in the production of a product if it can produce a product at a lower opportunity costs than another country.
- Free trade is free flow of imports and exports between countries without restrictions.
- Trade protection is imposing artificial barriers by the government for free trade.
- Protectionist measures include tariffs, quotas, subsidies, embargoes, exchange controls and administrative controls.
- The arguments for trade protection are:
    1. Infant industry argument
    2. Self-sufficiency argument
    3. Protection of employment argument
    4. Protection from dumping argument
- Some disadvantage of trade protection are:

  1. Retaliation by other countries
  2. Reduce variety of goods available in the domestic market
  3. Lack of competition results in low quality goods produced
  4. Leads to food security problem

NOW DO STUDENT LEARNING ACTIVITY 12.3.1 ON THE NEXT PAGE.

Learning Activity 12.3.1

1. Define international trade.

____
____
____

2. State at least two reason for trade.

i. ____
____

ii. ____
____

3. Distinguish between free trade and restricted trade.

____
____
____
____

4. What is another name for restricted trade?

____

5. Identify at least two benefits of free trade.

i. ____
____

ii. ____
____

6. Identify at least two benefits of protected trade.

i. ____
____

ii. ____
____

7. Explain the difference between absolute and comparative advantages.

____
____
____
____

8. Identify at least four (4) methods of trade protection.

i. ____
ii. ____
iii. ____
iv. ____

9. Choose any two of the above listed and describe them briefly.

____
____
____
____
____
____

10. State at least two disadvantages of trade protection.

i. ____
____

ii. ____
____

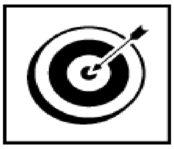
____

CHECK YOUR ANSWERS AT THE END OF THE UNIT.

12.3.2: BALANCE OF PAYMENTS

Topic 2: Introduction

Under this topic we will discuss the record keeping of cash flows in and out of a country resulting from international trade and other transactions between countries. We will identify transactions, the items and types of account and calculate the balance of payment. Then, explain its effect on the economy and measures (ways) to improve it.



Specific Learning Outcomes

On successful completion of this topic, students will be able to:

- define balance of payment
- identify items in the balance of payment and
- calculate and explain terms of trade
- describe measures to improve terms of trade

12.3.2.1: Introduction to Balance of Payments

Like any other organizations, PNG as a country keeps records of its money inflows and outflows of the country and it is called **Balance of payments (BOP).** BOP for PNG shows the trade and money flows in and out of the PNG economy. Below is a sample of a Balance of payment account.

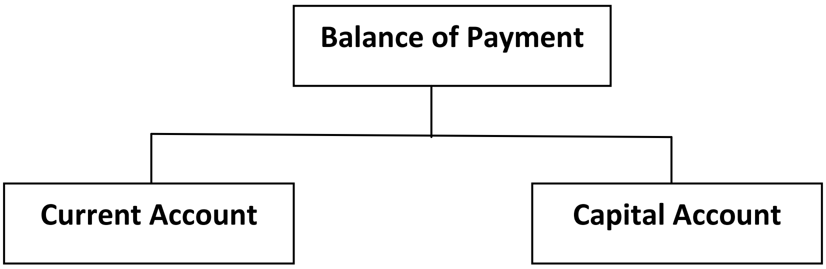
Balance of Payment Account Items

Current Account	**K'million**
Visible exports	4 930
Visible imports	-2 733
Balance of trade	***2 197***
Invisible exports (credits)	680
Invisible imports (debits)	-2 606
Net Invisibles	***-1 926***
Net private transfer	-21
Official transfers	69
Net transfers	***48***
Balance on Current Account	***319***
Capital Account	
Official capital flows	116
Private capital flows	-197
Non-official monetary sector transactions	-6
Change in Offshore account balances	22
Balance of Capital Account	***-65***
Revaluations (if any)	-8
Net errors and omissions	-86
Overall Balance	***160***

Source: *Economics for Developing Nations; Book Two*

Balance of payment is a record of all transactions of money coming in and going out of a country. All money that flows in is referred to as a **credit** (+) and all money that flows out is referred to as a **debit** (-). Credits are denoted with a **positive sign** while debits are denoted with a **negative sign**. For instance, if PNG exports goods to Australia, the money we receive for these exports is an inflow and thus, credit. On the other hand, if PNG imports goods from Australia, the money paid out for these imports is a debit.

The BOP figures are presented in two accounts – the **Current Account** and the **Capital Account**. These accounts are compiled to a set of international accounting standards, which make it easier to compare balance of payments for different countries.



Reasons for keeping accurate BOP account records are:

i. helps to identify balance of payment problems or disequilibrium such as BOP surplus or deficit

ii. BOP shows the trade pattern of a country in terms of exports and imports. Trade pattern can help the government to formulate economic policy, for instance, a Balance of Trade (BOT) deficit indicates more imports than export. Therefore, it can come up with corrective measures to encourage local production for export.

iii. BOP data indicates the economic performance of a country, for instance, BOP surplus indicates more cash inflow than cash outflow of a country.

12.3.2.2: Current Account

The current account shows the money flows from all exports and imports of goods and services, income and current transfers during a year. Current account comprises of:

1. Balance of trade
2. Net Invisibles
3. Net Transfers

1. Balance of Trade (BOT) is the difference between the merchandise (visible) exports and imports. BOT surplus (+) means merchandise exports exceeds imports, BOT deficit (-) means merchandise imports exceeds exports. Visible exports are exports of physical goods such as primary goods (coffee, copra, timbers, minerals -gold, copper, nickel, etc.) and manufactured goods such as RD Tuna Dolly, Ramu sugar, Ox & Palm, etc). Visible imports are physical imports such as rice, machineries, medicines, clothes, etc.

Balance of Trade = Visible exports - Visible imports

Balance of Trade = K4 930m – K2 733m = K2 197m. A BOT surplus occurs due to greater exports than imports.

2. Net Invisibles is the difference between the invisible exports and invisible imports. It refers to services that are bought and sold without people receiving a good. Invisible exports refer to payments for services provided to foreigners such as transport, insurance charges, telephone charges and tourist accommodation. Invisible imports refer to foreign owned services used paid for by residents or citizens of a country. For example, a Papua New Guinea flying on Quantas to Australia, paying freight on foreign owned shipping company for its import of goods, a payment for Tour company in New Zealand for a travel planning, etc.

Net Invisibles = Invisible exports - Invisible imports

Net Invisibles = K680m – K2 606m = -K2 926m. A deficit balance occurs due to greater invisible imports than exports.

3. Net Transfers is the difference between the Net private transfer and official transfers. **Net Private Transfers** include expatriates working in PNG sending money to their relatives, for examples, Philipinos working in PNG sending money to their relatives in Philippines. Likewise, Papua New Guineans working in foreign countries sending money to relatives in PNG. **Official transfer** includes financial aids given to other countries to assist in disasters, (not for building capital – in this case, will be recorded in official capital flow), pensions received by foreigners, payout of insurance claims. For example, the PNG government donates K50 million to Fiji government for a disaster relief program. Likewise, cash inflow into PNG is in similar ways.

Balance on Current Account is the sum of Balance of Trade, Net invisibles and Net transfers.

Balance on Current Account = BOT + Net Invisibles + Net Transfers

Balance on Current Account = K2 197m + (-K1 926m) + K48m = K319m. A surplus in this account is due to increased cash inflow from visible exports and official transfers.

12.3.2.3: Capital or Financial Account

The capital account concerns financial assets and liabilities, that is, the money flows that result from international borrowings, lending and foreign Investments (purchasing of assets such as shares and real estate) for a period of one year. Capital Account comprises of:

1. Official capital flows (OCF)
2. Private capital flows (PCF)
3. Non-official monetary sector transactions (NOMST)
4. Change in Offshore account balances (CIOAB)

1. Official Capital Flow refers to transaction that involves the government or public sector of the economy such as:

i. borrowing and repayment of debt
ii. travel expenses of government officials (delegates) for overseas trips
iii. foreign aid to build infrastructure
iv. special Drawing Rights with International Monetary Fund (IMF))
v. the government investment in foreign countries

2. Private Capital Flow refers to transaction that involves the individuals and firms or the private sector of the economy such as:

- foreign company investment (buying shares, financial capital transfer-seed capital)
- business borrowing from foreign bank and paying of debt
- paying dividends to foreign shareholders

3. Non-Official Monetary Sector Transactions refer to the transaction for the purchase and sale of intellectual property rights such as:

- patents – a payment to the government by a certain firm for allowance of non-payment of company profit tax
- copyrights – a payment to the original producer (writer or singer) for copying part or whole of it
- Trademarks – a payment to the parent company for using a popular product such coca cola, puma, KFC, etc.
- franchise (such as buying the rights from Australian based company (McDonald) to operate McDonald in PNG)

4. Change in Offshore Account Balances refers to those foreign financial assets that are available to and controlled by the central authorities (BPNG) for financing and regulating payment imbalances. It includes reserve assets comprising monetary gold (gold held by the Reserve/Central Bank), Special Drawing Rights with International Monetary Fund (IMF), and foreign exchange held by the Central bank.

Balance on Capital Account = OCF + PCF + NOMST + CIOAB

Balance on Capital Account = K116m + (-K197m) + (-K6m) + K22m = -K65m. A deficit in this account is due to huge cash outflow in private capital flow and non-official monetary sector transaction.

12.3.2.4: Overall Balance of payments

Overall Balance is the difference between the Balance on Current Account and Balance on Capital plus the Revaluation and Net errors & Omissions.

The following two items are added onto the current account balance and capital account balance to calculate overall balance.

Revaluation refers to an official decision to raise the value of PNG Kina against a foreign currency. If such revaluation takes place during the year then it is recorded.

Net Errors and Omissions is referred to as a balancing item if there are any discrepancies.

Overall Balance comprises of:

1. Current account balance
2. Capital account balance
3. Revaluation (if any)
4. Net errors and Omissions (NE&O)

Overall Balance = Current Acc Bal. + Capital Acc Bal. + Revaluation + NE&O

Overall Balance = K319m + (-K65m) + (-K8m) + (-K86m) = K160m.

A positive figure in the overall balance is called a BOP surplus. This means there were more cash inflow than cash outflow in that time period. It is due to a huge surplus in the current account balance, specifically from the large volume of visible exports than imports and the large cash inflow from official transfers.

If the Overall balance is a positive (+) figure then, it is called Balance of payment (BOP) **surplus** or **favourable**. If the Overall balance is a negative (-) figure then, it is called Balance of payment (BOP) **deficit** or **unfavourable**. The PNG government under its Macroeconomic Policy goal **aim** to achieve Balance of payment (BOP) surplus and **not** Balance of payment (BOP) deficit.

Let us discuss the effects of balance of payment surplus and balance of payment deficit on the economy.

Impacts of Balance of payment (BOP) surplus on the PNG economy are:

- increase money flow into PNG economy
- Exchange rate appreciate (increase in Kina value against foreign currencies)
- increases money supply
- increase in National Income
- increase in investment and employment level
- increase in Production level and GDP
- improved standard of living
- economic growth

However, the major **disadvantage or drawback** of having Balance of Payment (BOP) surplus may result in **high inflation** in the domestic market due to increased money supply (Refer to Quantity Theory of Money in Unit 2).

Impacts of Balance of payment (BOP) deficit on the PNG economy are:

- decrease money flow into PNG economy
- exchange rate depreciate (decrease in Kina value against foreign currencies)
- decreases money supply
- decrease in National income
- decrease in investment and unemployment level rises
- decrease in Production level and GDP falls
- decline in standard of living
- decline in economic growth

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

12.3.2.5: Improving Balance of Payment Deficit

Measures to correct Balance of Payment deficit are:

- PNG government should encourage **Import Substitution Manufacturing (Industrialization)** – producing goods to substitute imports instead of importing from foreign countries which lessen capital outflow from the country and finally achieve balance of payment surplus.
- PNG government should encourage **Export Oriented Manufacturing (Industrialisation)** – produce goods which can be exported overseas which increase the capital inflow into the economy and results in balance of payment surplus,
- PNG government should **impose trade protection or trade barriers** to encourage local producers to produce increased variety of goods to satisfy domestic market demand and thus reduces importation of foreign made goods which will lead to favourable balance of payment.
- The PNG government should encourage **Down-stream processing** of raw materials extracted in the country into final goods and **export only final goods** overseas that will increase capital inflow and ultimately achieve balance of payment surplus.
- Promoting foreign direct investment (FDI) may result in huge inflow of seed capital flow into the country.
- Promoting tourism may generate capital inflow as it is the untapped resource and has the potential to generate increased revenue.
- The government should reduce borrowing from overseas and would prefer borrowing from within the country. This will reduce cash outflow of the country.
- Firms operating in the country should sell most of its shares to the local investors rather than the foreign investors. This will lessen cash outflow of the country.

12.3.2.6: Terms of Trade (TOT)

Terms of trade is defined as a measure of the number of imports that can be bought with the foreign currency earned from the sale of a given volume of exports. It shows the relationship between the prices PNG receives for exports and the prices that it pays for its imports. If export prices are increasing relative to import prices, PNG's terms of trade will **improve**. However, if import prices were increasing relative to export prices, then the terms of trade will **deteriorate**.

The export price index shows the proportional change in the level of export prices, while the import price index shows the proportional change in the level of import prices. It should be noted that, as with all index numbers, the proportional change is relative to a base year, or starting point, which is given an index number of 100.

Terms of trade is expressed as a number known as the terms of trade index. It shows the ratio of the export price index over the import price index. The formula for calculating TOT is:

$$\textbf{Terms of Trade (TOT)} = \frac{\textbf{Export Price Index}}{\textbf{Import Price Index}} \times \frac{100}{1}$$

Once, the terms of trade for the current year is calculated it should minus the base year index (100) to find out the change in terms of trade.

Current year index – base year index = change in TOT (improve/decline)

Note:

- *Current year* is the same as *Year 2*
- *Base year* is the same as *Year 1*

Your calculation of terms of trade will end up in either of these situations:

1. A **positive figure** indicates an improved TOT or favourable TOT.

   If the term of trade calculated is more than 100 then it is considered as favourable or improved terms of trade. This means that more than 100 units of imports can be bought with a 100 unit of exports. For instance, if the terms of trade calculated in the current year is 110, then, terms of trade has improved by 10% (i.e. 110 – 100 = 10).

In conclusion, this situation indicates:

- favourable terms of trade
- increase in revenue received from exports

- increase in foreign exchange earnings from exports
- revenue earned from the sale of exports is able to buy more and more imports

2. A **negative figure** indicates a decline TOT or unfavourable TOT.

   However, if the terms of trade calculated is less than 100 then it is considered as unfavourable or deteriorating terms of trade. This means that less than 100 units of imports can be bought with a 100 unit of exports. For instance, if the terms of trade calculated in the current year is 92, then, terms of trade declined by 8% (i.e. 92 – 100 = -8).

In conclusion, this situation indicates:

- unfavourable terms of trade
- decrease in revenue received from exports
- decrease in foreign exchange earnings from exports
- revenue earned from the sale of exports is able to buy fewer and fewer imports

Example

The following examples demonstrate changes in the terms of trade, based on the information in the table.

Year	Export Price Index	Import Price Index	Terms of Trade Index
1	**100**	**100**	**100**
2	**115**	**105**	**109.5**
3	**120**	**130**	**92.3**

1. Calculate the terms of trade for year 2

Now, you look in the table and get the year 2 export price index and import price index shown below.

Year	Export Price Index	Import Price Index	Terms of Trade Index
2	**115**	**105**	**109.5**

Then, substitute correctly the figures in the formula as shown below

Year 2 Terms of trade index = $\mathbf{\frac{115}{105} \times \frac{100}{1} = 109.5}$

Once, you have calculate the year 2 terms of trade index, then, use the following formula to work out the changes in terms of trade.

Current year index – base year index = change in TOT (improve/decline)

In this example, the terms of trade has improved by 9.5% (109.5 – 100 = 9.5). That is, the increase in the export price index is higher than the increase in the import price index.

2. Calculate the terms of trade index for Year 3

(Use the same steps used in calculating terms of trade index for year 2)

$$\textbf{Year 3 Terms of trade index} = \frac{120}{130} \times \frac{100}{1} = 92.3$$

In this example, the terms of trade has deteriorated by 7.7% (92.3 – 100 = -7.7). That is, the increase in the import price index is higher than the increase in the export price index.

Terms of trade are influenced by balance of payments. If terms of trade deteriorate, it means that the same (given) volume of exports can buy less or fewer imports. If terms of trade improve, it means that the same (given) volume of exports can buy more imports.

Deteriorating terms of trade can be improved through:

- increase in export prices (given lower increase in import prices)
- increasing volume of exports through encouraging export-oriented manufacturing (industrialisation)
- decreasing imports through encouraging import-substitution manufacturing (industrialisation)
- decreasing imports through imposing trade barriers or restrictions (trade protection)

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

YOU HAVE COME TO THE END OF TOPIC 2. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.

Summary 12.3.2

- BOP is a record of economic transactions of a country with the rest of the world over a specific period of time.
- BOP records the exports and imports of goods and services. Income receipts and payments, transfers, capital and financial flow.
- BOP consists of two main accounts known as Current Account and Capital Account.
- A negative overall balance indicates a BOP deficit and a positive overall balance denotes a BOP surplus. Equality between money inflow and out flow of the country is called overall balance equilibrium.
- The most widely used terms of trade is the net barter terms of trade.
- Terms of trade index calculated greater than 100 is favorable because exports of 100 units buys more than 100 units of import and is called favorable or improved terms of trade.
- Terms of trade index calculated when less than 100 is unfavorable because exports of 100 units buys less than 100 units of import and is called unfavorable or deteriorating terms of trade.

NOW DO STUDENT LEARNING ACTIVITY 12.3.2 ON THE NEXT PAGE.

Learning Activity 12.3.2

1. Define the terms below:
   i. Balance of payment

   ii. Terms of trade

2. Identify and state the two main accounts in the balance of payment.

3. What is another name for balance of payment?

4. What does a positive figure in balance of payment indicates?

5. What does a negative figure in balance of payment indicates?

6. State at least two impacts of balance of payment deficit on the economy.

7. Write down the formula for calculating terms of trade.

____

8. Differentiate between deteriorating terms of trade and improving terms of trade.

____

____

____

____

9. Given the following information in the table, calculate the answers in the fourth (4^{th}) in the table.

Year	**Export Price Index**	**Import Price Index**	**Terms of Trade Index**
1	**100**	**100**	**100**
2	**120**	**125**	**______**
3	**130**	**120**	**______**

i. Compute the terms of trade for year 1 and 2.

____

ii. What is the' terms of trade' for year 2 and 3?

____

10. Given the data in the table below, identify the 'terms of trade' for their respective years and compared to previous year, then, write in the last column whether 'terms of trade' has improved or deteriorated and how much in percentage.

Year	Terms of trade	Improved/Deteriorated by how much %
1991 – 2	**104.1**	
1992 – 3	**99.7**	
1993 – 4	**96.9**	
1994 – 5	**99.4**	
1995 – 6	**102.4**	
1996 – 7	**105.4**	
1997 - 8	**108.4**	

____

CHECK YOUR ANSWERS AT THE END OF THE UNIT.

12.3.3: EXCHANGE RATES

TOPIC 3: Introduction

Exchange rates play a central or important role in the relationships between individual economies and the global economy. Essentially, all of the trade and financial relationships between countries are processed through the exchange rate. For this reason, exchange rate movements have a significant impact on international competitiveness, trade flows, investment decisions, inflation and many other factors in the economy.

Specific Learning Outcomes

By the end of this topic students can be able to:

- define exchange rate
- Conversion of one currency into another currency
- identify methods of exchange rate and describe them
- explain government intervention in fixing of exchange rate

12.3.3.1: Factors Determining an Exchange Rate

Before we discuss the factors affecting an exchange rate, let us define what an exchange rate is.

> **Exchange rate** is the value (or price) of one currency in terms of another currency. In other words, it is the value of PNG kina against a foreign currency. Or it is the rate at which PNG kina can be exchanged into a foreign currency.

Exchange rate allows traders and investors to convert their local currency into foreign currency. The reason why this is necessary is that the exporters in the world trade want to be paid in their own currency, which means that importers need to be able to convert their domestic (local) currency into the foreign currency in order to make payment for imports. Conversion of currencies takes place in the foreign exchange market. **Foreign exchange market** refers to the act of exchanging of one currency into another.

Now, we will discuss the factors that influence exchange rates. Exchange rates are determined using different methods but before we look at each of them, let us discuss some of the factors that influence exchange rates. They are:

1. Interest rate
2. Inflation
3. Balance of Payment
4. Economic growth /recession

1. **Interest rate:** How? The investors are more likely to transfer their financial assets to invest in financial markets of countries where interest rates are higher with the hope of earning higher return. For example, if there is higher interest rate on investment in the Australian financial market, many investors from PNG will invest there. This will result in huge cash outflow and results in depreciation or lower value of PNG Kina against Australian Dollar.

2. **Inflation**: How? Inflation increases the cost of production for locally produced goods and becomes expensive. As a result, exports become expensive while imports from overseas become cheaper. For example, let us assume that PNG experiences a high inflation or rising prices of goods and services, exports will be expensive while imports will be cheaper. This will result in more cash outflow than cash inflow which will affect the Kina exchange rate against foreign currencies.

3**. Balance of Payment:** How? A Balance of Payment surplus indicates more cash inflow than cash outflow. This will appreciate increase Kina exchange rate against foreign currencies. Vice versa, Balance of payment deficit indicates a greater cash outflow than cash inflow. This will result in depreciation or decrease Kina exchange rate.

4. Economic growth/recession: How? During economic recession there is high inflation so local exports become expensive and imports become less expensive. This means more imports will be bought than exports which will affect the exchange rate. However, an economic shows that a country is increasing its local production and exports and reduces its dependency on imports. This will appreciate or increase the exchange rate.

12.3.3.2: Methods of Determining Fixed Exchange Rates

Under this section we will look at fixing or determining of exchange rates and various methods used in fixing exchange rate.

In our discussion, we will look at three main methods used in PNG, especially the Bank of Papua New Guinea (BPNG) or Central Bank uses to determine the exchange rate of PNG kina against foreign currencies such as US Dollar, Australian Dollar, Euro Dollar, Japanese Yen, New Zealand Dollar, etc.

Three main methods of fixing exchange rate in PNG are:

1. Free (flexible) Exchange Rate
2. Managed Float
3. Fixed Exchange Rate

Let us discuss each of the methods of fixing exchange rate in detail.

1. Free (flexible) Exchange Rate Method

Under free or flexible exchange rate method exchange rate is determined by the demand for and supply of currency (kina).

Appreciation is increase in the value of one currency (kina) against another currency (US dollar) due to increase in demand for money (PNG kina) or increase in level of foreign reserves held in the banks

.

Depreciation is decrease in the value of one currency (kina) against another currency (US dollar) due to increase in supply of money (PNG kina) or increase in level of foreign reserves held in the banks.

<u>An Appreciation of the currency value (kina value)</u>

An appreciation or increase in the value of currency (Kina) results from either increase in demand for currency (Kina) or decrease in the supply of kina at the bank.

Increase in demand for Kina or decrease in supply of Kina comes from:

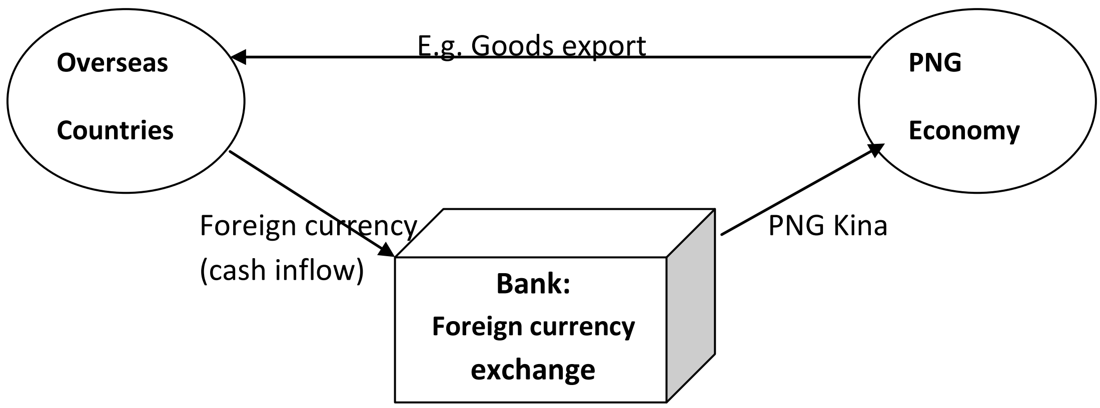
- revenue earned from exports
- foreign companies transferring money into PNG as staring capital
- Tourists or foreigners coming to PNG
- Aid or grants given to PNG by overseas countries
- Papua New Guineans residing in foreign countries send money to relatives in PNG

- Borrowing from overseas countries
- Foreign delegates (government officials) coming to PNG

In general, the above listed economic activities represent cash inflow into the country. When more cash inflow than cash outflow this results in appreciation of Kina exchange rate.

Increase in demand for Kina/Decrease in supply of Kina
Increase in demand for Kina from cash inflow into the country appreciates kina value. How? By looking at the simple diagram below, the cash inflow is usually in foreign currencies so in order to use them in PNG, the foreign currencies need to be brought to the banks to be exchanged into PNG Kina. By doing that, we are demanding for PNG Kina. When there is an increase in cash inflow, it results in the **increase in demand** for PNG kina.

But, what happens to supply of Kina at the bank? When increasing quantities of Kina is demanded, the supply of Kina at the bank decreases, because increasing amounts of foreign currencies are exchanged into Kina.

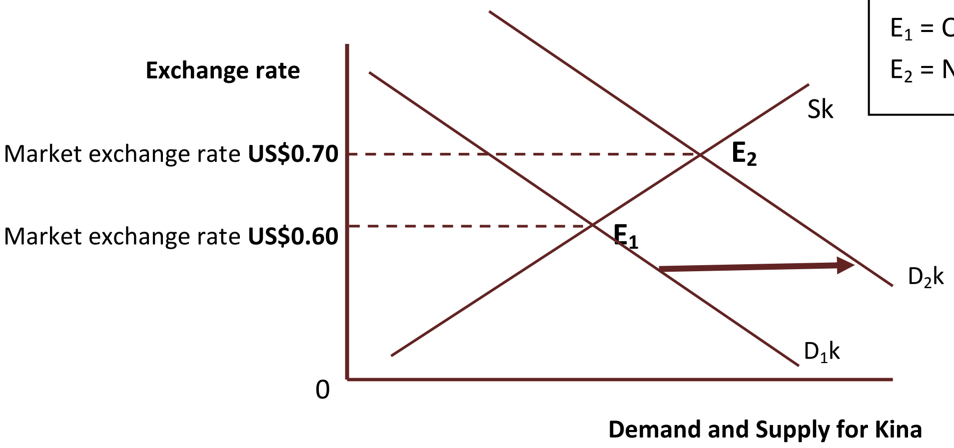


Let us look at the **graphical illustration** of appreciation and depreciation of a currency value (kina value) according to demand for and supply of money (kina).

(Refer to graphs on the next page)

Case 1: Due to increase in demand for kina

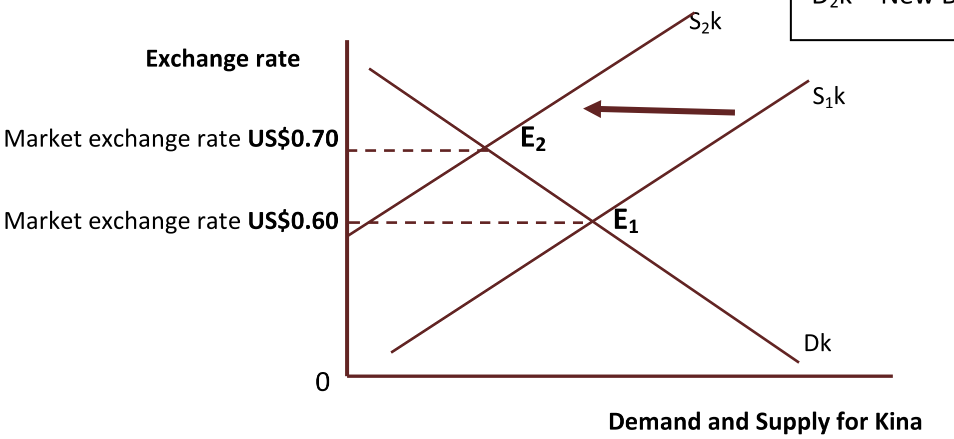
Key:
Sk = Supply of PNG Kina
Dk = Demand for PNG Kina
E_1 = Original Exchange rate
E_2 = New Exchange rate



In this case, the kina value has **appreciate** from PNGK1.00 = US$0.60 to PNGK1.00 = US$0.70 due **to increase in demand for Kina.**

Key:
S_1k = Original Supply of PNG Kina
S_1k = New Supply of PNG Kina
D_1k = Original Demand for PNG Kina
D_2k = New Demand for PNG Kina

Case 2: Due to decrease in supply for kina



In this case, the kina value has ***appreciate*** from PNGK1.00 = US$0.60 to PNGK1.00 = US$0.70 due to **decrease in supply of Kina.**

Source: P. M. N. Banadara, 2013. Economics for Grade 12.

<u>A Depreciation of the currency value (kina value)</u>

A depreciation or decrease in the value of currency (Kina) results from either decrease in demand for currency (Kina) or increase in the supply of kina at the bank.

Increase in demand for Kina or decrease in supply of Kina comes from:

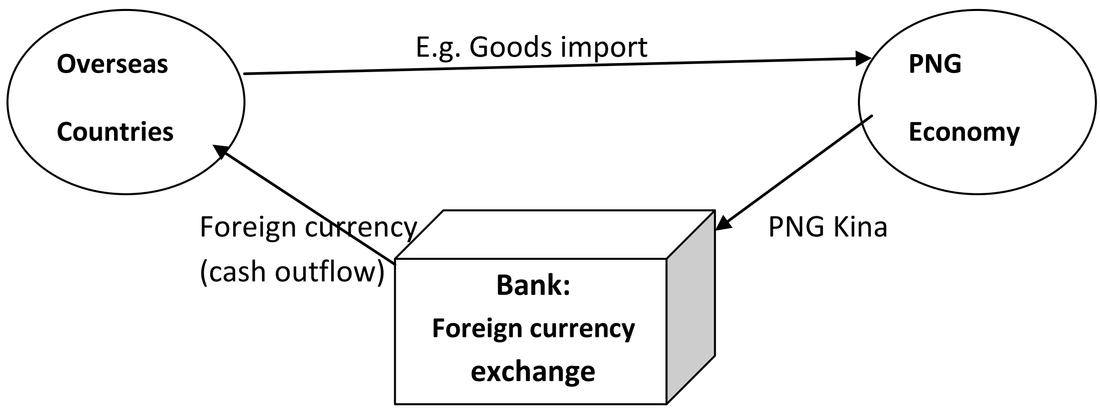
- Payment for imports
- PNG companies transferring money to overseas as staring capital
- Papua New Guineans going overseas
- Aid or grants given by PNG to overseas countries
- Foreigners residing in Papua New Guinea sending money to relatives in their countries.
- Loan repayment to overseas countries
- PNG delegates (government officials) going overseas

In general, the above listed economic activities represent cash outflow from the country. When there is more cash outflow than cash inflow it results in depreciation of Kina exchange rate.

Decrease in demand for Kina/Increase in supply of Kina

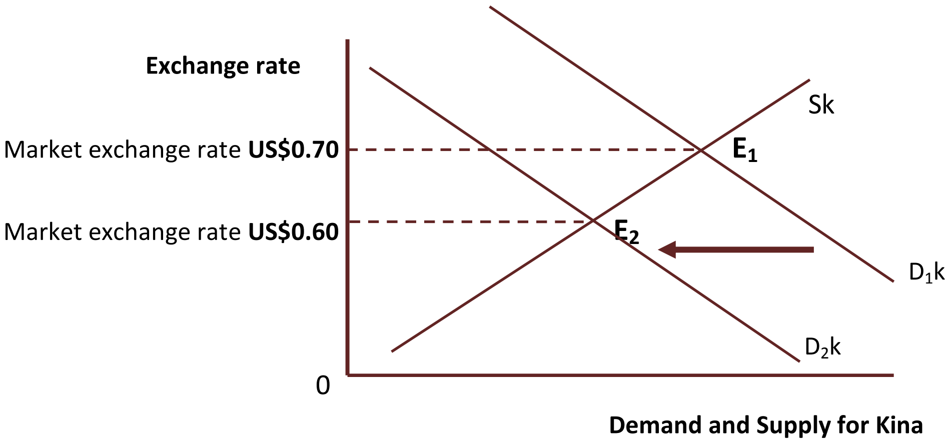
Decrease in demand for Kina from cash outflow of the country depreciates kina value. How? By looking at the simple diagram below, the cash outflow is usually in foreign currencies so in order to use money in overseas countries, the PNG Kina need to be brought to the banks to exchange into foreign currencies. By doing that, there is less demand for PNG Kina. When there is an increase in cash outflow, it results in **decrease in demand** for PNG kina.

But, what happens to supply of Kina at the bank? When decreasing quantities of Kina is demanded, the supply of Kina at the bank increases, because decreasing amounts of Kina is exchanged into foreign currencies.



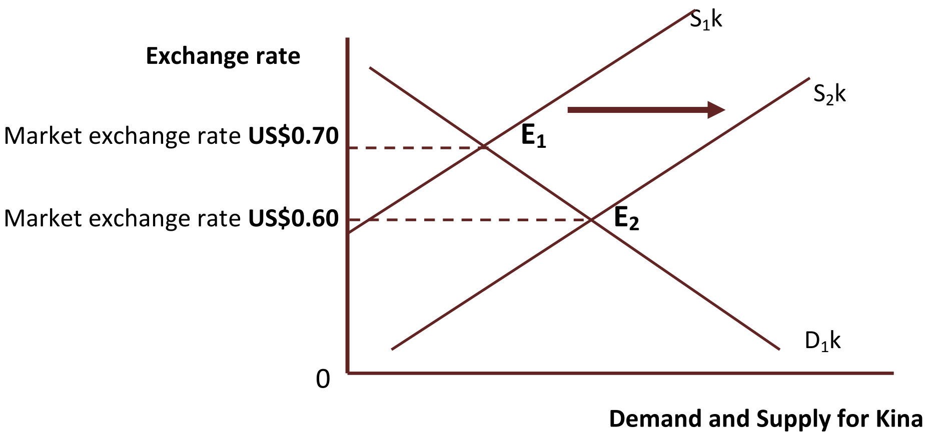
Let us look at the **graphical illustration** of appreciation and depreciation of a currency value (kina value) according to demand for and supply of money (kina).

Case 1: Due to decrease in demand



In this case, the kina value has ***depreciate*** from PNGK1.00 = US$0.70 to PNGK1.00 = US$0.60 due ***to increase in demand for Kina.***

Case 2: Due to increase in supply



In this case, the kina value has ***depreciate*** from PNGK1.00 = US$0.70 to PNGK1.00 = US$0.60 due to ***increase in supply of Kina.***

Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

Below is an example of PNG Kina exchange rate against foreign currencies determined using free or flexible exchange rate method supplied by the Bank of Papua New Guinea.

What your kina worth

(September 23, 2015)

USD	0.3500	PHP	16.38
AUD	0.4977	JPY	41.96
CAD	0.4651	NZD	0.5592
CHF	0.3414	SGD	0.4981
GBP	0.2282	SDR	0.4981
HKD	0.2.726	KRW	416. 90
EUR	0.3146	FJD	0.7552

Courtesy: Bank of Papua New Guinea

Source*: The National, September 24, 2015*

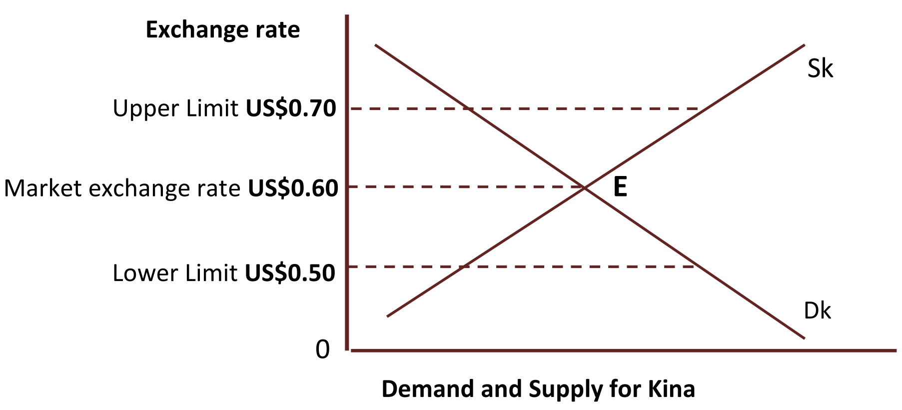
2. Managed Float Exchange Rate Method

Manage float is partly free exchange rate and partly fixed exchange rate. This means exchange rate is determined by the demand for and supply of money (kina) but an **upper limit** and **lower limit** is fixed for the exchange rate to fluctuate (appreciate or depreciate according to demand for and supply of money).

Upper limit is the limit to which exchange rate is allowed to appreciate and devaluation is necessary.

Lower limit is the limit to which exchange rate is allowed to depreciate and revaluation is necessary.

Graphical illustration of managed float exchange rate method



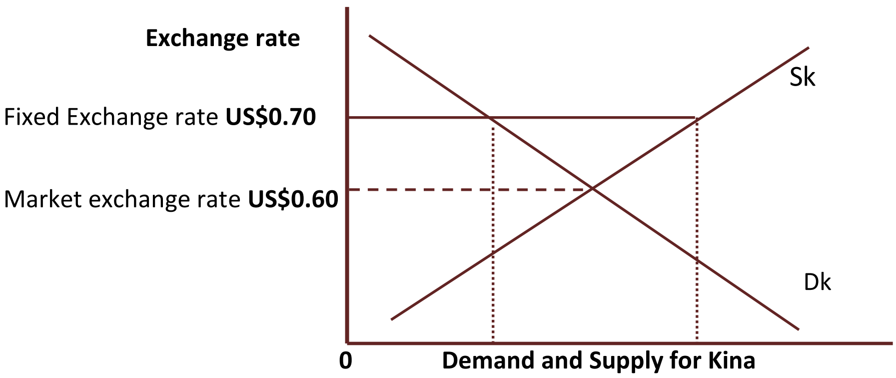
Source*: P.M.N. Bandara, 2013. Economics for Grade 12.*

In this case, if the kina value has appreciate from PNGK1.00 = US$0.60 to PNGK1.00 = US$0.70 and reaches an upper limit, then, a **devaluation** is necessary. If the kina value has depreciate from PNGK1.00 = US$0.60 to PNGK1.00 = US$0.50 and reaches a Lower limit, then, a **revaluation** is necessary.

3. Fixed Exchange Rate

Under fixed exchange rate method the Central bank (BPNG) officially set a standard exchange rate. This fixed exchange rate is used for a certain period of time and is subject to review depending on the economic condition. In the 1980s, PNG was using fixed exchange rate method under its **Hard Kina Policy**.

Illustration of fixed exchange rate method



Source: *P.M.N. Bandara, 2013. Economics for Grade 12.*

In the above graph, the fixed exchange rate is set at PNGK1.00 = US$0.70, however, according to the market forces of demand for and supply of kina the exchange rate is PNGK1.00 = US$0.60. In this case, fixed exchange rate is set above the **real market value** of kina, it is referred to as **over-valuing** of kina value and the government (BPNG) needs to intervene to **devaluate** (devaluation) the value of kina closer to the real market value (Market exchange rate).

Likewise, if the fixed exchange rate is set below the **real market value** of kina, it is referred to as **under-valuing** of kina value and the government (BPNG) needs to intervene to **revaluate** (revaluation) the value of kina closer to the real market value (Market exchange rate).

The **disadvantage** of the fixed exchange rate is that it can lead to **over-valuation** or **under-valuation** of currency (kina) from its real market (natural) value according to demand for and supply of money (kina).

Devaluation is an official decision by the government (Central bank – BPNG) to decrease the value of one currency (kina) against another currency (US dollar).

Revaluation is an official decision by the government (Central bank – BPNG) to increase the value of one currency (kina) against another currency (US dollar).

12.3.3.3: Calculation and Conversion of Exchange Rates

Currency conversion is necessary when making payments for imports. Hence, when converting local currency (PNG kina) to foreign currency you may **multiply** by the exchange rate, and when converting overseas currency to local currency (PNG kina) you **divide** by the exchange rate.

For simplicity a magic word **'POM'** can be used to convert PNG kina into Overseas (Foreign) currency. 'P' stands for PNG Kina, 'O' stand for operation sign, and 'M' stand for Multiplication. However, reverse (opposite) is also true, when converting overseas currency to PNG kina it should be divided by the exchange rate.

For example, given an exchange rate of **PNGK1.00 = to US$0.40**. K50 has been converted into US Dollar as follows: K50 × US$0.40 = US$20. Conversely, a US$100 has been converted to PNG kina as follows: US$100 ÷ US$0.40 = K250

Effects of exchange rate on Exports and Imports and Balance of Payment

Increase or decrease in exchange rate (kina value) affects price and volume of exports and imports. This is because:

i. Increase in exchange rate (kina value) results in:
   - exports becoming expensive and thus decrease volume of exports
   - imports becoming cheaper and thus increase volume of imports
   - may lead to Balance of payment deficit

ii. decrease in exchange rate (kina value)
   - exports becoming cheaper and thus increase volume of exports
   - imports becoming expensive and thus decrease volume of imports
   - may lead to Balance of payment surplus

Effects of Balance of payment on the exchange rate

- Effects of Balance of payment **surplus leads to appreciation** of currency value (kina value)

- Effects of Balance of payment **deficit leads to depreciation** of currency value (kina value)

12.3.3.4: Globalisation in an Economic Context

Realistically, a society or country is not independent or being self-reliant and produces all of its needs and wants. In other words, not one society or country exists in isolation without any link or communication with other societies or countries. May be to some extent several countries are independent but in fact, countries need each other to progress in their economic development through establishing mutual relationships. Hence, the concept of globalisation evolves to connect countries together.

Globalisation is the process of connecting internal markets to global economy allowing goods and services and capital flows to flow freely between countries. The final aim of globalisation is to make the whole world a single market (P.M.N. Bandara)

Let us discuss globalisation in terms of economic globalisation. Economic globalisation refers to the increasing economic interdependence of national economies across the world through the rapid increase in cross –border movements of goods, services, technology, capital flows and labour. Economic interdependence occurs when one economy depends on another economy. Globalisation has gone beyond international trade to connect economies to become increasingly dependent and could not survive without other countries. Rapid improvement of information and communication technology sped up globalisation process in which countries become more interdependent on each other.

Some characteristic of globalisation (benefits):

- Growing economic interdependence; acquire needed things from other countries. Most of the goods found in PNG are imported from other countries.
- Spread of improved or advanced technology across the world and thus, improved production process. As a result, companies are using a lot of new advanced technologies in the workplace to achieve efficiency in production.
- Development of global telecommunications infrastructures, internet, communication satellites and mobile phones results in efficient communication. For instance, Digicel investing in PNG greatly improved the efficiency of communication in the country.
- A decrease in communication cost for voice, text and data as a result of faster and wider spread of advanced ICT technologies. Hence, PNG is enjoying the 60 free sms for K1.20, K3 for Day data of 60 MB, etc.
- Removal of trade barriers and free flow of goods and services between countries.
- Integration of economies and markets between developing and developed economies.
- Increase in foreign direct investment as a means of economic growth for developing countries. For instance, Exon Mobil, a multinational company investing in PNGLNG project.
- Easy access to global financial markets for corporate and national borrowers that is, the government or multinational companies can be able to borrow from financial institutions in other countries. For instance, PNG government recently (2014) acquired a K6 billion loan from Axim bank from China.

- Greater labour mobility between countries that is, skilled labour and knowledgeable people free to migrate to other countries to work.
- Availability of a greater variety of goods and services to consumers at competitive prices. Hence, we have plenty of various goods in the stores for consumers to choose from.
- Advancement in technology and competition leads in depth research and quicker innovation and so improved production. As a result new products with new designs and packages are developed.
- Rapid opening of trade links between powerful developed economies and developing (or emerging) economies. As a result bilateral and multilateral trade agreements are signed between countries.

Let us discuss the advantages (arguments for) and disadvantages (arguments against) of globalisation.

Arguments for globalisation

- Greater interdependence leads to economies becoming specialised in producing goods for which they have lower opportunity cost (comparative advantage) and trade with other economies.
- Globalisation provides opportunities for developing countries to trade with powerful developed economies.
- Competitions among countries bring the prices down.
- Multinational companies investing in developing countries results in huge capital inflows.
- Globalisation necessitates easy and better communication flows, faster transportation of goods and people.
- Rapid growth of knowledge and innovations.

Arguments against globalisation

- If one nation suffers an economic crisis it affects all other nations because of the greater interdependence.
- Multinational companies use cheap skilled labor force from developing countries to achieve their goals.
- Widening inequalities both within the country and across the countries.
- Increased environment destruction caused while aiming to produce more to cater for expanding international trade.
- Developed countries gain dominance in international trade.
- Some people and nations may be left behind in terms of economic development and benefits.

- Developed countries may use instruments (policies) other than tariff and quotas to restrict imports from developing countries. For instance, developed countries might say developing countries products are not biodegradable and harmful to environment, or may say the product is below the international standard (poor quality) and cannot import.

Source: Economics for Grade 12 by P.M.N. Bandara, 2013.

YOU HAVE COME TO THE END OF TOPIC 3. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.

Summary 12.3.3

- The rate at which a unit of local currency is exchanged with a unit of foreign currency is called exchange rate.
- The three exchange rate methods are free exchange rate, fixed exchange rate and managed float exchange rate methods.
- To convert local currency to foreign currency should multiply by the exchange rate, and to convert foreign currency to local currency should divide by the exchange rate.
- Appreciation is increase in the value of one currency (kina) against another currency (US dollar) due to increase in demand for money (PNG kina) or increase in level of foreign reserves held in the banks
- Depreciation is decrease in the value of one currency (kina) against another currency (US dollar) due to increase in supply of money (PNG kina) or increase in level of foreign reserves held in the banks
- Devaluation is an official decision by the government to decrease the value of one currency (kina) against another currency (US dollar).
- Revaluation is an official decision by the government to increase the value of one currency (kina) against another currency (US dollar).
- Increase in exchange rate results in imports become cheaper and exports expensive, and vice versa.
- Globalisation is the process of connecting internal markets to global economy allowing goods and services and capital flows to flow freely between countries.

NOW DO STUDENT LEARNING ACTIVITY 12.3.3 ON THE NEXT PAGE.

Learning Activity 12.3.3

---

1. What is exchange rate? Define.

____

____

2. Supposed the exchange rate is PNGK1.00 = NZ$ 0.50. What does this mean to you?

____

____

3. Given the above exchange rate of PNG kina against New Zealand, do the following conversions:

   i. Convert PNG K5000 into New Zealand currency

   ____

   ii. Convert New Zealand NZ$2000 into PNG kina.

   ____

4. Identify the three methods of exchange rate determination.

   i. ____

   ii. ____

   iii. ____

5. Briefly describe each of the exchange rate methods listed above in Q5.

   i. ____

   ____

   ____

ii. ____

____

____

iii. ____

____

____

6. Differentiate the terms below:
   i. Appreciation and Revaluation

____

____

____

____

   ii. Depreciation and Devaluation

____

____

____

____

7. Hard kina policy comes under which exchange rate method?

____

____

8. In a managed float exchange rate method what action is required when the exchange rate reaches:
   i. Upper limit?

____

   ii. Lower limit?

____

9. What is the disadvantage of fixed exchange rate method?

____

____

____

10. What is the impact of exchange rate on exports and imports in terms of:

i. Low exchange rate?

____

____

____

ii. High exchange rate?

____

____

____

11. State the impact of overall balance (BOP) on exchange rate in terms of:

i. Surplus balance of payment.

____

____

____

ii. Deficit balance of payment.

____

____

____

12. What is globalisation? Define

____

____

____

13. State at least three advantages (arguments for) of globalization.

i. ____

____

ii. ____

____

iii. ____

____

14. State at least three disadvantages (arguments against) of globalization.

i. ____

____

ii. ____

____

iii. ____

____

CHECK YOUR ANSWERS AT THE END OF THE UNIT.

ANSWERS TO STUDENT LEARNING ACTIVITES 12.3.1 – 12.3.3

12.3.1

---

1. International trade is the exchange of goods and services between countries.

---

2. Any two of the following reasons for trade are correct:
   i. Lack of resources such as raw materials, technology, finance or labour. Therefore, countries need to trade to get resource inputs for the production of goods and services.
   ii. Countries trade have variety of goods and services in their country so that its people should satisfy their basic needs and wants to improve their standard of living.
   iii. Countries specialize in the production of certain products in which they have absolute advantage and/or comparative advantage in order to achieve efficiency in production.
   iv. Countries trade to improve international relations in terms of political, economic and cultural relations.

---

3. Free trade is a situation where there are no artificial barriers to trade imposed by governments that restrict the free exchange of goods and services between countries. Whereas Protected trade is the opposite of free trade that is, it is a trade where artificial barriers are imposed by the government that restrict the free exchange of goods and services between countries.

---

4. Restricted trade is another name for protected trade.

---

5. Any two of the following benefits of free trade are correct:
   i. It allows countries to obtain sufficient amount of goods which they cannot produce to satisfy the domestic demand.
   ii. It allows countries to specialize in production of goods which they have an absolute advantage or comparative advantage.
   iii. It helps to improve the efficient allocation of resources since producers in countries are exposed to international competition and try to produce at a lower opportunity cost.

iv. It allows for specialization which leads to economics of scale in which achieve lower average cost in production and increase efficiency and productivity.
v. International competitiveness will improve since government will promote domestic industrial efficiency.
vi. It encourages innovation and spread of technology and production processes throughout the world.
vii. It leads to higher standard of living as a result of lower prices, increased quantities and increased variety as countries would have greater access to goods and services.

---

6. Any two of the following benefits of protected trade are corrected:
   i. The need to assist infant industries.
   ii. Protecting industries from overseas firms dumping goods.
   iii. Reducing unemployment or increase employment level,
   iv. Arguments for self-sufficiency in certain items.

---

7. Absolute advantage is when a country can produce more efficiently with the given resource input than others. Whereas, *comparative advantage* is when a country can produce a particular product at a least or lower opportunity cost than the others.

---

8. Trade protection barriers are such as import tariff, quotas, embargo and subsidies.

---

9. Any two of the following are correct:
   i. A tariff is a government imposed tax on imports.
   ii. An import quota controls the volume (quantity) of a good that is allowed to be imported over a given period of time.
   iii. Embargo is a ban placed on the importation of certain goods.
   iv. Subsidies are financial assistance given by the government to domestic producers, which enable them to decrease their cost of production in terms of average cost (AC) thus reducing their selling price and compete more easily with imported goods.

---

10. Any two of the following disadvantages are correct:
   i. Countries which trade restrictions are placed against can retaliate and do the same.
   ii. Imposing import tariff results in high pricing for imported goods in the domestic market.
   iii. Trade restriction discourages importing foreign made goods and thus reduces variety of goods available for people or consumers in the domestic market.
   iv. Trade restrictions or protection shield domestic producers from foreign competition and may lead to lack of local producers' ability to be competitive on the international market and result in production of low quality goods.

v. Lead to food security problem in the domestic market as trade protection limit the amount and variety of goods available in the domestic market.

vi. Local producers might not be able to get the needed resource inputs such as; raw materials, technology, etc. for production due to trade protection.

12.3.2

---

1. Definitions:
   i. BOP can also be defined as record of all transactions of money coming in and going out of the country.
   ii. Terms of trade is defined as a measure of the number of imports that can be bought with the foreign currency earned from the sale of a given volume of exports.

---

2. The two main accounts in the balance of payment are Current account and Capital account.

---

3. Balance of payment is also called Overall balance.

---

4. A positive (+) figure in the Overall balance is called Balance of payment (BOP) surplus or favourable BOP means more capital inflow into the economy.

---

5. A negative (-) figure in the Overall balance is called Balance of payment (BOP) deficit or unfavourable BOP means more capital outflow of the economy.

---

6. Any two of the following impacts of balance of payment deficit on the economy are correct:
   - increase money flow into PNG economy
   - exchange rate appreciates (increase in Kina value against foreign currencies)
   - increases money supply
   - increase in National income
   - increase in investment and employment level rises
   - increase in Production level and GDP rises
   - improved standard of living
   - economic growth

---

7. The formula for calculating terms of trade is:

$$\text{Terms of trade} = \frac{\text{Export Price Index}}{\text{Import Price Index}} \times \frac{100}{1}$$

---

8. If the terms of trade calculated is more than 100 then it is considered as favourable or improved terms of trade. This means that more than 100 units of imports can be bought with a 100 unit of exports. Whereas, if the terms of trade calculated is less than 100 then it is considered as unfavourable or deteriorating terms of trade. This means that less than 100 units of imports can be bought with a 100 unit of exports.

9. i. Terms of trade (TOT) calculated for year 2 and 3.

Year	Export Price Index	Import Price Index	Terms of Trade Index
1	**100**	**100**	**100**
2	**120**	**125**	**120/125 * 100 = 96**
3	**130**	**120**	**130/120 * 100 = 108.33**

ii. Deteriorating terms of trade in year 2 by 4% and improved terms of trade in year 3 by 8.33%.

---

10. The last column has been filled based on the calculated terms of trade in the respective years.

Year	Terms of trade (TOT)	Improved/Deteriorated by how much %
1991 – 2	104.1	TOT improved by 4.1% (104.1 – 100)
1992 – 3	99.7	TOT deteriorated by 0.3% (99.7 – 100)
1993 – 4	96.9	TOT deteriorated by 3.1% (96.9 – 100)
1994 – 5	99.4	TOT deteriorated by 0.6% (99.4 – 100)
1995 – 6	102.4	TOT improved by 2.4% (102.4 – 100)
1996 – 7	105.4	TOT improved by 4.1% (104.1 – 100)
1997 - 8	108.4	TOT improved by 8.4% (108.4 – 100)

12.3.3

1. Exchange rate is the value (or price) of one currency in terms of another currency. In other words, it is the value of PNG kina against a foreign currency. Or it is the rate at which PNG kina can be exchanged into a foreign currency.

2. This means PNG K1.00 is equivalent to New Zealand 50 cents.

3. Currency conversions:
   i. K5000 x 0.50 = NZ$ 2500.00
   ii. NZ$2000 ÷ 0.50 = K4000.00

4. The three methods of exchange rate determination are free or flexible, fixed and managed float exchange rates.

5. Description of each exchange rate methods:
   - Free or flexible exchange rate method exchange rate is determined by the demand for and supply of currency (kina).
   - Manage float is partly free exchange rate and partly fixed exchange rate. This means exchange rate is determined by the demand for and supply of money (kina) but an ***upper limit*** and ***lower limit*** is fixed for the exchange rate to fluctuate (appreciate or depreciate according to demand for and supply of money).
   - Under Fixed exchange rate method the Central bank (BPNG) officially sets a standard exchange rate. This fixed exchange rate is used for a certain period of time and is subject to review depending on the economic condition.

6.
   i. Appreciation is an increase in the value of a currency due to increase in demand for that currency whereas Revaluation is an official decision by the government (BPNG) to increase the value of a currency.
   ii. Depreciation is a decrease in the value of a currency due to increase in supply of that currency whereas Devaluation is an official decision by the government (BPNG) to decrease the value of a currency.

7. Fixed exchange rate method.

8. Under managed float exchange rate method when it reaches:
   i. Upper limit; a devaluation of currency value is required.
   ii. Lower limit; a revaluation of a currency value is required.

9. The disadvantage of fixed exchange rate method is that it results in over-valuing or under-valuing of currency value.

---

10. The impacts of exchange rate on exports and imports in terms of:
    i. Low exchange rate leads to exports becoming cheaper and imports becoming expensive.
    ii. High exchange rate leads to exports becoming expensive and imports becoming cheaper.

---

11. The impact of overall balance (BOP) on exchange rate in terms of:
    i. Surplus balance of payment leads to more capital inflow which increase in demand for money which leads to appreciation or increase in the value of currency (kina).
    ii. Deficit balance of payment leads to more capital outflow which increases the supply of money which leads to depreciation or decrease in the value of currency (kina).

---

12. Globalisation is the process of connecting internal markets to global economy allowing goods and services and capital flows to flow freely between countries.

---

13. Any three advantages (arguments for) of globalisation stated below are correct:
    - Greater interdependence leads to economies become specialised in producing goods which they have lower opportunity cost (comparative advantage) and trade with other economies.
    - Globalisation provides opportunities for developing countries to trade with powerful developed economies.
    - Competitions among countries bring the prices down.
    - Multinational companies investing in developing countries results in huge capital inflows.
    - Globalisation necessitates easy and better communication flows, faster transportation of goods and as well as people.
    - Rapid growth of knowledge and innovations.

---

14. Any three disadvantages (arguments against) of globalisation stated below are correct:
    - If one nation suffers an economic crisis it affects all other nations because of the greater interdependence.
    - Multinational companies use cheap skilled labor force from developing countries to achieve their goals.

    (continued next page)

- Widening inequalities both within the country and across the countries.
- Increased environment destruction caused while aiming to produce more to cater for expanding international trade.
- Developed countries gain dominance in international trade.
- Some people and nations may be left behind in terms of economic development and benefits.
- Developed countries may use instruments (policies) other than tariff and quotas to restrict imports from developing countries.

YOU HAVE COME TO THE END OF UNIT 3. NOW DO YOUR TESTS AND ASSIGNMENTS IN YOUR ASSESSMENT BOOK.

Bibliography or References

Bandara, P. M. N. (2013). Economics for Grade 12. Sara Publications, Kottawa. Sri Lanka.

Dixion. T. (2001). Australia in the Global Economy. Leading Edge Education, Sydney NSW. Australia.

Irima A. K. (2006). Introduction To Economics Course No. 6 .00301. UPNG Printery, Waigani. Papua New Guinea.

Mickleburgh. A. (1992). Economics for Developing Nations – Book Two. Pearson Education, Melbourne. Australia.

Tuffley. E. J. (1995). Understanding Our Economy. Reed International Books Australia PTY Ltd, Victoria. Australia.