Module # 7 – Component # 1

Global Economic Analysis # 1

This Component:

- focuses on the basics of Global Analysis.
- assumes a base level of financial theory, but attempts to add a level of practical application. We attempt to "fill the gap" between theory and practice.
- is one of many comprising the Investor Campus "Basics of Series".

Introduction

The size of the trade sector

Some industries require large-scale production in order to reap the benefits of economies of scale. In countries with small populations, and thus limited consumption, the international trade sector tends to be larger relative to the size of their populations than it would in more populated countries.

This does not necessarily imply that similar sized countries will have similar sized trade sectors.

The size of the trade sector also differs across industries, depending upon the industry's ability to compete with international producers of similar products.

Comparative Versus Absolute Advantage

Comparative advantage is the ability to produce a product with a lower opportunity-cost than others can produce it.

Absolute advantage is the ability of a nation, as a result of previous experience or natural endowments, to produce more of a good (with the same amount of resources) than another nation. A country has an absolute advantage economically over another, in a particular good, when it can produce that good more cheaply. A country also has an absolute advantage if it can produce more of the good than another country can, with the same amount of resources. Thus absolute advantage belongs to the nation that can produce a product using the fewest resources, whilst comparative advantage belongs to the nation that can produce a product at the lowest opportunity cost.

Ricardo identified comparative advantage, rather than absolute advantage, as the correct concept for understanding efficient patterns of production and exchange across countries.

The two concepts have applications outside international trade, though this is where they are most commonly used. Suppose that two castaways on a desert island gather both fruit and grain, which they then share equally between them. Suppose that Castaway A can gather more fruit per hour than Castaway B, and therefore has an absolute advantage in this good. Nonetheless, it may well make sense for A to leave some fruit-gathering to B.

One needs to look at comparative advantage rather than absolute advantage, to discover how A and B can each best allocate their efforts. If A's initial advantage over B in grain-gathering is greater than his advantage in fruit-gathering, then fruit-effort should be transferred from A to B, to the point where A's comparative advantages in the two goods are equal. Thus it may be rational for fruit to flow from B to A, despite A's absolute advantage.

We now look at applying the concept to International Trade.

The Law of Comparative Advantage

Countries have different resource endowments. Some have an abundance of labour while others possess fertile lands. Differences in resource endowments result in countries incurring different opportunity costs of production for the same products. Trade on the basis of comparative advantage suggests that the residents of each country can gain by specializing in the production of goods that they can produce economically (low opportunity cost) and using the proceeds to import goods that would be expensive to produce locally

Illustrative Example
We start with some simplifying assumptions: • **Only two countries exist: South Africa and Malawi** • **Only two products are produced in each country: wine and fish** • **The only resource in each country is labour** **South Africa has an absolute advantage in producing both products i.e. South African labourers are more efficient than the Malawians as they have has access to skills training programmes.**

If each worker in South Africa is able to produce either 5 fish or 10 bottles of wine per day and each worker in Malawi can produce either 2 fish or 1 bottle of wine per day, then we have:

Country	Fish	Wine
South Africa	5	10
Malawi	2	1

One worker in South Africa is able to produce more per day than a worker in Malawi, giving South Africa an absolute advantage in both products.

Despite this, if there are differences in opportunity costs of production, trade between the two countries can take place to the benefit of both countries.

Let us consider the opportunity costs of producing each good in each country.
In South Africa we have a worker producing either 5 fish or 10 bottles of wine i.e.:

5F : 10W or 1F : 2W or 1W : ½ F

Thus: South Africa's opportunity costs are:

- **1 fish *costs* 2 bottles of wine and**
- **1 bottle of wine *costs* ½ a fish**

Similarly: Malawi's opportunity costs are:

- **1 fish *costs* ½ a bottle of wine and**
- **1 bottle of wine *costs* 2 fish**

Since a bottle of wine is cheaper to produce in South Africa (½ fish compared with 2 fish in Malawi), and fish is cheaper to produce in Malawi (½ wine compared with 2 bottles of wine in South Africa), South Africa should produce wine and Malawi should produce fish.

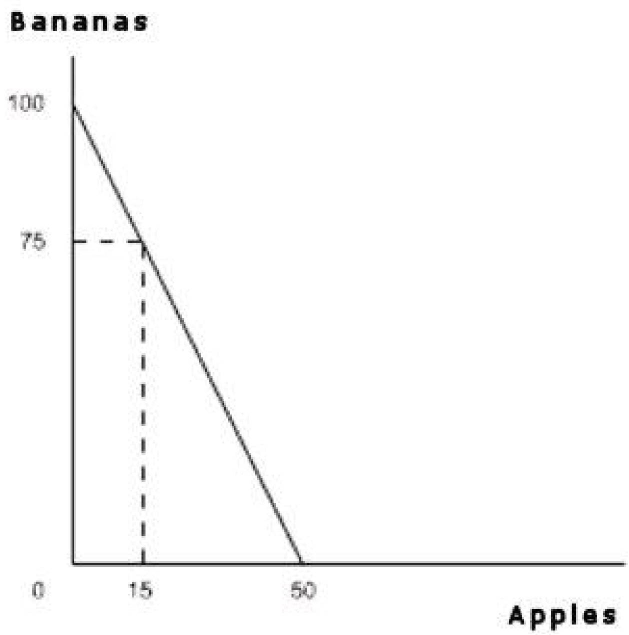
Both countries will gain if South Africa sells wine for more than ½ fish (her cost of production) but less than 2 fish (the cost of production in Malawi).

Similarly, both will gain if Malawi's terms of trade for fish are more than ½ bottle of wine (her costs of production) but less than 2 bottles of wine (the cost of production in South Africa).

Thus, the law of comparative advantage explains why a nation will benefit from trade when it exports goods for which it is a low-cost producer while importing those for which it is a high-cost producer.

Now let's consider how trade on the basis of comparative advantage expands a country's consumption possibilities.

The Production Possibilities Frontier – PPF

<table>
<tr><th colspan="2">PRODUCTION POSSIBILITIES FRONTIER - PPF</th></tr>
<tr><td>
</td><td>A production possibilities frontier (PPF) represents of the various maximum combinations of output of two products that a country is able to produce given its current resources.

Consider a country producing apples and bananas.
If all its resources were used in producing bananas, 100 would be produced in a day; alternatively, using all its resources, it is able to produce 50 apples in a day.

The straight line joining these two points is the PPF.</td></tr>
<tr><td colspan="2">Any combination that lies at a point on the PPF is also possible and is a maximum. Any combination to the left of the PPF is possible, but does not utilise all the resources. 75 bananas and 15 apples is on the PPF. Any point to the right of the PPF cannot be produced.</td></tr>
</table>

Illustrative example

We return to the two countries producing wine and fish.

Country	Fish	Wine
South Africa	5	10
Malawi	2	1

For illustrative purposes assume that South Africa has 50 million and Malawi has 250 million workers.

This implies that in one day in South Africa, if all workers produced fish, 50 x 5 million = 250 million fish could be produced whereas if all workers produced wine, 50 x 10 million = 500 million bottles of wine could be produced.

Similarly, given 250 million workers in Malawi, this implies that in one day, if all workers produced fish, 2 x 250 million = 500 million fish could be produced whereas if all workers produced wine, 1 x 250 million = 250 million bottles could be produced.

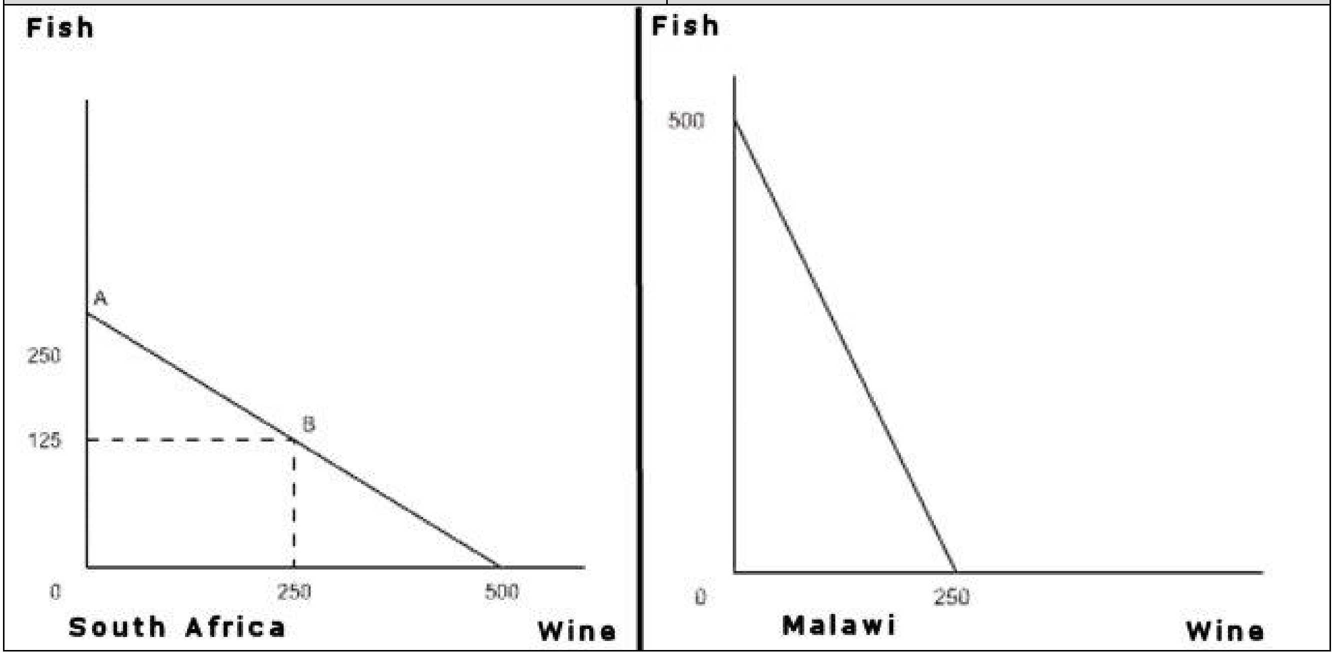
Country	Fish	Wine
South Africa	5 x 50 mil. = 250 mil.	10 x 50 mil. = 500 mil.
Malawi	2 × 250mil. = 500mil.	1 × 250mil. = 250mil.

or

Country	Fish	Wine
South Africa	250 mil.	500 mil.
Malawi	500mil.	250mil.

The production possibility frontiers (PPF's) for each country.

PPF	
South Africa	Malawi



Any point on the PPF represents a maximum attainable combination of production of fish and wine. With no trade between the countries, each would consume its entire production.

The slope of the PPF represents the opportunity cost of wine relative to fish. For example, if South Africa were consuming 250 million fish and no wine, at point A, the cost of increasing wine consumption to 250 million bottles would be the 125 million fish that would have to sacrificed i.e. she would move to point B.

In the absence of trade, a country's consumption possibilities are constrained by the country's PPF. So South Africa could not consume at a point to the right of B, 125 million fish and more than 250 million bottles of wine.

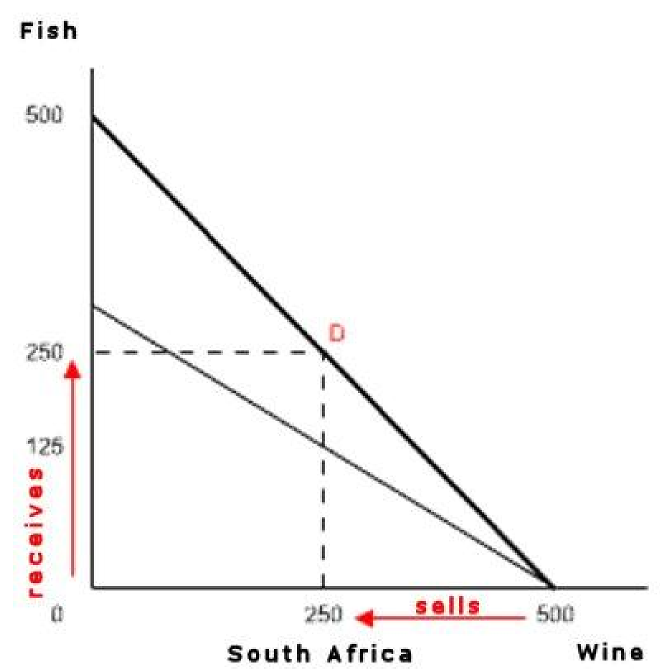
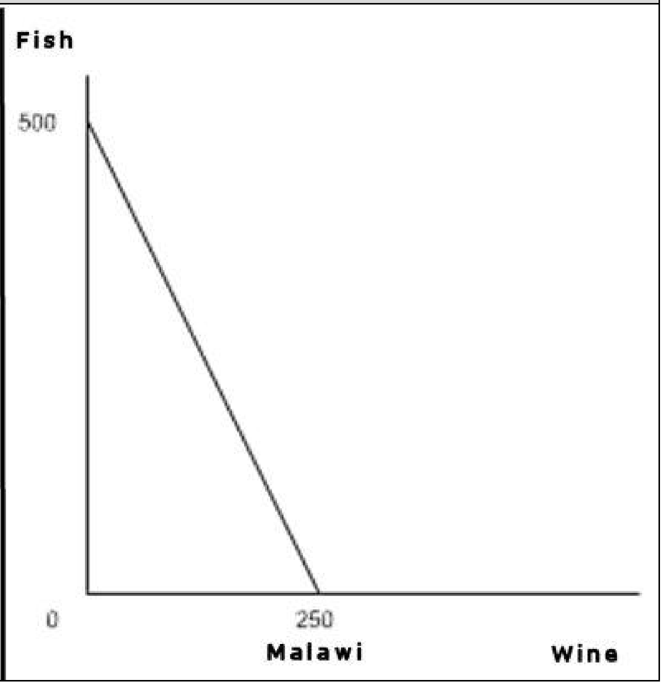
However, trade expands the consumption possibilities of both countries. We consider what happens if South Africa decides to offer Malawi wine. Since it costs South Africa ½ fish to produce, should Malawi offer more that ½ fish per bottle of wine, South Africa would be better off.

Wine in Malawi costs 2 fish per bottle to produce. Thus Malawi would be happy to acquire wine at any price less than 2 fish per bottle.

Assume they set the terms of trade at 1 bottle of wine per fish.

South Africa now can specialise in producing wine and can produce 500 million bottles of wine and no fish for herself.

She has the option of consuming all this wine herself, or selling it all and obtaining 500 million fish in return. This allows us to construct the PPF. In so doing we note that the PPF swivels upwards as shown.

PPF	
South Africa	**Malawi**
	

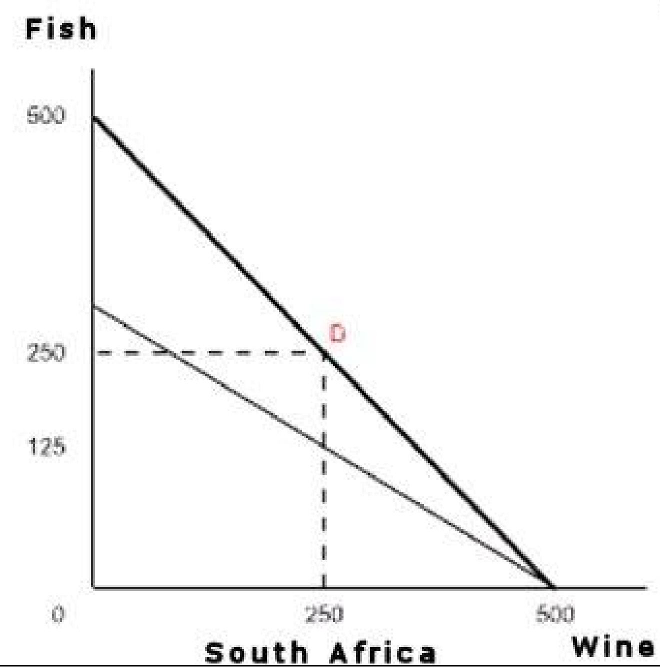
It can be seen that South Africa is better off than before, since by selling 250 million bottles of wine in exchange for 250 million fish, point D, a previously unattainable point can be achieved, allowing the consumption of the 250 million fish and the remaining 250 million bottles of wine. Prior to this trade, producing/consuming 250 million fish implied NO wine was produced/consumed.

Now consider how Malawi is faring? With the terms of trade that were set at 1 fish to 1 bottle of wine, Malawi could specialize in what she does best – producing fish, and produce 500 million fish.

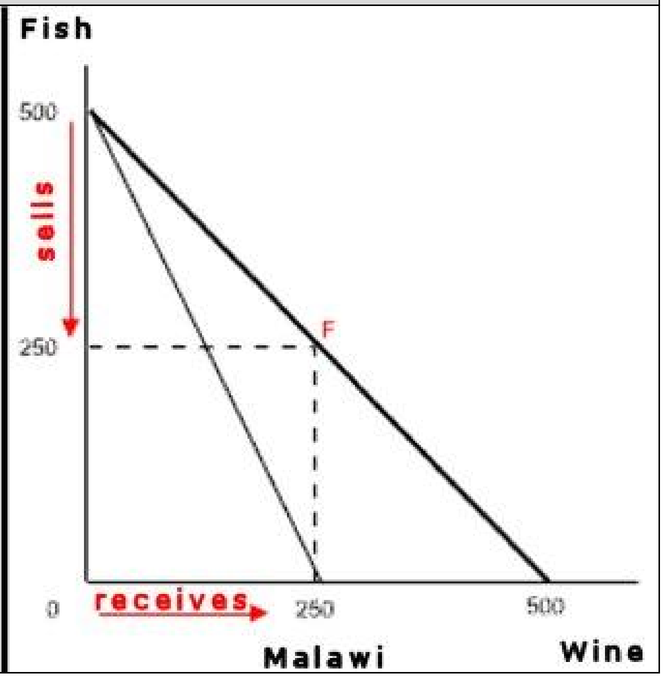
She now has the option of selling all of those fish for bottles of wine, so that her PPF swivels upwards as shown.

PPF

South Africa



Malawi



Whereas Malawi previously could have 250 million bottles of wine and no fish, she can now trade 250 million fish (and be left with 250 million fish) and receive 250 million bottles of wine in exchange, in other words, a previously unattainable point, such as F, is now attainable. The PPF's of both countries have been increased, thus benefiting both countries.

The Implications Of The Law Of Comparative Advantage

Comparative advantage results in an expansion of total output.
It also results in mutual gains for each trading partner if each specializes in producing that which it can produce at relatively low cost and uses the proceeds to purchase goods that it could only produce at a higher cost.

For the purposes of trade, it is the comparative advantage, not the absolute advantage that is significant.

Some real world considerations regarding comparative advantage and the gains from trade

In the real world, importing goods from a country with lower production costs may in fact be more costly once transportation costs are included.

In cases where the marginal costs of production increase as output increases, the PPF would be convex rather than linear. While it is still possible for gains from trade to exist, it is unlikely that complete specialisation will occur.

Other Sources Of Gain From International Trade

Market size:	**This is particularly relevant for smaller countries. International trade expands the size of markets, allowing producers to expand their output, generate economies of scale and reduce per unit costs. Consumers benefit by being able to purchase from large-scale international producers as well as lower-cost domestic producers.**
Competition:	**International trade forces domestic producers to compete on the basis of price (cost-cutting), and quality. Consumers benefit in addition from a greater choice of products.**

Insight: The export-import link

Note that exports are necessary to earn foreign exchange with which to pay for imports.

Similarly, it is important that a country imports to provide other countries with the purchasing power with which to buy the country's exports.

The effects of international trade on domestic supply and demand

International trade directs resources into their most efficient use by allowing each nation to concentrate on that which they do best.

Countries will export products in which they have a comparative advantage (domestic prices will increase and consumption will fall) and will import products in which they have a comparative disadvantage (domestic prices will decrease and consumption will increase).

Overall, there is an expansion of output and consumption relative to what could be achieved in the absence of trade.

Commonly Used Trade-Restricting Devices

Although the previous section shows that free trade results in net welfare gains, most economies use some form of trade-restricting devices. Four of these are:

1. Tariffs.

A tariff is a tax on goods imported from foreign countries.
Assume the world price of a product is lower than the domestic price.

The imposition of an import tariff would effectively increase the price causing:

1. **The consumption of the product to decrease**
2. **The domestic price to increase**
3. **Imports to decrease**

The tariff harms consumers but benefits domestic producers and generates tax for the State.

2. Quotas.

A quota is a specific limit of maximum quantity (or value) of a good permitted to be imported into a country during a given period.

Quotas are more harmful than tariffs as:

- **Consumers no longer benefit from low-cost foreign production as supply is limited;**
- **Revenue otherwise received by the government under tariffs, is reduced by quotas;**

Domestic suppliers and foreign producers try hard to prevent the removal of quotas once in use as they are benefiting from the system.

4. Voluntary Export Restraints (VER).

This is a voluntary agreement by foreign firms to limit their own exports to a country. Usually, this is not voluntary but a result of political pressure. For example, Japan has agreed to a VER on its exports to America.

The impact is similar to that of a quota – the costs to domestic consumers usually outweigh the gains of domestic and foreign producers enjoyed due to the higher prices created.

5. Exchange Controls.

Developing countries wishing to promote local industries frequently limit foreign trade by artificially pegging the exchange rate value of their currency at a value higher than the market value.

Since their exports become more expensive, the export earnings fall. In turn, the reduction in foreign exchange received reduces their citizens' ability to purchase imports.

Often black-market currency exchanges develop. The size of the black-market premium indicates the degree to which the exchange rate controls are expected to limit foreign trade in the future.

The Impact Of Trade Barriers On The Domestic Economy

Those who benefit and those who suffer from the imposition of tariffs.

The table illustrates the general trends found in a recent study of less developed countries (LDC’s) with either high or low trade restrictions:

	LDC with low trade restrictions	LDC with high trade restrictions
Average tax rate on international trade	Low	High
Size of trade sector as a percentage of GDP	Large	Small
Black-market exchange rate premium	Zero to minimal	High
Growth of per capita GDP	Positive growth	Negative growth

Insight: Reductions in trade restrictions

After the end of the Second World War, the General Agreement on Tariffs and Trade (GATT) was created in an effort to reduce trade restrictions. By 1997, tariffs paid by member countries had fallen from an average of 40% to 5%.

In 1994, GATT was renamed the World trade Organization (WTO), which is now responsible for monitoring and enforcing trade agreements among the 133 member countries.

NAFTA is the North American Free Trade Agreement established amongst America, Canada and Mexico in 1994. Its objective is the free flow of trade and capital between these countries, completely eliminating tariffs on shipments by 2004. Trade between the countries has increased as a result of NAFTA.

The Reasons Why Nations Adopt Trade Restrictions

The validity of the arguments for trade restrictions

Despite the fact that trade restrictions may be harmful, they are still used.
There are three main instances where the use of trade restrictions is justified. These are discussed and their validity questioned:

Partially valid arguments for trade restrictions

Arguments in favour of trade restrictions are sometimes acceptable – at least partially. They are:

1 National defence argument

Nations should not depend on other countries for items that are important for national defence, such as weapons. Thus the local manufacture of such items should be protected from foreign competition.

The validity of the national defence argument

It is open to abuse by those who seek the benefits of trade protection for their products, such as special interest groups. Many items are promoted as being vital for national defence, whereas in reality, few truly are. Each case needs to be decided on its merits.

Also, such items could be imported cheaply and stockpiled during times of peace, rather than making use of protectionist policies.
The mere ability to produce large volumes of such items to support a war is already a partial form of defence, so that a country can afford to risk dependency on another nation.

2 Infant – industry argument

This argues in favour of protective tariffs for industries that are starting up and that therefore incur higher costs than large, foreign, mature competitors.

The validity of the infant industry argument

The infant-industry argument would be valid as long as the protection offered was indeed only temporary.

However, infants tend to grow up and become politically and economically powerful, in many cases with the protection legally entrenched. It becomes difficult to remove the protection once granted.

3 Anti-dumping argument

Dumping refers to the sale of a good in a foreign market at a price below that charged by the supplier in its home market.

The objective is sometimes said to be the establishment of a monopoly in a foreign market by undercutting local producers' prices.

Dumping benefits consumers (through lower prices) but harms local producers (who must compete with the lower prices). These producers vehemently oppose dumping.

The validity of the anti-dumping argument

**Dumping is illegal and import tariffs are often used to counter it.
However, to ban dumping fearing the development of monopolies is questionable since**

a) once a monopolist tries to increase its price, higher cost local producers may re-enter the market and
b) there are always alternative foreign suppliers to compete with a monopoly.

Since the law of comparative advantage indicates that a country can gain as a whole from the purchase of foreign produced goods that are cheaper than domestically produced ones, the illegality of dumping appears misguided.

Economic Illiteracy: trade restrictions protect jobs and keep wages high

**This is another justification for the existence of trade restrictions.
A lack of understanding of the law of comparative advantage (the benefits of trade) and of the associated disadvantages of trade restrictions, by some groups results in the belief that trade restrictions protect jobs and keep incomes high.**

Validity of the argument that trade restrictions protect jobs and keep wages high

In the short-run, for jobs created in the protected industry, jobs are lost in the import sector.

In the long-run, jobs are also lost since:

- **Restricting imports reduces the purchasing power of trading partners, reducing their demand for your products**
- **Locally made products are expensive, reducing local purchasing power, reducing demand and causing job-losses.**
- **High price of domestic produced goods limits the foreign demand for the goods, thus jobs in export sectors are not created.**

Wages do not fall as a result of trading with low-wage countries. They fall when productivity falls (i.e. costs increase). Therefore the argument that trade restrictions prevent wage reductions is flawed.

Protection of special interests and the politics of trade restrictions

Trade restrictions often don't follow 'economic logic' but can be understood when one looks at the environment under which they were introduced.

Producers and resource suppliers are generally well-organised groups, and use this advantage to acquire political support for any trade restrictions that generate higher wages and job security. Politicians offer their support given the votes they can win by so doing.

Consumers on the other hand carry the costs of the trade restrictions but are generally poorly informed regarding trade policy, and, being an unorganised group, have little chance of effectively resisting trade restrictions.

Summary

- The pattern of international trade is determined by comparative advantage.

- Comparative advantage is the ability of one nation to produce a product with a lower opportunity-cost than that of another nation.

- Absolute advantage exists when a nation can produce more output given the same number of resources (Note: absolute advantage does not take into account the cost of these resources, which is the focus of comparative advantage).

- International trade where a nation specializes in producing that for which it has a comparative advantage generates economic efficiency, resulting in an expansion of its Production Possibilities Frontier and an increase in its consumption possibilities.

- International trade also promotes the development of economies of scale, by increasing market size, and fosters increased competition that results in lower costs, better quality and increased choices.

- Where a country has a comparative advantage, it will export its product. The gain by suppliers due to selling at the higher world price will exceed the higher cost incurred by domestic consumers, and overall welfare is improved. Note that the quantity supplied will increase (exports increase) even though domestic demand decreases.

- Where a country has a comparative disadvantage, lower-cost products will be imported and the gain enjoyed by the consumers will exceed the loss incurred by local suppliers, thus overall welfare is once again increased.

- Many countries make use of trade restrictions. Tariffs and quotas both result in an increase in costs for consumers due to higher prices.

- While the bulk of the costs borne by consumers under tariffs actually benefit suppliers and the government, the government benefit under quotas is transferred to foreign suppliers, making quotas more harmful.

- Two other trade restricting tools are Voluntary Export Restraints (VER) and exchange rate controls (which often results in a black market exchange premium).

- The use of trade restrictions is promoted using the national defence, infant industry, anti-dumping, and job and wage protection arguments. However, all have valid counter-arguments.
- In many cases, trade restrictions are motivated by organised and politically supported special interest groups (e.g. suppliers) who succeed since resistance groups (consumers) are either poorly organised or ill informed of trade policies.
- Evidence suggests that less developed countries that make minimal use of trade restrictions have larger trade sectors, lower black market exchange premiums and higher annual per capita GDP growth rates.
- For this reason, there is a world trend towards liberalisation of trade, as indicated in agreements embodied in GATT, WTO and NAFTA