

International Trade Theory and Protectionism

This chapter deals with the theoretical reasons of why countries trade with one another and why they often also impose barriers to such trade amongst themselves.

International trade allows countries to gain access to a wider world market, rather than constraining production to the domestic market demand. This allows economic benefits, such as **economies of scale**, **division of labour**, specialisation in production and exchange of commodities. Thus trade is the vent through which countries use their spare capacity to the greatest efficiency.

To provide a perspective on world trade it is interesting to note that geographically large countries (USA, Brazil and India) are less open in the sense that they tend to trade proportionally less than smaller countries such as the European countries (Table 15.1).

Table 15.1 Characteristics of selected countries

Country	Population (millions)	GNP (\$ billions)	Imports (\$ billions)	Exports (\$ billions)	Imports per capita (\$)	Imports as % of GNP	Imports as % of World Imports
USA	237	3663	341	218	1439	9	18
Japan	120	1257	136	170	1133	11	7
UK	56	428	105	94	1875	25	6
Canada	25	325	80	90	3200	25	4
Brazil	133	205	14	27	105	7	1
Singapore	3	18	29	24	9667	600	2
India	747	187	15	9	20	8	1

Source: IMF, *International Financial Statistics*.

It can be seen from the table that trade is relatively important for the UK, reflecting the open nature of this economy and its importance in European Community trade. In contrast Brazil and the USA are very closed in nature, relative to their large size, and have a very small percentage of imports as a percentage of their Gross National Product (GNP). The figures for Singapore show that its imports are significantly higher than its own GNP. This interesting feature is due to the fact that Singapore is a processing and distributing country. It processes semi-manufactured imports and exports them for further re-processing abroad. Singapore is a good example of **entreport trade**. The table shows Canada's proportion of trade relative to its GNP is higher than that of similar size countries such as Brazil and the USA. This is explained by its economy being smaller and hence the trade that occurs is relatively more important and the importance of its cross-border trade with its neighbour the USA.

The reasons for these patterns of trade which emerge are examined in the theories of trade. First we will look at The Classical Trade Theories of Absolute and

Comparative Advantage and then move on to discuss the Neo-classical Trade theories of the Heckscher Ohlin Samuelson (HOS) model, which bases trade between nations on each country's **factor endowments** (that is land, labour, capital, enterprise). Extensions to the Neo-Classical model are also briefly examined.

International trade theories

Classical trade theories

Mercantilism predominated as a belief in the seventeenth and eighteenth centuries. Mercantilists strongly believed in a link between a country's balance of foreign trade and a nation's wealth. They were preoccupied by an accumulation of precious metals assumed to be relatively fixed in supply. The money supply of the time was mainly gold. Exports meant an inflow of gold through payment and imports meant outflow. Mercantilists therefore advocated protectionism to reduce imports and subsidies to increase exports to accumulate gold within a nation. In this isolationist way mercantilists failed to examine the economic gain that can result from free trade. This was addressed first by Adam Smith in Absolute Advantage and then by David Ricardo in the principle of Comparative Advantage.

Absolute Advantage

The publication of Adam Smith's book in 1776, *The Wealth of Nations* emphasised the importance of trade as a means of increasing a country's wealth. This stems from the belief that a country's resources are more efficiently allocated on a World basis through specialisation and trade than on a single country basis.

Assumptions of the model

- 1 There was only one factor of production. Labour was the main input, therefore there was a labour theory of value, that is the value of a good is determined by the amount of labour used in its production.
- 2 Only two countries involved in international trade. This is for simplicity only and any conclusions can be generalised for a many country model.
- 3 Only two goods are being traded for simplicity.
- 4 Perfect competition exists in production – that is prices are a true reflection of the market forces of demand and supply.
- 5 The model is static that is tastes, technology and populations are assumed constant.
- 6 Transportation costs are ignored.
- 7 Factors of production (in this case only labour) can not migrate between countries, hence creating production cost differences. Factors of production are internationally immobile and country specific and thus this is the basis for trade.

As exports and imports embody labour, the export and imports of goods are implicitly importing and exporting labour.

EXAMPLE 15.1

If the UK has an absolute advantage in production cost terms of cloth, relative to France, which is absolutely more efficient in production cost terms in producing wine, then through trade the UK will export cloth and France will export wine (Table 15.2).

Table 15.2 Production costs of cloth and wine

	Output per man year		Cost in terms of man years per ton/litre	
	(yards of cloth)	(litres of wine)	Cloth	Wine
UK	10	or	8	1/10
France	9	or	12	1/9
				1/8
				1/12

France has a price advantage of 4 pence over the UK in the production of wine ($1/8 - 1/12 = 0.04$) and hence the profit motive will mean trade will occur. In a global sense this must produce benefits to all countries as now each country can specialise in the production of the good where it has an absolute advantage. As more resources are placed in the production of the good where the country is most efficient, then global production should be higher.

With complete specialisation:

	Cloth	Wine
UK	+10	-8
France	-9	+12
	<u>+1</u>	<u>+4</u>

The global gain can be distributed between the two trading countries.

If however a country is absolutely more efficient in the production of *both* goods then the principle of Comparative Advantages will illustrate the basis for profitable trade. Comparative Advantage was examined by David Ricardo.

Comparative Advantage

Comparative Advantage will arise so long as the internal or domestic prices in the two countries differ in the production of the two goods. This is sometimes put as the **domestic opportunity cost** (OC) for the production of the two goods must differ. This is the amount of some other good that must be foregone in order to obtain a unit of one good.

EXAMPLE 15.2

Table 15.3 Comparative advantage

	Output per man year	
	Tons of wheat	Tons of cloth
UK	12	or
USA	24	or
		6
		8

The USA has an absolute advantage in the production of wheat and cloth, but comparatively it is more efficient in the production of wheat and it therefore would have a comparative disadvantage in the production of the other cloth ($24/12 > 8/6$).

In the case of UK it is absolutely less efficient in the production of both goods but comparatively its disadvantage is lowest in the production of cloth. The UK is said to therefore have a comparative advantage in cloth production and hence it will specialise in and export mainly cloth. The USA will mainly specialise in and export wheat.

The USA labour is twice as productive in wheat production and one and a third more productive in cloth production, but both countries can still gain through trade by looking at the relative internal prices, that is the domestic opportunity cost ratios.

UK	2 wheat = 1 cloth
USA	3 wheat = 1 cloth

In trade the two countries would export and import not at the domestic price (shown by the domestic OC ratio), but at the international price, which would be higher providing a profit incentive. This is called the **International Terms of Trade (TOT)**.

This is the rate at which a good X is exchanged for a good Y on the international market. So long as the international TOT lies between the two countries' domestic OC ratios, profitable trade will occur. For example

International TOT = 2.5 units of wheat = 1 unit of cloth

The UK will specialise in cloth and through trade can exchange 1 unit of cloth for 2.5 units of wheat as opposed to the domestic 2 units of wheat – a gain of 0.5 a unit of wheat. The USA specialising in wheat will gain because domestically it needs to forgo 3 units of wheat production to get a unit of cloth – but through trade it can exchange 2.5 units of wheat to buy one unit of cloth – a saving of 0.5 a unit of wheat.

This is one of the basic reasons why countries engage in trade internationally; costs are lower and scarce resources are used efficiently, often leading to a gain overall. Through trade countries can specialise in production and gain from economies of scale, the higher levels of output produced can be used to exchange in trade for imported goods (no longer produced domestically) at a beneficial international TOT.

Here the discussion has been in the formal competitive labour cost differences, however in today's economy those differences are expressed in money price terms.

EXAMPLE 15.3

Table 15.4 Comparative levels of output

	USA	UK
	<i>Output per unit of labour</i>	
Wheat	8	2
	or	or
Cloth	16	12

In monetary terms how can the UK export to the USA?

To allow this to occur UK's money wages must be sufficiently lower than the USA's. For example:

Wage rate in UK = £24/day

Wage rate in US = \$96/day

Table 15.5 Average cost (A C) of production in domestic currency

	USA	UK
Wheat	$\$96 \div 8 = \$12$	$\pounds 24 \div 2 = \pounds 12$
Cloth	$\$96 \div 16 = \$6$	$\pounds 24 \div 12 = \pounds 2$

To allow comparison between the 2 countries the ACs have to be expressed in the same currency via the exchange rate (for example, £1 exchanges for \$2; money prices of wheat and cloth at £1 = \$2).

Table 15.6 Money price comparison

	USA		UK	
	Dollars	Pounds	Pounds	Dollars
Wheat	12	6	12	24
Cloth	6	3	2	4

In the USA, Wheat is cheaper $\$12 < \$24$, $\pounds 6 < \pounds 12$. In the UK, cloth is cheaper $\$4 < \$6$, $\pounds 2 < \pounds 3$. Hence America specialises mainly in wheat production and Britain mainly in cloth production.

This example illustrates that exchange rates are important in determining a country's comparative advantage. If exchange rates change, this affects the money cost of production and hence the specialisation pattern. Should the pound appreciate (become stronger) against the dollar to more than $\pounds 1 = \$3$, then both goods would be cheaper in America. Should the pound depreciate (become weaker) against the dollar, to less than $\pounds 1 = \$1$, then both goods would be cheaper in the UK.

One difference between comparative advantage and absolute advantage that this draws out is that in Comparative Advantage, it is necessary that the more efficient country has a higher wage rate than the less efficient country. The conclusion is that theoretically wages should be higher where labour productivity is higher.

To obtain all the benefits of trade, complete specialisation is necessary, however this can lead to dependency on other countries. As a certain amount of independence is needed in the production of certain essential commodities, for example food stuffs, armaments, etc., this can form the basis for tariffs or protectionism. This will be discussed later.

Comparative Advantage will result in all countries becoming better off after trade, except in the limiting case of a large country's trade with a very small country. In theory this often produces a fallacy that large countries can exploit small countries through trade, obtaining an unfair advantage. In reality if a country is very small its production decisions will have no effect on the international prices of the large country it is trading with. In this case all the gains will accrue to the small country as the international TOT will be the same as the large country's domestic price ratios. This emphasises the point that for profitable trade to occur, international prices have to differ from the domestic price ratio. The more the international price differs from the domestic price the more the country gains from trade.

The gain that results from trade is made up of two parts, the gains from specialisation and the gains from exchange. The specialisation gain is a dynamic gain in the sense that it is an outcome of factors such as learning by doing, economies of scale and division of labour.

The exchange gain is a static gain, as it is the result of a once and for all increase in the price of the good, that is the international TOT will be greater than the domestic price ratio.

The next model of international trade, the Heckscher/Ohlin/Samuelson model extends this emphasis from one factor of production (labour) to many factors, collectively called **factor endowments** (land, labour, capital and enterprise).

Neo-classical trade theories – H/O/S Model

The H/O/S Model is an extension of the classical model as it recognises that there is more than one factor of production. In this model there are two factors of production, labour and capital, two commodities and two countries. Hence it is a $2 \times 2 \times 2$ model of trade.

Factor endowments theory

The H/O/S theorem states that a country's trade pattern is dependent on its factor endowments, of labour and capital. A country can either be relatively abundant in labour or capital.

If there are two countries – the USA and the UK – the USA would be relatively capital abundant if it had a higher capital labour ratio than the UK, ($K^A/L^A > K^B/L^B$). Hence the UK would be relatively labour abundant ($L^B/K^B > L^A/K^A$).

The H/O/S theorem states that a country will specialise in and export that commodity, which uses its abundant factor of production most intensively.

A good would be produced capital intensively if at the prevailing wage ratio (cost of labour) and rents (cost of capital) it requires more capital per unit of labour than other goods.

Assumptions of the model

- 1 Two factors of production – two countries, two goods (that is $2 \times 2 \times 2$ model).
- 2 For any given good, the amount of capital (K) and labour (L) used in its production is the same in every country (that is production functions are fixed). The technology of production is fixed so that if a commodity is either capital or labour intensive in one country, it will be produced in the same way in other countries also.
- 3 Each good has a different production function – needs either more labour or capital in its production.
- 4 Each country differs in its factor endowments, which are fixed in quantity. Factor endowments are fully mobile within a country but immobile between countries.

Since there are only two factors of production (L and K) countries are either abundant in capital relative to labour and hence would produce and export more capital intensive commodities or be labour abundant exporting labour intensive goods.

The basis for this theory is demand and supply. Factors of production that are abundant will tend to have a lower price, that is wages for labour or rents for capital, than scarce factors of production. Production would evolve along the lines of using the abundant cheap factor of production both for domestic use and international export. The nature of imports would be that they would tend to embody more of the country's scarce factor, that will be cheaper in other countries and hence a source of their exports.

The H/O/S model states that factor endowments dictate the flow of international trade as each country exports goods, using its abundant factor of production most intensively. This can be illustrated using the Edgeworth box diagram (Figure 15.1).

The factor endowments of the two countries are represented by the dimensions of the two countries' Edgeworth boxes. The height of the boxes indicates the countries' endowment of capital and the length their endowment of labour. For wheat production the origins of the Edgeworth boxes for the USA and UK are the same. The production of cars is shown from the origin for cars which is diagonally opposite the wheat origin. The car origins for the two countries are separate due to the differing factor endowments of the two countries.

Examining the sizes of the two Edgeworth boxes it can be seen that the height of the box is higher for the USA indicating it is relatively more capital abundant (looking at it from either origin). For the UK the Edgeworth box is relatively longer, indicating it is more labour abundant.

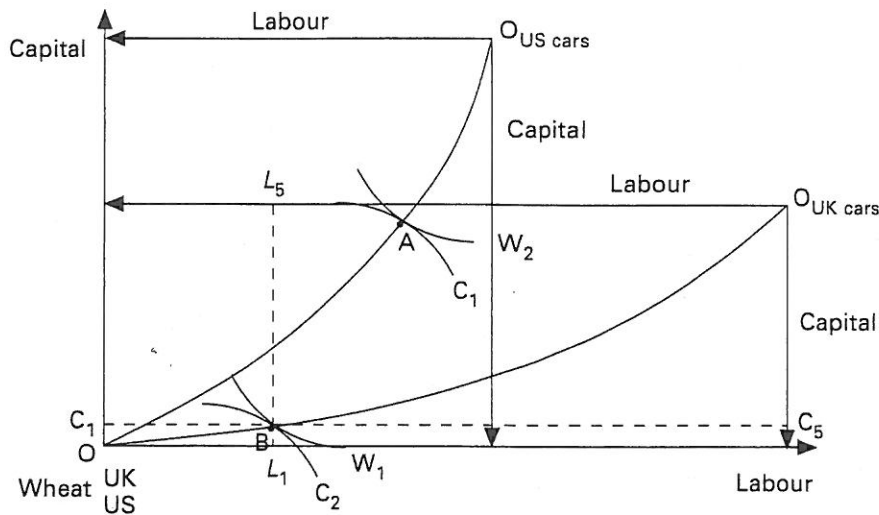


Figure 15.1 Edgeworth box diagram for the commodities wheat and cars

As wheat production increases this would involve movements away from the wheat origin towards the car origin, indicating that more of the capital (K) and labour (L) is being used in wheat production and is less available for car production. Conversely increased production of cars would involve a downward movement away from the car origin towards the wheat origin. If we assume that relative to car production, the production of wheat uses more labour, than capital, then wheat is the labour intensive good and cars the capital intensive good.

In Autarky (before trade) the initial production points would live on each country's curved **contract curve**, which shows points of productive efficiency. For the USA, this is A and for the UK this is B. At B, wheat output for the UK is given by the wheat **isoquant** W_1 . An isoquant shows how a given level of output of a good can be produced, with varying combinations of inputs (K and L). In the production of W_1 wheat, OWL_1 labour is being used and OC_1 capital is being used. The remaining labour $O_{cars}L_5$ and remaining capital $O_{cars}C_5$ (looking from the UK car origin) is used to produce cars given by isoquant C_2 . Most of the resources in the UK are allocated towards production of cars (isoquant C_2).

The USA at point A is using more of its factor endowments to produce wheat as shown by the wheat isoquant W_2 , which lies further from the wheat origin and less of its endowments to produce cars, C_1 . Hence distances from the origin indicate levels of output.

With the introduction of trade each country will tend to specialise in the production of the good which uses its abundant, cheap factor of production most intensively. Therefore the UK being labour abundant would expand its production of wheat and reduce its car production, while the USA being capital abundant would increase car production and reduce wheat production (the labour intensive good).

We can question how far this process could continue?

In this model there is a simplifying assumption that both economies are operating at near full employment.

In the UK for wheat production to expand it requires more factors of production, which can only be obtained by the contracting car sector (assuming full employment). The car sector being capital intensive will release more capital than labour, but the requirements of the expanding wheat sector is for relatively more labour. This inappropriate release of resources, relative to the new demand will create pressure for the price of labour to increase. This would be represented by the wage rate.

In the USA the expanding car sector requires more capital than the contracting wheat sector would release, hence there will be pressure for the price of capital to increase. This would be represented by the rental rate of capital.

The conclusion is that specialisation in the commodity which uses the abundant factor of production most intensively is to increase the price of the abundant factor. The tendency for trade to equalise factor prices between countries is a major conclusion of the factor endowment theory. Of course in reality the effect is by no means complete, as wage rates and rental rates on capital do vary between trading partners, but there is a tendency towards equalisation which would be much less marked without trade occurring. International trade produces a tendency for factor price equalisation, as trade in goods implicitly embodies factors of production and hence trade in goods can be substituted for trade in factors.

This is a theoretical discussion of one conclusion of the H/O/S model and in reality the tendency towards FPE is by no means complete. FPE can be prevented by many factors, that is governments protecting their inputs, export protection through subsidies. The introduction of transportation costs would tend to drive a wedge between the domestic prices and the international prices of trade goods, preventing FPE.

Are actual patterns explained by the H/O/S/ model?

Figure 15.2 shows the trade patterns of six leading industrial countries, in comparison to their factor endowments. In terms of non-human capital (pie 1), the USA and Japan are countries abundant in this factor, this is mirrored in a more acute way in the R & D pie 2. R & D is almost entirely concentrated in the six leading countries, giving them a vital lead in the export of high technology industries. This concentration of scientists in the leading nations is totally reversed in pie chart 5, showing illiterate labour, which is mostly concentrated in the poor less developed countries of the world. Geographically large, but more closed economies, such as China, USA and India would possess more arable land, shown in pie 4. Japan is a nation scarce in arable land and hence its advantage in export of high tech products is used to buy or import primary products, which it does not possess. The USA is also abundant in arable land, which is reflected in its exports of agricultural products. However its concentration of R & D scientists also provides it with an impressive lead in the export of high technology manufactures.

Smaller European countries tend to show a more balanced trade pattern overall, in terms of nature of exports and imports. Although any such overview must be looked at with caution, it does lend support for the general conclusions of the H/O/S model.

Empirical testing of the model was first conducted by Wallis Leontief, who arrived at what has become known as the Leontief Paradox.

The Leontief Paradox

In 1953 Leontief carried out a study using 1947 data for the USA to test the H/O/S Model. He assumed that the USA was a relatively capital abundant country, relative to the rest of the world and therefore expected to find USA exports embodied more capital and USA imports embodied more labour.

The K/L ratio of USA exports was measurable from domestic data but to measure the K/L ratio of imports required going to the country of origin. As this was not possible, Leontief took as a proxy the K/L of the same good, produced by the domestic US import competing industry. He assumed that if a good was produced labour intensively abroad it would also be produced labour intensively in the domestic USA import competing industries.

His results did not in fact uphold the H/O theorem. At first glance it appeared that USA exports embodied more labour and USA imports less labour and more capital. The USA was exporting labour intensive goods and importing intensive goods.

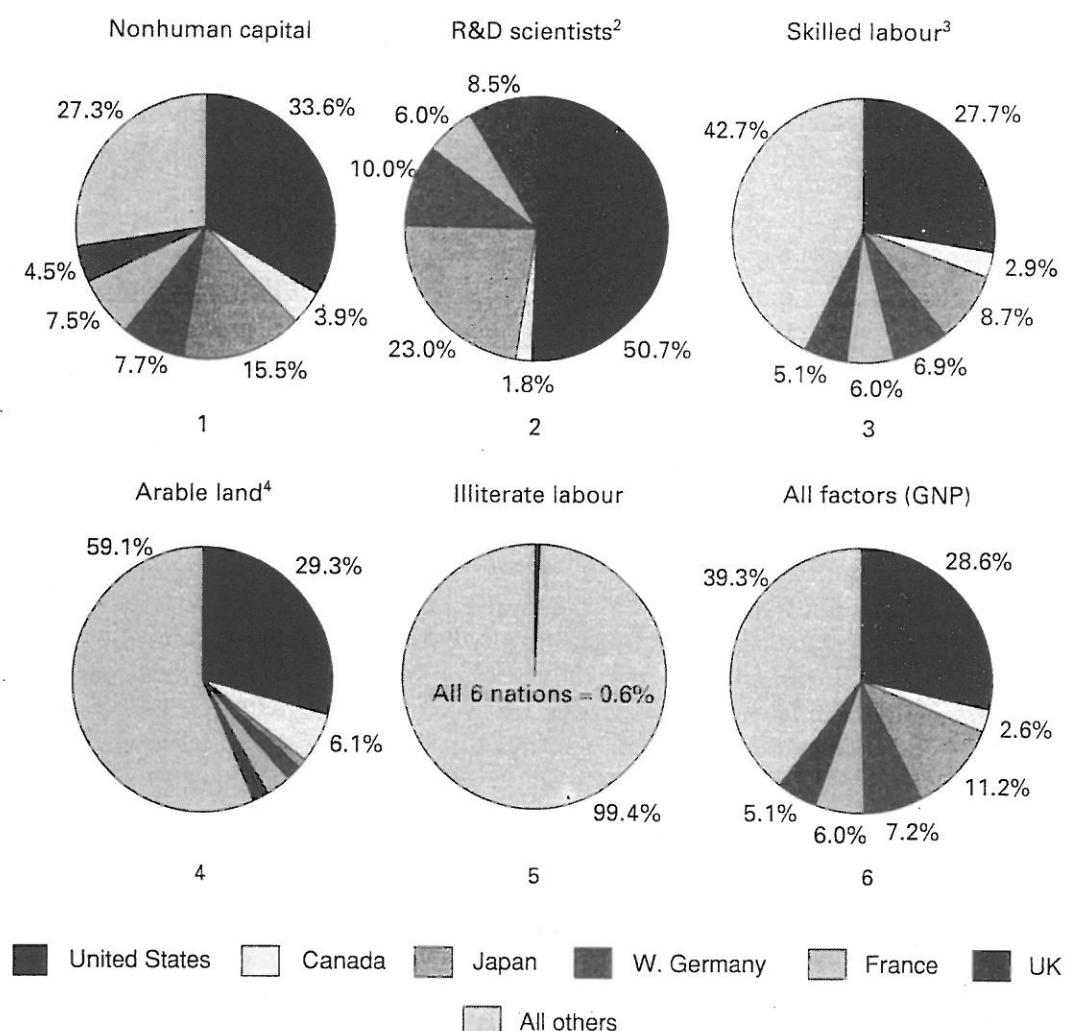


Figure 15.2 Shares of the 'world's'¹ factor endowments, 1980, as found in Lindert, *International Economics*. Note that all estimates are approximations.

¹Here the 'world' GNP excludes the Soviet Union, Eastern Europe and Kampuchea for want of comparable data. For the individual factors, it also excludes other small countries that account for less than 15% of market-economy gross product.

²From data provided by the US National Science Foundation. It is an exaggeration to show, as here, that these six countries had 100% of the R&D scientists. Had data been available for other countries, however, the six countries would still have accounted for at least 85% of the 'world' total.

³Workers in professional and technical categories (ILO data).

⁴Based on land area measurements adjusted for different productivity in different climatic zones, for 1975

Table 15.7 Figures expressed in terms of input *K* and *L* to produce \$1M of output

	USA Exports	USA Import Competing
Capital (\$)	2.55 M	3.09 M
Labour (\$)	182	170
K/Man Year	0.014 M (2.55/182)	0.018 M (3.09/170)

On average \$1M of USA exports would embody \$14,000K/per man year and imports would embody \$18,000 K/per man year.

The H/O/S theorem would lead us to expect the opposite and this became known as the Leontief Paradox.

There has been many numerous studies to resolve the paradox and they have had some success.

Solutions to the paradox

- 1 Leontief made a methodological error to assume that the K/L ratio of imports would be mirrored in the USA import substituting industries. The USA import substituting industries had a bias to be more capital intensive, as this was the cheaper input, yet the same good in a labour abundant country would be produced in a labour intensive way, using the cheaper labour. Factor intensity reversal was said to have occurred.
- 2 Leontief's own explanation was that the USA labour was up to 3 times more productive than foreign labour. This is the ideal of human capital, that is the labour productivity due to the skill and knowledge and experience embodied in it. Labour is not homogenous but heterogenous, of varying quality and in real effective terms, the labour force in the USA could be multiplied by three to reflect its actual productivity, relative to foreign labour. Thus in effective terms the USA was abundant in labour relative to capital.

This solution is, however, questionable as it is seeking to make the H/O/S model run in the reverse way, i.e. trying to explain a country's factor endowments, from its trade pattern.

- 3 Domestic demand in the USA was biased towards capital intensive goods, therefore exports of such goods were offset by the high domestic consumer demand. That is domestic demand patterns were offsetting factor endowments.
- 4 The tariff structure in the USA at the time was biased against the import of labour intensive goods, protecting domestic labour intensive industries for employment reasons. So capital intensive imports were relatively cheaper and hence more of them were imported.
- 5 The year of Leontief's study (1947 – war effects) means that data was highly suspect and could only be viewed with caution.

Explanations for the Paradox have helped in producing new developments in the explanation for trade. These are examined next as explanations for Intra Industry Trade.

Intra Industry Trade – IIT

The H/O/S model points to most trade occurring between dissimilar countries (in factor endowments). However increasingly more and more trade is occurring between countries which are similar in industrial structure and level of per capita income. The phenomena is known as **Intra Industry Trade (IIT)** and has been growing rapidly since the post-war years. IIT is trade between countries similar in economic structure exchanging similar products or goods. So, IIT can only really occur in manufactured goods (as opposed to primary commodities) that belong to the same product group but differ in quality, for example export and import of different makes of car. The Germans trading Mercedes cars for Italian Fiats, would be an example of IIT.

IIT occurs due to a demand for product variety within a product group. IIT is the proportion of trade accounted for by overlapping exports and imports of similar products. As countries' per capita income levels increase the demand for both, product groups and product variety within groups increases. Hence one criteria for IIT is similarity of per capita income between similar industrial countries, who will export and import a similar product but in a different variety to and from one another.

As most trade blocks (for example the EC) are usually formed of similar countries this explains the high proportion of trade within them.

If the question is asked, why does IIT occur, then the answer takes us into models of trade, which are extensions of the neo-classical model. These models are only partial explanations of trade and are by no means a replacement to the comparative advantages, H/O/S type models, but extensions to them. Another distinguishing feature of them is that they tend to be microeconomic in nature, as opposed to macroeconomic, as the traditional theories are. They are now discussed below.

Extensions of the Neo-Classical Model

Technological Gap Theory – Michael Posner

Posner explains that countries abundant in R & D Scientists, tend to benefit from technological developments, which give them an advantage in the production of a good. So differences in industry specific knowledge are the basis for trade. Initially the good is produced for the home market where demand is known, in a capital intensive way. There is a delay, while other countries will try to acquire the knowledge of this technological development, called the imitation gap. This allows the initial developer time to exploit foreign demand for the products through exports. There is also a demand lag which is the time it takes foreigner consumers to start buying the new product. So long as the imitation lag is greater than the demand lag, trade will occur by the initial innovating country. The use of patents can lengthen the limitation gap.

As the product becomes standardised and technical knowledge becomes internationally disseminated, foreign competitors can start producing the good also. If they can do this at a lower cost they can themselves become exporters of the good they previously imported.

Product Life Cycle Theory – Raymond Vernon

Vernon's theory is a dynamic theory, which takes Posner's idea of technological development and links it to the notion of a product's life cycle. In the initial stages of development of a new product it is often a luxury item, produced with skilled labour or capital, in a market where there is little competition.

As products mature, in later stages of development, exploitation of economies of scale lead to conveyer-belt type production. Full standardisation of the product will soon occur. At this stage, transportation costs and labour costs become a more important part of the good's production cost. Standardisation and increased production leads to greater competition in the industry. At the later stages of development, comparative advantage may shift to labour surplus developing countries, that have lower wage costs. In this way, comparative advantage can initially start in capital rich – high wage countries, move to capital rich – medium wage countries, and finally end up in capital poor – low wage countries. The historical development of the transistor radio and VCRs are a good example of a product initially developed in the USA, now mostly produced by the newly industrialised countries for international export.

This model is the explanation for the production and sales of many consumer durables and gives insight into the importance of product differentiation and product innovation. These are two important factors in MNE production and provides an important explanation for f.d.i. by MNEs overseas.

Overlapping Demand Patterns – Steffan Linder

Linder argues that trade in homogenous primary products is explained by the H/O/S model, but heterogenous manufacture trade is often influenced by demand patterns. Trade is determined by the structure of demand for the quality of differentiated

products. The primary factor determining effective demand (actual purchasing power) is per capita income. The range of product qualities demanded is a positive function of per capita income. Countries with higher income levels not only consume more cars, but also more better quality cars. The closer countries are in their pcy levels, the greater will be the overlap of products that they both demand. This overlap is the basis of trade between them, hence the extent of IIT will be greater between similar income countries. This model gives an insight into why companies initially cater for the home market before exporting to foreign countries with similar demand patterns. Also it explains the duality of trade as varying consumer tastes between trading countries is satisfied by exports and imports of differentiated products.

Monopolistic competition and economies of scale

Trade allows access to a larger market size and production can occur at higher levels of output, benefitting from economies of scale. This allows costs to be kept low and can itself form a basis for trade. The benefit from economies of scale tends to be greater in either oligopoly or monopoly market structures, as opposed to perfect competition. One characteristic of imperfect market structures is that they produce highly differentiated products, which is a major factor creating IIT.

Transportation costs and tariff structures

IIT is often common between bordering countries at the periphery of the borders. It is often cheaper to import commodities across the border than transport them from the centre of their own countries, this is especially true of large bulky items. To promote competition between neighbouring countries, the tariffs are often low on IIT, but the tariff structures tend to be more prohibitive on inter-industry trade.

This is more likely if the inter-industry trade sector is a dominant part of the domestic sector, which the government wishes to protect with tariffs.

The discussion so far has centred on trade theory which has helped to explain why countries trade internationally. The trade may result from acquiring a technology gap, or be dependent upon the maturity of the product being traded. On the demand side overlapping demand patterns explain the high degree of trade between trade blocks. Next we move on to discuss trade policy and examine what is behind the protectionist sentiments that emerge in most countries, especially at times of world recessions. Why do governments choose to protect their domestic markets and what form does this protectionism take.

Trade policy

Forms of protectionism

Tariffs

Tariffs are a tax imposed on imports flowing into a country. The form of the tariff that we will discuss is the ad valorem tariff, which is usually a fixed percentage of the value of the good traded. The specific or per unit tax is usually a fixed sum per unit of good traded. A compound tariff has features of both of the above. The effect of a tariff is to increase the price of the imported good, thus making it less attractive to domestic consumers, therefore reducing import volumes. The tariff is partly paid by consumers at higher prices and partly paid by the producers.

Tariffs protect the domestic import substitute sectors, with a tariff wall, behind which they can increase production to their own domestic market. So one of the reasons behind tariff imposition is to increase domestic employment. The production and consumption effects of a tariff are best illustrated using supply and demand diagrams (Figure 15.3).

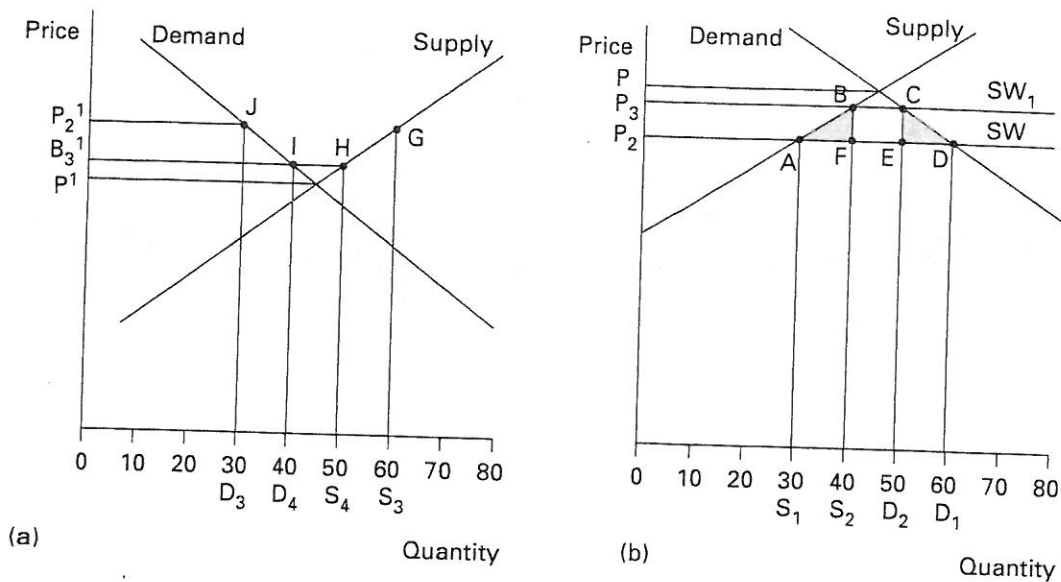


Figure 15.3 Partial equilibrium effect of a tariff (a) the USA market; (b) the UK market

The domestic equilibrium price is lower in the USA (P_1) than in the UK (P), indicating that the USA has a comparative advantage in the production of this good. When trade occurs between the two countries it will do at a common international price (P_2 and P_2^1). We assume that at this price each country can buy as much of this good as they wish to, from the rest of the world, so at this price the world supply schedule (SW) is perfectly elastic.

We will concentrate on the UK as this will be the tariff imposing country. At an international price of P_2 , domestic producers will supply OS_1 of the good (30 units) shown on the horizontal axis. Domestic consumers however demand OD_1 (60 units). As demand outstrips domestic supply ($S_1 - D_1 = 30$ units), this will be imported for the trading partner, the USA ($S_3 D_3$).

Domestic producers in the UK may wish to protect their industry through tariff introduction on imports. Imports coming into the UK from the USA will have a tariff placed on them, increasing their price to domestic consumers to P_3 . As the price of competing imports has increased to P_3 , UK domestic producers can now expand along their supply curve from A to point B, behind the tariff wall. UK domestic producers are now competitive up to P_3 . The world supply schedule has shifted up to SW_1 .

Domestic consumers will respond to the higher domestic price by decreasing demand to D_2 (50), as they contract up their demand from D to C. Domestic demand still outstrips supply, but not by as much, imports from the USA have fallen to $OD_2 - OS_2$ ($50 - 40 = 10$).

There are many economic welfare effects of a tariff, both for the UK and USA. The effect of the tariff is to re-distribute welfare away from domestic consumers to domestic producers and the government. Concentrating on the UK, domestic consumers experience a net welfare loss due to their lower consumption levels (D_2 instead of D_1) and higher price (P_3 instead of P_2). Diagrammatically this is represented by the triangle DEC. The area under the demand line and above the price line is the area showing consumer welfare, now reduced by DEC. Domestic producers experience an increase in producer welfare due to the higher level of production and price. However, this has to be weighed against the cost of the increased domestic production ($S_1 S_2$), which is now produced by a relatively more high cost inefficient producer. As the domestic supply curve is also the industries marginal cost curve, the area below it represents the increased cost at higher production. Hence the extra

production of S_1S_2 is produced at a higher cost by the domestic producer, by the amount ABF. This represents a net welfare loss, in production terms, whereas DEC was a net welfare loss in consumption terms.

Tariffs are often used by governments, especially in less developed countries to raise tax revenue. As the tariff is imposed on imported items only, the tax revenue raised by the government is equal to the amount of tax in the UK (P_2P_3) on imports (S_2D_2), that is the area BCFE. This gain to the government is a re-distribution of welfare, stemming from the loss to the consumer and is not an overall net loss. Reversing the analysis provides an explanation of the sequence of events in the USA economy and the associated welfare costs.

The second reason why tariffs are used by governments is that they are a means of cutting imports for a country which has a balance of payments deficit.

The total amount of the tariff is represented by the vertical distance $P_3^1P_3$ between both of the countries. How much of the tariff is borne by the consumers and how much by the producers depends on the elasticity of the supply and demand schedules in the two countries. The more elastic are the supply and demand schedules in the UK, the more sensitive UK domestic consumers will be to price increases, hence forcing USA producers to bear the greater burden of the tariff themselves, in terms of lower prices.

The aim of the tariff is to protect the domestic import competing sector. As we know from the H/O/S model, imports tend to embody more of the country's scarce factor of production and so this should also be the case in the import competing sector. Thus protecting this sector means that in terms of distribution of income it will be benefitting at the expense of the export sector (which embodies more of the abundant factor of production). Hence protecting the import competing sector means providing greater rewards, in terms of the distribution of income to the scarce factor of production.

Quotas

Import quotas restrict the quantity of a certain good, which can be imported into a country. If the good is homogenous then a simple quantity quota will be imposed, if it is heterogeneous, the quota can take the form of a value of imports allowed in any given currency (\$, £, Yen). Diagrammatically the effect of a quota is similar to that of a tariff. Going back to Figure 15.3, if the quota is to limit imports to D_2-S_2 (i.e. 10), then to produce this supply and demand the price of the good would be pushed up to P_3 in the domestic economy, imposing the quota.

Domestic production and consumption would respond as in the case of the tariff, examined before. Tariffs provide the government with tax revenue, whether or not this is the case for quotas depends on whether the government chooses to sell import licenses to imports or provide them free of charge. If import licenses are allocated on some criteria but are not actually sold to importers, then they can gain, by being able to import at the international price of P_2 and sell at the higher domestic price of P_3 .

Thus imports can be controlled for a country with a Balance of Payments Deficit through the control of import licenses.

The question of how to allocate import licenses is an important one for the government to address. It has a choice of many criteria, there is the question of efficiency or of promoting the right type of imports (that is goods for investment) or equity considerations. If licenses became concentrated in the hands of a few firms, consumer exploitation is possible as they try to earn excess profits by artificially further restricting imports themselves.

Quota effects tend to be less easily evaded by the exporting country and hence are more binding. In the case of a tariff it is possible for foreign producers to absorb the effect themselves, through a cut in profits, rather than increase in price, in which case no effect would occur on import values.

The effective rate of protection

The production and consumption rates of a tariff, so far, have related to a commodity, which is a 'finished product' with no intermediate inputs. If we consider a good with intermediate inputs which are also imported, we can draw a distinction between the 'nominal rate' of protection and the 'effective rate of protection' (ERP).

If raw material inputs are imported duty free, or with very low levels of protection, this encourages their use and further processing, in the importing country. The processing of raw materials 'adds value' to the product and creates employment in the importing country, both advantageous.

EXAMPLE 15.4

If the car industry is protected by higher nominal tariffs, while the steel industry is protected by lower nominal tariffs, so that steel inputs are imported at a lower cost, then the ERP will be higher for the car industry. In this case the ERP, which is calculated on the 'value added' process that takes place in the importing country, is higher than the nominal tariff rate (put on the final commodity).

ERP Formula

Final Commodity = Car = C
Intermediate Input = Steel = S

$$EP_c = \frac{tc - \sum isc. ts}{VAc}$$

where EP_c = ERP for final commodity, i.e. car, tc = nominal tariff rate on car industry, $\sum isc$ = sum of input coefficient from steel industry into car industry, ts = nominal tariff rate in steel industry (i.e. input), and VAc = value added coefficient for car industry. If $tc > ts$ – the ERP is positive; If $tc < ts$ – the ERP is negative. For example:

$tc = 20\%$ $ts = 0$ $VAc = 40\%$

$$EP_c = \frac{0.20 - 0}{0.40} = 0.5, \text{ i.e. } 50\%$$

The nominal rate of protection for the car industry is only 20% but in effective terms it has a 50% protection rate. The ERP is inversely related to the nominal tariff on the intermediate input and positively related to the nominal tariff on the final good.

The concept of the ERP explains the 'escalating tariff structure' that exists on commodities. The higher the level of processing of a commodity the higher the tariff placed on it.

Thus if the aim is to protect value adding and domestic employment then the tariff structure will be escalating. Many industrialised countries have highly escalating tariff structures on manufactured products. The tariffs provide both revenue and promote domestic economic activity.

Voluntary export restraints

Voluntary export restraints (VERs) are an important form of new protectionism, which has become increasingly important as a way of reducing imports. Their growth is due to the success of The General Agreement on Tariffs and Trade (GATT) in its successive rounds of talks, in reducing overt protectionism. New protectionism is the use of more covert, non-tariff barriers (NTBs) to reduce import competition. VERs are where one country persuades another country to voluntarily reduce its exports of a good to a certain acceptable level. This persuasion is often backed with a threat of

greater sanctions should the exporting country not oblige. VERs have also been called orderly market arrangements emphasising their negotiated manner.

The industries where VERs are applied are often past key industries now mature and going into decline due to foreign competition, that is seniscent industries. An example is the textiles industry in Britain, which is protected by the multifibre arrangement, limiting import of textiles from less developed countries. Other examples are VERs negotiated by the USA on Japanese exports of automobiles in 1981 and imports of foreign steel in 1984.

The effects of VERs are much the same as other forms of protection except that they are put into practice by the exporting country. Thus should the restriction of exports, serve to increase the price of the good, the gain will go to the exporting nation. This benefit is often enhanced by the exporter through product upgrading, making the curtailed exports consist of better quality, and therefore higher value, exports.

Red tape and technical regulations

Automobile and technical equipment is subject to safety regulations, to ensure a set standard of product quality for food imports, there are health regulations and labelling requirements ensuring country of origin and contents are disclosed. If these procedures are overly excessive they can act as a form of protectionism themselves. Government Procurement Provisions in the USA have been used to encourage government agencies to purchase from domestic firms, which is highly interventionist.

The USA has often claimed exports to European countries become uncompetitive due to European Border Taxes. GATT treats direct taxes (used in the USA) and indirect taxes (used mainly in Europe) in different ways. Under GATT rules imports from non-European countries into the EC must pay a border tax equivalent to VAT paid by the domestic firms. The USA producers argue that this is simply a tariff in disguised forms. Conversely when European producers sell in non-European countries, GATT allows them a VAT rebate, which is argued by the Americans, is simply an export subsidy.

Often the amount of tax charged on imports entering a country depends on their categorisations. There is much leeway for maximising tax, for the importer by placing the import into a higher tax category.

Export subsidies

Export subsidies stimulate exports by granting exporters direct payments of tax relief, on export income. Alternatively to encourage exports, most industrial countries provide their foreign importers with low interest rate loans to finance their buying of domestic products for example the work of the USA Export/Import Bank helps to finance up to 5% of USA exports, but it is a significant 30–40% in France and Japan.

A major form of production subsidy is the price support system of the Common Agricultural Policy (CAP) the EC provided its farmers. The extent of the overall subsidy in the EC was roughly 49% in 1984–86, compared to an overall 64% in Japan and 35% in the USA. To the Americans, this has left them with a major export disadvantage in agricultural products. Their attempts to reduce such subsidies have met major opposition in the EC, for example the Uruguay round of GATT talks was hampered in 1992 by disputes between French and American agricultural ministers on rape seed oil and soya bean oil subsidies. The Americans have resorted to threats to retaliate with countervailing duties, to be imposed on other EC imports (for example French wine and dairy produce).

The export subsidy is a negative tax and as such does not provide the government with any revenue, in fact it requires the use of government expenditure. Thus it imposes a burden on the government and hence in turn the economy, to raise the revenue through taxation elsewhere.

Exchange controls

Multiple exchange rates, are used by developing countries to discourage luxury, non-essential imports. Domestic consumers have to pay higher exchange rate costs for imports of luxury goods and lower costs on essential imports. More extreme is the introduction of exchange controls, which limits the foreign exchange available to domestic importers. Monetary authorities collect all foreign exchange earnings from exporters and then allocate them to importers (via import licenses at varying rates) according to the perceived desirability of the imported good. If not administered correctly this can lead to competition and black markets arising in import licenses.

International cartels

When a group of producers of a certain commodity band together, to restrict output of the product available for buying and the price at which it is sold, they are said to have formed a cartel. The aim of the cartel is to maximise member's joint profits, through controlling the market price for the good. An example of a cartel, is the Organisation for Petroleum Exporting Countries (OPEC), whose members are the Arab oil nations, led by Saudi Arabia in the 1970s. This is a very open form of protectionism which can be very successful, depending on the collusive strength of the cartel.

Reasons for protectionism

As the aim of all forms of protectionism is to increase economic activity in the domestic country as opposed to the foreign country, we can note that the primary aim is to increase domestic employment. As domestic protectionism is increased at the expense of employment abroad, protectionism has become known as a 'beggar my neighbour policy'. The extent to which this aim is achieved is debatable as foreign countries can retaliate with similar protectionist measures, leading to lower overall world trade and welfare.

Infant Industry Argument (IIA)

An important reason for protectionism is the infant industry argument which applied mainly to developing countries. It is possible that an industry may gain a comparative advantage and be able to compete effectively internationally, once it has had time to mature and benefit from a secure, captive domestic market, under a protected environment. The guaranteed safe market will allow it to expand and benefit from internal and external economies of scale. Once mature this cost advantage will allow it to compete effectively, when the protection is lifted, with the already well established foreign firms, whereas in the initial stages of its development it would have been destroyed by the same.

However the conditions for the infant industry argument are quite stringent, as not only is it necessary that comparative advantages be gained, but also that the eventual benefits exceed all the interim costs (that is welfare losses due to higher prices payable by the consumer and the administration costs). In some cases this temporary basis for protection can be unduly extended beyond its desirable point, as the industry can become lazy under the easy domestic conditions.

Other problems occur in identifying suitable growth industries, determining the rate of the tariff and the duration of its implementation.

The process of industrialisation for Germany and Japan has been greatly advanced by this argument. Its use for developing countries however, may be more limited due to the capital markets being less advanced more inefficient and risk averse, therefore not supplying enough capital funds for industrial development.

A similar but opposite argument for protection is the senescent industry argument. Protection allows regeneration of investment into old traditional industries suffering from the use of absolute machinery, past its point of efficiency.

Strategic trade policy

Strategic trade policy is along the same lines as the IIA but applies to industrial nations, trying to foster a comparative advantage in future, high technology growth industries, for example sunrise industries (semi-conductors, components and telecommunications). Due to the nature of production, extensive capital investment, which is costly and high risk, finance is more readily available if the industry is given temporary trade protection of varying forms. Take, for example, semi-conductor development in Japan in the 1950s.

The USA dominance of semi-conductors, in the 1970s was successfully eroded by the Japanese Ministry of Trade and Industry (MITI) by protecting their industry. By the mid 1980s the USA economic control over the semi-conductor market was substantially reduced.

Terms of trade argument for protection

A country's terms of trade (TOT) indicates the ratio of the index of export prices, relative to the index of import prices.

Commodity or Net Barter TOT

$$TOT = \frac{\text{Export prices}}{\text{Import prices}} \times 100$$

An increase in the TOT is generally seen as being favourable, as it indicates that the value of exports, relative to a country's imports are increasing. Thus imports can be purchased at a lower cost.

There is also, however, the point that higher export prices may reduce export volumes (sales) and so reduce welfare of the exporting nation. Whether or not this occurs depends on the country's elasticity of demand for its exports, by foreign buyers. But generally an improvement in the TOT is favourable, as it means a given quantity of imports can be purchased by a smaller quantity of exports.

However, if the trading partner retaliates with tariff imposition themselves such retaliation will lower overall trade values and so possibly reduce welfare for both trading partners.

Optimum tariff argument

The improvement in the TOT argument can be taken to its extreme in the form of the optimum tariff debate. The optimum tariff is a tariff which maximises a country's welfare.

Large countries can improve their TOT with the use of a tariff, although the volume of trade itself may be lower, which reduces welfare. The optimum tariff maximises the TOT gain against the reduction in welfare due to the lower trade volumes.

The optimum tariff argument is really only applicable to large countries with a significant proportion of world trade in that product, that do not greatly fear retaliation. Should the partner country retaliate with an optimum tariff themselves, trade volumes will continue to diminish, reducing the gains from trade. In this case the optimum tariff will not be maximising welfare overall and free trade may be preferable.

Formation of a customs union – Common External Tariff

Assuming that most countries engage in some degree of protectionism, the formation of a **customs union** is partly a movement towards freer trade and partly a movement against. A Customs Union is a group of countries that do not have barriers to trade amongst themselves or if they exist are removed and act collectively to impose

barriers to trade on imports from non-CU countries, that is in the form of a Common External Tariff (CET). For example the EC has a CET on agricultural good imports from non-EC countries.

The aim of the CET is to allow more economic activity to be carried out between the member countries. Whether or not the CET serves to increase the welfare of CU members, depends upon whether the CU includes the lowest cost producer of the commodity in question or not. If the most efficient producer of the good is in the CU then the welfare gains can be large.

Import substitution policies and developing countries

Import substitution became popular as a way to industrialise for the developing countries in the 1950s and 1960s. It involved diversifying away from primary products to light manufactures. To enable this to occur, tariffs were placed in imports of manufacturer's units in LDCs to protect domestic industry which also produced the imported good.

LDCs with large domestic markets where demand for imports of manufactures existed were the first to follow this route, for example large Latin American countries. Argentina, Brazil, Mexico; and Asian countries: Pakistan and India.

The argument was similar to the infant industry one, trying to foster growth in manufacturing. The idea of the ERP was used by the developing countries to try to promote processing in the domestic markets. The overall experience of import substitution was not very good and during the 1970s the emphasis shifted towards export growth promotion. The success of the newly industrialised countries (NICs – Malaysia, Singapore, Korea, Taiwan) and their export orientated strategies downplays import substitution. However in certain key industries, developing countries do engage in protectionism to promote their development.

Protection against dumping

Dumping is the sale of commodities in the international market at below the cost of production prices, sometimes as a way of disposing of excess surpluses or for more aggressive reasons. The outcome of this activity if on a large enough scale is to depress the world price for that commodity.

The European Communities CAP has been accused of lowering the international price of sugar, through such dumping. The EC surpluses are often disposed of in non-EC countries, for example butter is dumped in Russia and wheat and sugar in LDCs. The effect of such dumping on foreign domestic producers is highly harmful.

Dumping can be more aggressive if the aim is to destroy foreign competition. While in the domestic market, high profits are ensured, because of price support policies. Producers can thus demand anti-dumping duties to offset such price differentials.

Japan has been accused of dumping steel and TV sets in the USA and European nations of dumping, cars, steel and agricultural products. Protectionism is often used to keep such artificially low priced goods out, due to their distortive effect on domestic production and consumption.

Why companies trade internationally

Having looked at why countries engage in trade and also why barriers to trade are used, we can finish off by examining why companies trade internationally. The basic fundamentals of why companies engage in trade are given in the trade theories, but we can talk more specifically at the company level to examine why multinational enterprises (MNE) engage in foreign direct investment (f.d.i.).

Pull factors

Overseas investment may be induced by pull factors which are mainly present in the foreign country, such as overcoming restrictive commercial policy (import quotas) of foreign countries which reduce market access. In overcoming such barriers to exports by engaging in production domestically in the foreign country, the MNE may benefit from lower production costs (for example lower wages in developing countries), access to raw materials at the source of supply (thus reducing transport costs) and of course free access to the new local market which is often used as a launch pad for penetration into newly developing markets. This is clearly the case with the increased activity of MNEs in the newly industrialised countries (NICs) of the Far East. Often in developing countries such inward investment is encouraged by the government providing tax concessions and financial incentives to attract MNE.

Push factors

Secondly firms may choose to go international more as an outcome of push factors, which usually stem from the threat to their own domestic markets from overseas competitors. Thus market share of both the home market and the overseas export market and any threat to it will often lead to the desire for increased involvement by firms elsewhere. Geographic diversity of firm involvement is a way of ensuring high overall growth as it allows the firm to expand in the areas where demand is increasing and contract in declining areas of demand, thus reducing the risk of isolated production.

The forms of overseas involvement

The nature of the overseas involvement of the firm will depend upon why the firm chooses to go international. One route is to open up subsidiary plants overseas, which are operating under the overall control of the parent company. This is often how MNEs engage in overseas investment. In doing this the MNE will have a global growth policy which necessitates co-ordination of decision making both financial and production based between the parent company and the overseas subsidiary. Often this high level of foreign control is resented by the host governments, who may seek to infringe on the parent company control. It is not unknown that when such interference becomes too burdensome for the MNE, for it to withdraw its involvement. As MNE are known to be footloose such withdrawal is often quickly executed.

Host nations are increasingly conscious of any threat to their sovereign powers caused by foreign MNEs and can introduce measures to restrict their activity.

To overcome this conflict another route for going international is to engage in joint ventures for the firm and the host nation. The joint venture involves part ownership of an overseas subsidiary by at least two firms, which can comprise of either the host government firm or host country private firms, being involved with the foreign firm. The advantage of such ventures is that they allow host countries to become involved in production, which reduces hostilities between the two parties. The relationship becomes more workable as the government helps to secure domestic demand for the firm, gain access to finance at preferential rates and also bear some of the risk burden for the MNE.

However, the disadvantages cannot be overlooked in view of the fact that such alliances have often been prone to being disbanded. Joint ventures increase the bargaining position of the host government and tensions can arise over questions of share of profit repatriation to the parent company, future growth plans and attempts to conceal information.

Another route for international companies' expansion is franchising overseas which is often a means of expanding out of a domestic market which has been fully catered for. Franchising arrangements involve transfer of a complete business system

to an independent firm in the host country. The success of such arrangements depends on the host government reaction to the operation, the ability to control franchises and the suitability of the host country with regards to supply of inputs and local demand, so that the product is suitable for production and consumption.

A similar arrangement is that of licensing where by the host countries local firm produces the product under the technical guidance of the licensing company. This allows the host countries firm to gain access to technical knowledge, experience of production and marketing and organisational skills of the licensing firm. The advantages to the licensor are that trade barriers are overcome, risk of activity is reduced via the licensee and foreign demand is sampled for perhaps future more aggressive market penetration. However in doing this the disadvantage is that the licensee may be a future competitor involved in the same area. Overall licensing amounts to an export but without the traditional costs of risk/transportation.

Finally, as given to us in trade theory, one way a firm can go international is by exporting either directly the products to overseas consumers or indirectly via sale to intermediaries (foreign government firm) that resells elsewhere. The disadvantage in this method (that is exporting) are given in the preceeding part of this chapter under the heading of protectionism (that is overt in the form of tariffs and quotas and covert in the form of VERs). However the advantages are many, shown by the theory of absolute and comparative advantage.

Summary

This chapter has examined the following:

- the theoretical reasons why countries trade with one another
 - the traditional, absolute and comparative advantage theories.
 - H/O/S endowment model.
 - extensions to the neo-classical models, which are particularly relevant to the question of why MNEs engage in trade.
- the area of trade policy, which clearly identifies how governments can act to restrict trade. This explains why MNEs may go international and engage in f.d.i. to overcome such trade barriers.

Suggested reading

References 1 to 4 are for an in depth look at trade theory – an introduction is given in 5 and 6.

- 1 *The World Economy*, by Williamson and Milner, published by Harvester Wheatsheaf.
- 2 *International Economics*, by D. Salvatore, published by Macmillan.
- 3 *International Economics*, by M. Chacholiades, published by McGraw Hill.
- 4 *Modern International Economics*, by Ethier, published by Norton.

- 5 *An Introduction to International Economics* – by S. Baker Published by Harcourt, Brace, Dovanovich.

- 6 *International Economics*, by G. Donnelly, published by Longman.

The original sources for absolute and comparative advantage:

- 7 *An enquiry into the Nature and Causes of the Wealth of Nations*, by A. Smith (1937).
- 8 *The Principles of Political Economy and Taxation*, by D. Ricardo (1821).

