UNIT 1  FREE TRADE THEORY

Structure

1.0 Objectives
1.1 Introduction
1.2 The Pure Theory of International Trade – Theories of Absolute Advantage
1.3 Ricardian Comparative Advantage and Opportunity Cost
1.4 Heckscher-Ohlin Theorem and its Extensions
  1.4.1 H-O Theorem
  1.4.2 The Stolper-Samuelson Theorem
  1.4.3 The Factor-Price Equalisation Theorem
  1.4.4 The Rybczynski Theorem
1.5 Empirical Testing of Comparative Cost and the Heckscher-Ohlin Theorems
  1.5.1 The Leontief Paradox: the Factor-intensity Reversal
  1.5.2 Testing the ‘factor content’ version
1.6 Let Us Sum Up
1.7 Key Words
1.8 Some Useful References
1.9 Answers/Hints to Check Your Progress Exercises

1.0 OBJECTIVES

After reading this Unit, you will be able to:

• understand the different theories of free trade;
• appreciate the advantages of or gains from international trade;
• identify the limitations of theories of free trade; and
• situate the theories explained in the present context of globalisation and trade liberalisation.

1.1 INTRODUCTION

A sound understanding of trade theories has assumed greater importance in the realms of trade policy-making in the context of recent trends and debates on globalisation and trade liberalisation. Given this imperative an attempt has been made to first, present different theories of the classical vintage in a simple manner. The theories are posited in such a way that they highlight how different determinants were emphasised upon by different trade theorists in order to emphasise the potential gains from international trade. Some of the major limitations of these theories are also important to understand and it is undertaken with a view to compare and contrast different strands of thoughts.

Initially, an explanation is rendered to the pure theory of international trade as propounded by Adam Smith through the theories of absolute advantage. This is further contrasted with the advancements made by Ricardian comparative costs concepts. Furthermore, the Heckscher-Ohlin Theorem and its Extensions in the forms of Stolper-Samuelson theorem, Rybczynski’s theorem and factor-price equalisation theorems are presented. Finally, a brief discussion on the empirical testing of comparative cost and the Heckscher-Ohlin Theorems is also given.
1.2 THE PURE THEORY OF INTERNATIONAL TRADE – THEORIES OF ABSOLUTE ADVANTAGE

Based on the considerations of absolute advantage, Adam Smith argued as to how countries can gain through international trade. This forms the basis for the pure theory of international trade.

The theory of absolute advantage can be explained through a simple example. Suppose two goods \( A \) and \( B \) can be produced by labour alone. It takes 100 units of labour to manufacture one unit of good \( A \) in country \( X \) but 200 labour units in country \( Y \). Conversely, it takes 200 units of labour to manufacture one unit of good \( B \) in country \( X \) but only 100 labour units in country \( Y \). In other words, country \( X \) is more efficient in producing good \( A \), because it uses less labour per unit of output than country \( Y \). By the same logic, country \( Y \) is more efficient in producing good \( B \). Then country \( X \) is said to have the absolute advantage in producing good \( A \), while country \( Y \) has an absolute advantage in producing good \( B \).

Now country \( Y \) may gain by producing one unit of \( B \), using 100 labour units, and exporting it to country \( X \) in exchange for one unit of \( A \). In effect, country \( Y \) has used 100 labour units to obtain one unit of \( A \) indirectly, rather than using the same labour to produce 0.5 unit of \( A \) directly. Correspondingly, country \( X \) must have used 100 units of labour to produce the unit of \( A \) for export, in exchange for which it received one unit of \( B \). But if it had tried to produce one unit of \( B \) itself, it would have required 200 units of labour. Thus, it may be concluded that by trading, both countries could have gained by having more of both goods.

The above example clearly demonstrates that two countries can gain through international trade if they have absolute advantage in producing different goods. However, gains from international exchange of goods need not be limited to the situations of absolute advantage. It was later shown by Ricardo as to how the benefits from trade can be reaped also in situations of comparative advantage, which came to be known as the theory of comparative advantage.

1.3 RICARDIAN COMPARATIVE ADVANTAGE AND OPPORTUNITY COST

It is important to highlight that the obviousness of gains from trade within the framework of absolute advantage of Adam Smith was never questioned by David Ricardo. However, the contribution of Ricardo was to show how two countries can derive gains from trade even if one country has absolute advantage as compared to another country in the production of all goods. The question then arises whether in a situation in which country \( X \) producing all goods with less labour cost than country \( Y \) would lead to gains from trade accruing to both the countries \( X \) and \( Y \)?

To understand this, we may refer to the model, which was used by Ricardo to propound the theory of comparative advantage.

Illustratively, England and Portugal were chosen as examples by Ricardo. Both
the countries produced two goods viz. wine and cloth. Portugal was assumed to be using lesser units of labour in producing not only cloth but also wine. The first two columns of Table 1.1 show what the cost conditions in the two countries were. It is clear that, Portugal has absolute advantage in the production of both wine and cloth because the number of hours of labour required for the production for each unit of the two goods is lesser in Portugal than in England.

The obvious question arises whether the two countries would gain from trade? In fact, both England and Portugal would gain from trade if the concepts of opportunity costs manifested in comparative advantages are understood at this stage.

Table 1.1: Labour Cost and Opportunity Cost Comparisons

<table>
<thead>
<tr>
<th>Country</th>
<th>Labour cost of production (in hours)</th>
<th>Opportunity cost of production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 unit of cloth</td>
<td>1 unit of wine</td>
</tr>
<tr>
<td>England</td>
<td>100</td>
<td>120</td>
</tr>
<tr>
<td>Portugal</td>
<td>90</td>
<td>80</td>
</tr>
</tbody>
</table>

Let us explain it further. Portugal has the lower opportunity cost of the two countries in producing wine (0.89 as compared to England’s 1.2), while England has the lower opportunity cost in producing cloth (0.83 as compared to Portugal 1.12). Therefore, Portugal has a comparative advantage in the production of wine and England has a comparative advantage in the production of cloth and both the countries should export to the other country the good in which it has a comparative advantage.

This brings us to the definition of comparative advantage. A country has a comparative advantage in producing a good if the opportunity cost of producing that good is lower at home than in the other country.

It needs to be highlighted that the difference in opportunity costs between two countries in the production of the same good or the presence of comparative advantage in one country vis-a-vis another arises due to technological differences.

Check Your Progress 1

1) Differentiate between Adam Smith and Ricardo’s Theory of International trade.

2) Explain the concept of opportunity cost used by Ricardo.
3) Indicate the causes as explained by Ricardo that result in the differences in opportunity cost and comparative advantage.

1.4 HECKSCHER-OHLIN THEOREM AND ITS EXTENSIONS

The theory of comparative advantage in the Ricardian framework was explained in terms of a one-factor model, where the only factor was labour. The comparative advantage was determined by technological differences.

The Ricardian framework of comparative advantage was further improved upon in the Heckscher-Ohlin (H-O) model. The H-O model was first conceived by two Swedish economists, Eli Heckscher and Bertil Ohlin. Rudimentary concepts were further developed and added later by Paul Samuelson and Ronald Jones among others. Hence the extension of H-O model is referred as Heckscher-Ohlin-Samuelson (H-O-S) model.

In this model, trade between different countries is caused due to differences in relative factor endowments of those countries. It is a theory of long-term general equilibrium in which the two factors are mobile between sectors. Thus the H-O framework sheds new light on the determinants of trade in terms of 'factor proportions'. Furthermore, it provides insights into the effects of trade on factor use and factor rewards. In its extension, the Heckscher-Ohlin-Samuelson (H-O-S) model demonstrates how the free movement of goods between counties may bring about the factor-price equalisation.

There are four main theorems in the H-O-S model (hereafter called the H-O model for convenience): (i) the Heckscher-Ohlin theorem, (ii) the Stolper-Samuelson theorem, (iii) the Factor-Price Equalisation theorem, and (iv) the Rybczynski theorem. These are explained below.

1.4.1 H-O Theorem

According to the H-O Theorem, the determinants of trade are explained in terms of factor endowments of countries and factor intensities of goods. A country specialises in and exports that good, which intensively uses its most abundant factor. For example, if a country like India is abundant in labour then India would mainly specialise in labour-intensive goods that would form a large share of its export basket. In the same vein, India would import capital-intensive goods from countries that are capital-abundant.

It is the ratio (or proportion) of one factor to another that gives the model its generic name: the factor-proportions model. In the H-O model the ratio of the
quantity of capital to the quantity of labour used in a production process is the capital-labour ratio. Therefore it is assumed that different industries producing different goods have different capital-labour ratios.

In a model in which each country produces two goods, an assumption must be made as to which industry has the larger capital-labour ratio. Thus, if the two goods that a country can produce are electronics and textiles, and if electronics production uses more capital per unit of labour than is used in textiles production, we can say that the electronics production is capital-intensive relative to textiles production. Also, if electronics production is capital-intensive, it implies that textiles production must be labour-intensive relative to electronics.

Countries have different quantities or endowments of factors capital and labour, available for use in the production process. Thus, some countries like the US are well-endowed with physical capital relative to its labour force. In contrast, many less developed countries have very little physical capital but are well-endowed with large labour forces. The ratio of the aggregate endowment of capital to the aggregate endowment of labour is used to define relative factor abundance between countries. Thus if, for example, the US has a larger ratio of aggregate capital per unit of labour than India's ratio, we would say that the US is capital-abundant relative to India. By implication, India would have a larger ratio of aggregate labour per unit of capital and thus India would be labour-abundant relative to the US.

According to the H-O model, trade takes place in a gainful manner with important effects upon prices, wages and rents (factor prices), when countries differ in their relative factor endowments and when different industries use factors in different proportions. This is explained by Figure 1.1.

If two goods, X and Y, are produced with different production functions, a possible equilibrium situation is as shown in Figure 1.1. At points R and S the factors of production are allocated so that the quantities specified by the isoquants (X₁ of X and Y₁ of Y) are being produced at the lowest possible cost given the factor prices. In other words, at R and S the two isoquants are tangential to the lowest possible isocost line, which has a slope equal to the factor price ratio, the line AB. It follows that the ratio of the marginal product of labour to the marginal product of capital is the same for the two products, and that both are equal to the ratio of the wage rate to the return to capital (the negative of the slope of the line AB).

Another possible equilibrium is shown by points R and T, where again the slope of the X isocost at R is equal to the slope of the Y isocost at T and both are equal to the given factor ratio.

An alternative way of deriving this important result is to draw upon another...
International Trade: Theory

standard result from microeconomics, that a producer facing given factor and producer prices will maximise his profits by purchasing factors to the point where the value of the marginal product of each factor (the marginal product times the price of the good) is equal to the price of the factor. Algebraically, using $MPL$ and $MPK$ to show the marginal products of labour and capital respectively, $P$ for prices, $w$ as the wage rate, and $r$ as the return to capital, we have $MPL_y P_y = w$ and $MPK_y P_y = r$, from which it is easy to show that in order to maximise profits the producer must combine capital and labour so that

$$\frac{MPL_y P_y}{MPK_y P_y} = \frac{w}{r} \text{ or } \frac{MPL_y}{MPK_y} = \frac{w}{r}$$

If the producer were producing good $Y$ at a point such as $U$ rather than point $S$ then he would not be maximising profits. At $U$ the marginal product of capital in producing $Y$ is lower than it is at point $S$, and so the value of the marginal product of capital in producing $Y$ at point $U$ (the marginal product times the price of $Y$) is lower than the cost of the unit of capital. Similarly, the value of the marginal product of labour at point $U$ is higher than the cost of the labour. Profits would be increased by employing more labour and less capital, the capital-labour ratio would decrease, and we would move to a point such as $S$ or $T$.

If for some reason factor prices were to change, factor intensities would also change. Let us assume that the price of labour compared with the price of capital increases. Then more capital-intensive methods of production will be used in both lines of production, as shown in Figure 1.2. Before the price change $OA$ of capital cost the same to purchase as $OB$ of labour, but after the change $OA'$ of capital costs the same as $OB'$ of labour, and $OA''$ of capital costs the same as $OB''$ labour. The two budget lines $A'B'$ and $A''B''$ are parallel, and steeper than the original budget line $AB$. As labour is now more expensive and capital is cheaper than before, so that methods of production become more capital-intensive for both goods. If the desired production of $X$ is still $X$, then the capital and labour combination will be at point $R'$, and the higher capital-labour ratio in $X$ is shown by the slope of line $OR'$ being steeper than that of line $OR$. Similarly, quantity $Y$ of good $Y$ will now be produced at point $S'$, and the slope of the line $OS'$, and the slope of the line $OS''$ is steeper than that of line $OS$.

Let us explore the logic of the H-O theorem. It may be recalled that the H-O theorem predicts the pattern of trade between countries based on the characteristics of the countries. The H-O theorem says that a capital-abundant
country will export the capital-intensive good while the labour-abundant country will export the labour-intensive good.

A capital-abundant country is the one that is well-endowed with capital relative to the other country. This gives the country a propensity for producing the good which uses relatively more capital in the production process, i.e., the capital-intensive good. As a result, if these two countries were not trading initially, i.e., they were in autarky, the price of the capital-intensive good in the capital-abundant country would go down (due to its extra supply) relative to the price of the good in the other country. Similarly, in the labour-abundant country the price of the labour-intensive good would be going down relative to the price of that good in the capital-abundant country. By the same token, labour-intensive goods would be costly in the capital-abundant country and capital-intensive goods would be available at a high price in the labour-abundant country. Once trade is allowed, profit-seeking firms will move their products to the markets that temporarily have the higher price. Thus the capital-abundant country will export the capital-intensive good since the price will be temporarily higher in the other country. Likewise the labour-abundant country will export the labour-intensive good. The trade flows will rise until the price of both goods are equalised in the two markets.

**Difference in assumptions as compared to the Ricardian Model**

The H-O model incorporates a number of realistic characteristics of production that are left out of the simple Ricardian model. Recall that in the simple Ricardian model only one factor of production, labour, is needed to produce goods and services. The productivity of labour is assumed to vary across countries, which implies a difference in technology between nations. It was the difference in technology that motivated advantageous international trade in the model. It is worth-highlighting that a major distinction between the H-O model and the Ricardian model is in terms of technology-assumption. The production technologies differ between countries in the Ricardian framework whereas the H-O model assumes that production technologies are the same. The reason for the identical technology assumption in the H-O model is perhaps not so much because it is believed that technologies are really the same (although a case can be made for that), instead the assumption is useful because it enables us to visualise precisely how differences in resource endowments are sufficient to cause trade and its concomitant impacts.

### 1.4.2 The Stolper-Samuelson Theorem

The Stolper-Samuelson theorem describes the relationship between changes in prices of goods and changes in factor prices such as wages (for labour) and rents (for capital) within the context of the H-O model.

The theorem states that if the price of the capital-intensive good rises then the price of capital (rents) will also rise, while the wages paid to labour will fall. Thus, if the price of electronics were to rise, and if electronics were capital-intensive, then the rental rate on capital would rise while the wage rate would fall. Similarly, if the price of the labour-intensive good were to rise then the wage rate would rise while the rental rate would fall.

**Magnification Effect:** The theorem was later generalised by Jones who
constructed a ‘magnification effect’ for prices in the context of the H-O model. The magnification effect allows for analysis of any change in the prices of the both goods and provides information about the magnitude of the effects on the wages and rents. Most importantly, the magnification effect allows one to analyse the effects of price changes on real wages and real rents earned by workers and capital owners. This is crucial from the point of view of policy-impact since real returns indicate the purchasing power of wages and rents after accounting for the price changes and thus are a better measure of well-being than simply the wage rate or rental rate alone.

This theorem has a topical relevance in the age of globalisation and trade liberalisation. When trade liberalisation occurs in a country, prices of goods change, and the magnification effect can be applied to seek an important result. A movement towards freer trade will cause the real return of a country’s relatively abundant factor to rise, while the real return of the country’s relatively scarce factor will fall. Thus, if the US and India are two countries who move towards free trade, and if the US is capital-abundant (while India is labour-abundant) then capital owners in the US will experience an increase in the purchasing power of their rental income while workers will experience a decline in the purchasing power of their wage income (i.e., they will lose). Similarly, workers will gain in India but capital owners will lose.

The reasons for this result are somewhat complex. When a country moves to free trade the price of its exported goods will rise while the price of its imported goods will fall. The higher prices in the export industry will inspire profit-seeking firms to expand production. At the same time, in the import-competing industry suffering from falling prices, will want to reduce production to cut their losses. Thus, capital and labour will be laid-off in the import-competing sector but will be in demand in the expanding export sector.

However, a problem arises due to the fact that the export sector is intensive in the country’s (US) abundant factor, say capital – as per the H-O theorem. This means that the export industry wants relatively more capital per worker than the ratio of factors that the import-competing industry is laying off. In the transition, there will be an excess demand for capital, which will raise its price, and an excess supply of labour, which will bring down its price. Hence, the capital owners in both industries experience an increase in their rents while the workers in both industries experience a decline in their wages.

The theorem was originally developed to illuminate the issue of how tariffs would affect the incomes of workers and capitalists (i.e., the distribution of income) within a country, because tariffs raise the domestic price of imported goods. However, the theorem is just as useful when applied to trade liberalisation, as explained above. However, it should be kept in mind that these results have been derived in a model with only two goods and two factors that are perfectly mobile between sectors. They may not be valid in general. In particular, a factor, which is employed in a sector where output declines (because of competition from imports) will definitely suffer a loss in its real reward if it has no alternative source of employment.

1.4.3 The Factor-Price Equalisation Theorem

According to the factor-price equalisation theorem when the prices of goods are equalised between countries due to international trade, the prices of the
factors (i.e. capital and labour) also get equalised between countries. This implies that freer trade will equalise the wages of workers and the rentals earned on capital throughout the world in the ultimate analysis.

The theorem derives from the assumptions of the H-O model, of which the most critical is the assumption that the two countries share the same technology and that markets are perfectly competitive. In perfect competition, factors are paid on the basis of the value of their marginal productivity which in turn depends upon the prices of the goods. Thus, when prices differ between countries so will their marginal productivities and hence so will their wages and rents. However, once prices of goods are equalised, as they are in free trade demonstrated earlier, the value of marginal products are also equalised between countries and hence the countries must also share the same wage rates and rental rates.

However, it should be noted that the factor-price equalisation is unlikely to apply perfectly in the real world. The H-O model assumes that technology is the same between countries in order to focus on the effects of different factor endowments. If production technologies differ across countries, as we assumed in the Ricardian model, then factor prices would not equalise once goods prices equalise.

1.4.4 The Rybczynski Theorem

The Rybczynski theorem demonstrates the relationship between changes in national factor endowments and changes in the outputs of the final goods within the context of the H-O model. Briefly stated, according to this theorem an increase in a country’s endowment of a factor will cause an increase in output of the good, which uses that factor intensively, and a decrease in the output of the other good. In other words, if India experiences an increase in labour supply, then that would cause an increase in output of the labour-intensive goods, like textiles, and a decrease in the output of the capital-intensive goods, like electronics. The reverse is true if the economy’s capital stock increases. The theorem is useful in addressing issues such as investment, population growth, labour force growth, immigration and emigration, all within the context of the H-O model.

Check Your Progress 2

1) Describe magnification effect in the context of H-O model.

2) What theorem is derived from the assumption in the H-O model that the two countries share the same technology and that markets are perfectly competitive? Explain
3) Explain Rybczynski Theorem in the context of H-O model.

1.5 EMPIRICAL TESTING OF COMPARATIVE COST AND THE HECKSCHER-OHLIN THEOREMS

There have been several attempts of empirically testing the comparative cost and H-O theorems. However, testing the basic Ricardian model would not be sound, since detailed predictions depend strongly on the most unrealistic assumptions, e.g. only two goods. Therefore, in the existing literature, most studies have focused on testing the comparative advantage predictions within the H-O framework. It is for this reason that the empirical critiques of the H-O theorem are presented here.

One of the most notable empirical critiques of the H-O theorem is well-known as the Leontief Paradox. This is explained below.

1.5.1 The Leontief Paradox: the Factor- intensity Reversal

Leontief in his 1953 study found that despite the fact that the USA was a capital-abundant country it was exporting importantly labour-intensive products, which is an outcome contrary to the predictions of the H-O theorem. This came out in the observation that the exports of USA were found to be less capital-intensive than USA's imports even when USA ranks high among the countries with high capital-labour ratios. This depicts the situation of factor-intensity reversal.

However, it was argued that the Leontief Paradox was not actually a paradox and the profile of trade of the USA was consistent with the propositions of the H-O theorem. This was argued on the grounds that though USA's exports are less capital-intensive than imports, but USA exported products that are more skilled labour-intensive and technological intensive than the products imported. This is consistent with the observation that USA is a high-skilled country with a comparative advantage in capital-intensive products.

1.5.2 Testing the 'factor content' version

We can think of a country indirectly exporting (importing) the services of factors which are embodied in its exported (imported) goods. This is called the 'factor content' of trade. The H-O model implies that a country should be 'exporting' (importing) factors for which their factor share is higher (lower) than their income share.

If trade in goods is an indirect way of trading factors of production, then
relative factor endowments should predict the direction and volume of trade. But the volume of trade is much smaller than what the H-O model predicts. Take for example, USA has about 25% of world income but only 5% of the world's workers. China has only about 3% of the world income but 15% of the world's workers. So a simplistic factor proportion calculation will say: through trade, USA should import large amount of labour and China should export most of its labour. But this is not the case in reality. This is the phenomenon of "missing trade" according to Daniel Trefler (1995), which is explained by dropping the H-O assumption of identical technology among countries.

Most of these tests, however, fail to control for possible differences in tastes across countries. They also do not make much sense in trying to explain the actual pattern of trade without allowing for substantial international differences in technologies.

Although the empirical evidence on the H-O model is mixed, the H-O model provides an explanation of the basis of comparative advantage (i.e. what determines it?) and helps to analyse the effects of international trade on income distribution.

Check Your Progress 3

1) Leontief Paradox is empirical critique of the H-O theorem. Explain

2) Briefly discuss the phenomenon of 'missing trade'

1.6 LET US SUM UP

After reading this Unit, you have been exposed to the different theories of trade. Beginning from the pure theory of international trade or the theory of absolute advantage, you have learnt about Ricardian Comparative Advantage and Opportunity Cost theories. Both the theories discuss one factor model and the factor taken here is labour. The unit also discusses improvisation in Ricardian Framework i.e. Heckscher-Ohlin Theorem and its Extensions. This framework takes into account two factors and explains that the trade between different countries is caused due to differences in relative factor endowments of those countries.

Four main extensions of H-O Model are discussed these are: (i) the Heckscher-Ohlin theorem, (ii) the Stolper-Samuelson theorem, (iii) the Factor-Price Equalisation theorem, and (iv) the Rybczynski theorem.

While discussing the extensions of H-O Model the unit explains the difference
International Trade: Theory

in assumptions as compared to the Ricardian Model and magnification Effect. You are also exposed to Empirical Testing of Comparative Cost and the Heckscher-Ohlin Theorems. Here we have discussed the Leontief Paradox: the Factor-intensity Reversal and testing the ‘factor content’ version. Discussion on the ‘factor content version’, includes a brief discussion on the case of missing trade and also the limitations of these empirical tests.

1.7 KEY WORDS

Opportunity Cost: The opportunity cost is the true cost of doing something what one gives up to do that thing. For example, going for a walk may appear to cost nothing, until one considers the opportunity forgone to use that time earning money or doing something else. Thus in reality, everything one does has an opportunity cost.

Capital-abundant Country: A capital-abundant country is the one that is well-endowed with capital (as compared to labour) relative to the other country. This gives the country a propensity for producing the good, which uses relatively more capital in the production process or we may call it a capital-intensive good.

Comparative Advantage: A country has a comparative advantage in producing a good ‘A’ if the opportunity cost of producing good ‘A’ is lower at home than in the other country.

Factor Endowments: A country’s endowment with resources such as land, labour, and capital.

Factor Intensities: Factor intensity is the relative importance of one factor (i.e. land or labour or capital) versus others in production process in an given industry usually compared across industries. Factor Intensities are mostly defined by ratios of factor quantities employed at common factor prices. These are also defined sometimes by factor shares or by marginal rates of substitution between factors.

1.8 SOME USEFUL REFERENCES


1.9 ANSWERS/HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Adam Smith refers to absolute advantage while Ricardo refers to comparative advantage.
comparative advantage and opportunity cost while explaining the theory of international trade. Please Read Section 1.2 and 1.3

2) Read Section 1.3
3) Read Section 1.3

Check Your Progress 2

1) A movement towards freer trade will cause the real return of a country’s relatively abundant factor to rise, while the real return of the country’s relatively scarce factor will fall. Read Sub-section 1.4.2

2) Factor Price equalisation theorem. Read Sub-section 1.4.3

3) This theorem is about the relationship between changes in national factor endowments and changes in the outputs of the final goods. Read Sub-section 1.4.4

Check Your Progress 3

1) Read Sub-section 1.5.1
2) Read Sub-section 1.5.2