

Factor price equalization theorem



**ASSIGN
BUSTER**

International trade has always been present since civilization. The need for trading exists due to the difference in availability of resources and comparative advantages. Nowadays, with globalization, it is impossible for a country to remain isolated and be self sufficient. Over time, there has been ample controversy on the theory of international trade. Some of these theories will be discuss below.

2 Comparative Advantage Theory

The theory of comparative advantage, also known as the theory of comparative cost, was developed by David Ricardo. According to this theory, it matters not a bit whether a country has absolute advantage in one line of production or all lines of production. What matters is the comparative difference and each country should specialize in the production of those goods in which it has the greatest comparative advantage or least comparative disadvantage. Thus, for international trade and specialization to be profitable and beneficial, there is a need for comparative differences, that is, differences in relative cost or differences in opportunity cost. Therefore, this theory compares the capacity of a country through its commodities.

The theory of comparative advantage relies on the following assumptions:

There are two countries and two commodities

There is perfect competition

Labour is the only factor of production and it is homogenous and perfectly mobile within a country but perfectly immobile across nations.

Cost of production is expressed in terms of labour, that is, a commodity is valued in terms of how much it costs a labour for producing it.

There is free trade, that is goods can move freely across nations

There is constant return to scale

There is neither technological change nor transportation cost

Trade takes place on barter system

There is full employment in both countries

3 Heckscher-Ohlin Theory

Although comparative difference is the source for international trade, Heckscher- Ohlin (H-O) states that it is the conditions that bring about this comparative advantage that matter. In other words, how well a country is endowed with a given factor will influence its factor prices and ultimately its commodity prices. Hence, according to H-O theory, factor abundance plays a key role for comparative difference in contrast to David Ricardo which advocates that labour is the sole responsible factor for international trade to be beneficial.

The Heckscher-Ohlin view differs to that of the David Ricardo in the following ways:

There are two countries, two commodities and two factors of production

There is difference in the factor intensity, that is, the proportion of each factor of production used differs.

Cost of production is expressed in terms of the money and not labour value

There is partial specialization, that is, both countries will end up producing both commodities

The H-O model has four main parts; the H-O trade theorem, Factor Price Equalization theorem, Stolper- Samuelson theorem and the Rybczynski theorem.

3. 1 Heckscher-Ohlin Theorem

According to the Heckscher-Ohlin trade theorem-also known as the factor proportions theory- a country shall export the commodity whose production requires the intensive use of the nation's relatively abundant and cheap factor and shall import the commodity whose production requires the intensive use of the nation's relatively scarce and expensive factor. Hence, a country is said to have comparative advantage when the latter produces good that requires those factor in which the nation is best endowed.

It is to be noted that a country's factor endowment is denoted by the ratio of capital to labour. Suppose there are two nations- A and B- and capital-labour ratio is higher in nation A than in nation B. This would imply that nation A is capital abundant and nation B is labour abundant. On the other hand, suppose that the two commodities to be considered are X and Y and that the production of Y requires more capital-labour ratio than that of production X. This would mean that commodities Y is capital intensive and X is labour-intensive. Therefore, nation A should specialize in the production of commodity Y and nation B in the production of commodity X. These also

entail that factor price- which is represented as the price of capital to labour ratio – would be cheaper in nation A than B.

Therefore, under the H-O trade theorem, nation A shall export commodity Y and shall import commodity X and vice versa for nation B for international trade to be profitable.

3. 2 Factor Price Equalization Theorem

Moreover, the H-O model predicts that international trade will bring about equalization in the relative and absolute returns to homogenous factors across nations. This is also known as the Factor Price Equalization theorem. Suppose nation B specializes in commodity X which is labour intensive and nation A specializes in commodity Y which is capital intensive. The production of good X in nation B would increase and that of good Y would decrease. As a result, the relative demand for labour will increase and the relative demand for capital will fall. Consequently, wages will rise and return on capital will fall in nation B. The same is true for nation A whereby; the latter specializes in the production of good Y, thus increasing its production relative to good X. As a result wages in nation A will fall and the return on capital will rise.

Thus, it can be concluded that with specialization and trade, factor prices will tend to equalize. It is worth pointing out that for the Factor Price Equalization to hold, the previous assumptions made on the H-O should be present else the whole theorem would not stand good. However, even if some of the assumptions are violated, it can be found that, with international trade, factor prices will tend to equalize.

In the real world, the Factor Price Equalization might not be true to the whole extent. Evidence showed that developed nations which are viewed as capital abundant have a high wages relative to developing nations which are labour-abundant. For instance, the United States has high wages and specializes in the production of machinery and textile and China has low wages and specializes itself in the production of textile and apparel (Leamer 1995, p. 8).

3. 3 Stolper Samuelson Theorem

On the other hand, the Stolper Samuelson theorem suggests that an increase in relative commodity prices has significant impact on the real income of factors used. Thus, changes in prices of goods will trigger the distribution of the real income of labour and capital. For instance, if the price of labour intensive good increases, this will not only lead to an increase in the real wage but will also curtail the real return on capital. In addition, it is observed that there is a “ magnification” effect, that is, an increase in the price of a given commodity will lead to a more than proportionate change in the factor prices such that one factor price increases and the other decreases relative to the commodity price.

3. 4 Rybczynski Theorem

Contrary to the above, the Rybczynski theorem demonstrates the relationship between the change in factor endowment and the change in output. In other words, the Rybczynski theorem states that as endowments in one factor increases, the country will produce more of that good which intensively uses that factor and produces relatively less of the other good.

4 Leontief Paradox

With time, the H-O model became to be seen as a weak theory of international trade due to the unreality of many of its assumptions. There have been massive researches made to examine the reliability of the H-O model. For instance, in 1953, Wassily Leontief carried out an analysis on the US trade in 1947. The idea behind was to see whether capital abundant countries really export capital intensive goods and import labour intensive ones. Results suggested that contrary to what H-O model predicted, the US which was the most capital abundant country at that time, was in fact importing capital intensive goods and was exporting labour intensive goods. This result became to be known as the Leontief paradox.

However, the Leontief paradox was criticized at different levels. For instance, in 1981, Stern and Maskus (1981) shed light on the Leontief paradox and showed that the Leontief paradox was valid in 1958 but not in 1972. It was found that in 1972, the US net exports required the intensive use of both physical and human capital.

5 Product Life Cycle Theory

Several years later, in the mid 1960s, Raymond Vernon came forward with the Product Life Cycle Theory which states that a country's export will turn into import as a product move through its life cycle. There are three stages in the life of a product; new product stage, maturity product stage and standardized product stage.

When an innovative product is firstly introduced in the domestic market, reference is made to the new product stage. In this phase, production is

likely to be low. Export of the product is quite low at the end of this stage. With time, as the product became to be recognized, demand for it increases both in the domestic and foreign markets. This entail firm to set up manufacturing facilities abroad in order to expand their production capacity to meet the rising demand of both domestic as well as foreign consumers. Consequently, productions start to take place in developing countries near the end of the maturity stage. In the standardized stage, the market for the product stabilizes. Therefore, manufacturers set up in developing countries whereby the cost of production is relatively low. As a result, the product is now being imported in the country where it was first invented.

This theory assumes that the transmission process of a new technology occurs slowly enough to generate temporary differences between countries in their access and use of new technologies. However, in the late 1970's, it was found that competitors were able to imitate product at a much higher speeds than previously envisioned. Moreover, Multinational corporations were able to launch products in more than one market at a time.

6 New Trade Theory

So far, the H-O model demonstrates that the basis for trade lies in the difference in factor endowments as opposed to the Ricardian model which relies on the difference in factor productivity. Yet, it can be noticed that in today's environment, evolving global pattern of trade bring new theories of trade to the surface.

Thus, some of the assumptions made under the H-O model are relaxed as shown below:

There exist more than two countries, commodities and factor endowments

The level of technology is not the same across nations, for instance, the level of technology is further ahead in Japan to that found in African countries

There is factor intensity reversal- for instance, although the level of technology remains the same across nations, a particular commodity may be referred to as labour intensive in one country and at the same time be capital intensive in another country.

Increasing returns to scale is possible with new technologies

There is complete specialization

Taste and preference are not identical

Trade takes place in differentiated products instead of homogenous products

Factors are mobile across nations

Transportation costs do exist

Full employment does not exist

6. 1 Intra Industry Trade Theory

Taking the above assumptions into consideration, new trade theories have been generated among which there is the Intra-Industry Trade (IIT) theory.

The fact that in reality there is imperfect competition which is brought about by the wide range of products that are desired on the market and economies of scale at firm level, gives rise to IIT. IIT refers to trade occurring within the same industry or sector. Firms are often faced with competition due to

<https://assignbuster.com/factor-price-equalization-theorem/>

importation of the same products that are being manufactured locally in their domestic country. Hence, these domestic firms are motivated to opt for export of their products in other regions/countries.

It can be noted that the higher the similarities between countries, the higher the IIT tend to be. Similarities can be grouped in terms of a country's culture, taste and factor endowments.

There are two types of IIT; the horizontal and vertical IIT. The horizontal IIT involves trading in products of almost the same quality while the Vertical IIT involves trading in goods of different quality and degree of product standardization. It can be noted that during the period 1990-2007, there has been an increase in vertical IIT between the US and NAFTA. Furthermore, findings suggest that Canada experienced a fall in its share of vertical intra industry trade while the opposite has been noticed in Mexico. In addition, it has been observed that half of the industries were dominated by low quality vertical IIT for both the US- Canada trade and US-Mexico trade (Ekanayake et al 2009). The IIT theory can, however, be criticized on how we define an industry.

7 Porter's Diamond

In contrast to the H-O model, Michael Pastor (1990 cited Grant 1991) has emphasized four major drivers of competitiveness which are as follows:-

Firm Strategy Structure and Rivalry- competition between local firms, creation of the best possible business environment in which firms can be set up, survive and thrive, probably relying on cooperation as much as competition

Factor conditions – factors are not just inherited but refined and developed over time (e. g. specialized labour with specific skills)

Demand conditions- strong and sophisticated home demand which ensures that local firms are innovative and respond swiftly to changes in tastes

Related and supporting industries- ready access to supply chain industries and closeness of related industries.

According to Porter, a nation attains competitive advantage if its firms are competitive. Therefore, these factors above play an important role in acquiring competitive advantage.

8 Conclusion

In conclusion, it can be said that the theory of comparative advantage, indeed, forms the basis of international trade. Over time, several models have been developed to explain the factors which bring about comparative advantage. However, as explained above, all models have certain limitations. In fact, each economy is different and is expected to adopt the most suited model to its context.