

Introduction

1 Theory of International Trade

Traditional trade theory was well settled and accepted.

However the implications of traditional trade theory were found to be at odds with data.

That a lot of data did not seem to fit traditional trade theories gave rise to the new trade theory

2 Fundamental Ideas of Traditional Trade Theory

2.1 Comparative Advantage and Gains from Trade

Comparative advantage is one of the most fundamental ideas in trade theory.

A country has comparative advantage in a good if it has a lower opportunity cost of producing the good than another country.

Countries are expected to export goods for which their autarky (no trade) relative prices are lower than other countries.

Countries gain from trade when they have different autarky relative prices of goods.

2.2 Hecksher-Ohlin Theory

One of the reasons why a country might have comparative advantage in a good is that countries differ in their factor endowments.

There are two factors capital and labor.

The home country is the capital abundant one, the one with more capital per unit of labor.

One of the goods is more capital intensive than the other: it uses more capital per unit of labor than the other good.

Countries have access to same technologies - factor endowments only difference between countries.

Under free trade, the capital abundant country (home) is expected to produce relatively more of the capital intensive good than the other country.

Capital abundant country (home) therefore is expected to export the capital intensive good if no strong bias in consumption.

Owners of capital in the capital abundant country (home) benefit due to seeing their rents rise relative to prices of goods, while owners of labor (home workers) suffer due to seeing their wage fall relative to prices of goods.

As long as capital endowments in the two countries are not too different and which good is capital intensive is the same in both countries, the wage and rent will be the same across countries under free trade with no transport costs.

2.3 Some Implications of Traditional Trade Theory

1. Trade should be greatest between countries with the greatest differences between them.
2. Gains from trade should be greatest between countries with the greatest differences.
3. Trade should cause countries to specialize more in production and to export goods distinctly different from what they import.
4. Countries should export goods that make relatively intensive use of their relatively abundant factors.
5. Factor prices should be more similar between countries with more liberal trade policies between them.

6. Free trade should equalize factor prices being countries with similar enough relative factor endowments but not between countries with very different factor endowments. Countries with similar enough factor endowments to have equal factor prices under free trade should use similar techniques and produce similar goods.
7. Domestic interest groups should be identified by factors rather than industries.
8. International investment should be stimulated by differences in factor endowments.
9. International trade and international investment should be negatively correlated.
10. Trade policy should take the form of trade restrictions rather than trade stimulants.

3 Confrontation with Reality

According to traditional trade theory, might think that United States should trade more with Mexico than with Canada because we have greater factor endowment and technology differences with Mexico than Canada. But most trade is between countries at similar stages of development - countries with similar factor endowments and similar technologies.

These developed countries also are the ones who seem to gain the most from international trade. Average tariffs are highest in developing countries.

What developed countries trade with each other look very similar, there are not substantial differences in the factor composition of a developed country's imports and exports with another developed country. There is a clearer factor endowment basis for trade between developed and developing countries.

While factor prices are not equalized across countries, do not observe free trade yet in the world. Factor prices do become closer to being equalized as trade is liberalized. The convergence of factor prices appears to be greatest for countries with the most similar factor endowments. Predictions regarding factor price equalization fairly well supported by the data.

Objections to trade liberalization appear to be aligned according to industry affiliation and not according to factor identities (capital vs labor).

Traditional trade theory suggests international investments should flow from capital abundant countries to capital scarce countries. While there is some foreign direct investment (FDI) from developed countries to developing countries and that share is growing, the bulk of FDI still occurs from one developed country to another and back again. Similar to trade in goods, international investment occurs primarily between similar developed countries and among similar goods such that factor endowments do not appear to be major motive for FDI among developed countries.

4 Conservative Responses

4.1 HO Model

The HO model can be extended to a world of many goods and many factors.

In a more general setting, the stronger predictions of two good and two factor model do not survive.

When making predictions about the relative production of goods, still able to say that one good will have its production expand and another good will have its production fall. But with many more than two goods, there are many goods that we are not saying anything about.

Can also make predictions about how factor endowments are correlated with production on average, but weaker

than being able to say exactly what happens for each good as in the 2×2 model.

For income distribution, can say that one factor will lose income and one factor will gain income but do not identify which in a general setting and do not necessarily say anything about the many other factors.

Can prove that factor prices are correlated with the prices of goods on average, a weaker result than in the 2×2 model.

Factor price equalization result survives best in the general many goods and many factors setting; interesting given that this is also the one that is best supported by the data.

Recent empirical work has found support for factor endowment theories as long as technological differences across countries are permitted and also taste differences.

4.2 Specific Factors Model

The specific factors model is another model based on factor endowment differences between countries.

In this model there are two goods and each of these goods uses a factor that is not used in the production of the other good, as well as one common factor that is used in the production of both goods.

The specific factors model has many features similar to the HO model but the income distribution effects are aligned with industries rather than factors and thus better fit the data.

For example suppose agriculture uses capital specific to agriculture and labor, while manufacturing uses capital specific to manufacturing and labor.

Labor is allowed to shift back and forth between agriculture and manufacturing based on where wages highest but capital specific to agriculture can only be employed in agriculture and capital specific to manufacturing can only be employed in manufacturing.

Suppose opening up to trade causes the manufacturing sector to expand and agriculture to contract. The capital specific to manufacturing gains while the capital specific to agriculture loses as a result of trade, and labor is in the middle and can be affected either way depending on the prices of the two goods.

The specific factors model can be viewed as a short run the version of the HO model where for a year or perhaps more some factors are tied to sectors, but over a longer period of time all factors can be shifted across sectors, for example as capital is replaced.

5 Scale Economies

HOS would predict little gains from trade between similar countries, yet these countries seem to have prospered due to their openness.

Need other models of gains from specialization, where countries are able to produce more at lower cost through international trade.

Scale economies provide a basis for trade logically independent of (pre-existing) comparative advantage.

5.1 National External Economies of Scale

Assume increasing returns to scale external to the firm but internal to the industry in the country.

Production of IRS good tends to be concentrated all in one country, if possible.

If start with identical countries, role of countries random and so multiple equilibria can occur – Mirror equilibria where only identity of countries is changed.

- Knife edge: both incompletely specialized (unstable)
- Graham: one specialized in IRS good, other incompletely specialized; incompletely specialized country loses from trade but identity of the losing country not known before trade occurs

- FPE: one specialized in CRS good, other incompletely specialized; equal factor prices across countries since CRS good produced in both countries
- Ricardian: both countries completely specialized; as if the IRS technology were CRS with the technology at equilibrium level of output - wages reflect technology differences across countries

Move to more general models of scale economies without multiplicity of equilibria.

5.2 International Economies of Scale

Global size of an industry may be more relevant for scale economies than geographic location.

Returns to scale modeled as depending on the size of the world industry rather than national industry.

World production possibilities well-defined although national production possibilities are not.

Efficient resource allocation same as if no scale economies.

Inconveniences of Graham equilibria eliminated by making scale economies international.

Thus the possibility of a country losing from trade relies on national IRS (and parameters that lead to the Graham equilibrium rather than Ricardian or FPE).

5.3 Intraindustry Trade

Assume IRS sector has horizontally differentiated product (different varieties).

Assume all existing varieties enter consumers utility symmetrically.

All varieties will be produced and consumed in equal amounts.

Countries will both import and export differentiated IRS good; intraindustry trade occurs.

Assuming factor endowment differences as well generates HOS-style interindustry trade also.

As factor endowments become more similar, intraindustry trade expands.

Interindustry trade, based on factor differences, substitutes for international factor mobility.

Intraindustry trade, based on differentiated products, is complementary to factor mobility.

Dissimilar countries have predominantly interindustry trade; similar countries have predominantly intraindustry trade.

6 Product Differentiation

Each variety of a good is produced by a single firm operating under monopolistic competition.

Vertically differentiated products (quality) have all consumers agree on what brand is best; horizontally differentiated products (variety) have consumers disagree on what brand is best.

Ideal variety approach equivalent to having consumers love variety for its own sake.

Even if national IRS, product differentiation is sufficient to ensure that no country loses from international trade (and so Graham case requires homogeneous goods).

7 Oligopoly

Suppose each country has a single monopolist in autarky and countries identical. Duopoly when trade opened.

In Cournot-Nash, firms choose quantity and total quantity increases with increased competition. Free trade price below both autarky prices.

Can have gains from trade even though no trade actually occurs; gains are from potential competition.

If firms choose quantity for each market get two-way trade.

If impose transport costs, get wasteful two-way trade of identical products.

Interesting welfare conclusions because oligopoly profits contribute to national income. Assume all output sold to a third country to eliminate consumer surplus effects in welfare.

If government can credibly commit to subsidizing exports, can increase profits.

Explains why trade policy might take form of promotion rather than restriction.

Uncertainty over correct policy limits usefulness in practice.

As number of domestic firms increases, optimal policy shifts from subsidy to tax; also if firms choose price instead of quantity, optimal policy becomes a tax.

A common resource available in fixed supply limits profit shifting ability of export subsidies for symmetric firms.

8 Foreign Direct Investment

Many models developed to explain why firms produce in more than one country when doing so is expensive (due to lack of familiarity with the foreign economic environment, difficulty coordinating activities over large distances, etc.).

Ownership advantage if some patent or special ability (even reputation) can be exploited in multiple markets.

Locational advantage if tariff (or transportation cost or factor price difference) rules out concentrating production in one country and exporting to the other.

Internalization advantage if arms length use of markets unattractive due to risk of opportunistic behavior by licensee (international enforcement of contracts difficult) or other reasons.

When ownership, location and internalization advantages coexist, optimal way to serve a foreign market is through foreign direct investment (FDI or DFI).

Firms with production or other activities in multiple countries are called multinational firms (or multinational enterprises or multinational corporations or MNEs or MNCs or just plain multinationals).

FDI has been growing rapidly, making FDI a ripe area for further research.