Benefits of Trade Box

One of the best ways to understand the economics of trade is to compare the price, production, and quantity traded with and without free trade. The following two sets of graphs illustrate the economic equilibrium where there is no trade (autarky) with trade.

Without trade, prices and production are determined by the intersection of supply and demand. In Figure 6.5, S represents the sum of supply schedules for all countries that would otherwise be exporters and D represents the sum of their demand for a given agricultural commodity, such as wheat. Without trade the exporting countries would have an average equilibrium price of P_e for quantity Q_e. For the importing countries that average equilibrium price would be a much higher P_i for quantity Q_i.

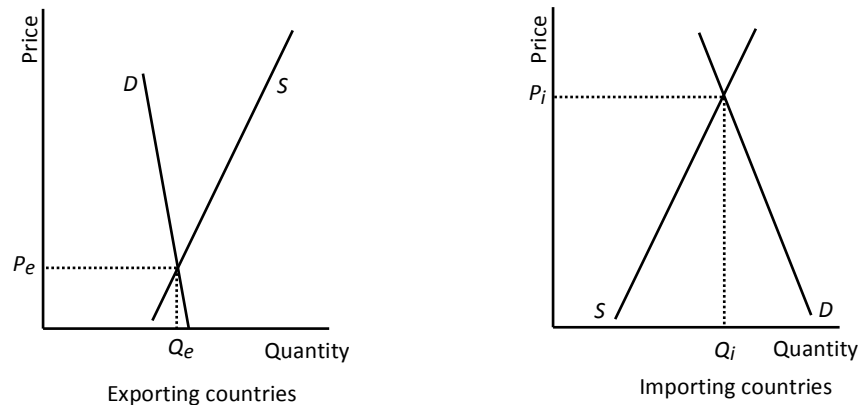Exporting countries   Importing countries

Figure 6.5 Economics of autarky

Trade is introduced in a two-country trade model by providing for the world market to operate as illustrated in the middle graph. In the world market, the quantities available for export, referred to as the excess supply (ES), is the horizontal distance above P_e between the supply and demand curves for the exporting countries. Likewise, the quantity demanded by the importing countries, referred to as the excess demand (ED), is the horizontal distance below P_i between the supply and demand for importing countries. The resulting world market equilibrium price is P_w, and Q_t is traded. It can readily be seen that for the exporting countries, price increases from P_e to the world price, P_w, and the quantity supplied increases to S_e. For the importing countries, the price falls from P_i to P_w, and the quantity demanded increases to D_i. World trade, Q_t, equals the quantity exported, S_e minus D_e, which equals the quantity imported, D_i minus S_i.

Exporting countries   World market   Importing countries
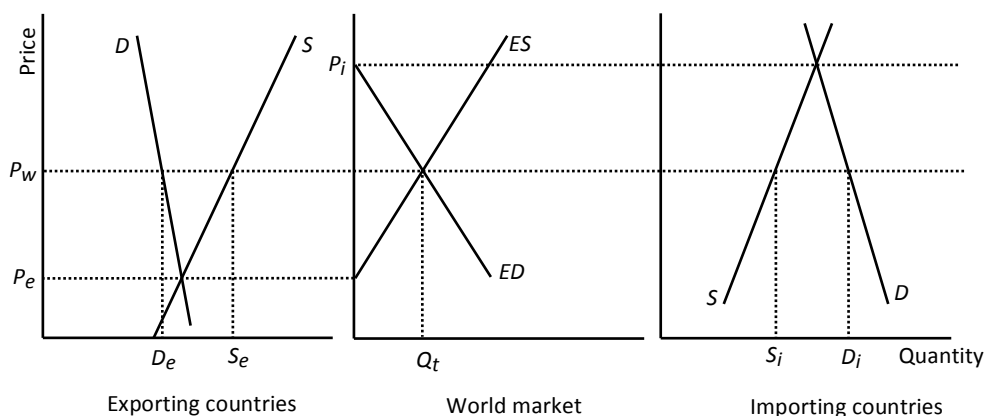
Figure 6.6 Economics of free trade

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Benefits of trade

It is also the case that some countries have a cost advantage in producing one commodity while other countries have an advantage in producing other commodities. These advantages are of two types: (1) A country has an absolute advantage in producing a commodity if its cost is lower than the cost in another country. (2) A comparative advantage implies that a country's cost relative to the costs of other commodities it produces is lower than it is in other countries. The comparative advantage of each country determines what happens when they trade. The outcome depends on the price of each commodity relative to the other when trade occurs. In the end, countries will produce those commodities for which they have the greatest comparative advantage or the least comparative disadvantage. Once again, if the capitalistic free market is allowed to operate, this happens more or less automatically as buyers and sellers strive to maximize revenue and minimize cost.

Sources of trade disputes

Not everyone benefits from trade. For example, consumers in exporting countries generally pay a higher price for the commodity being exported than under autarky. In addition, the importing country's producers receive a lower price (see benefits of trade box). Such effects spur protectionist advocates to erect barriers to trade. Houck provided a more applied list of reasons for protectionism:[40]

- Seeking protection to avoid the painful adjustment costs associated with free trade. In dynamic globalizing economies, absolute and comparative advantages constantly shift. For example, technological changes may be more applicable to the agriculture of one country compared with another. As a result of such shifts, farmers and related industries seek protection from new sources of competition rather than bearing the costs of adjustment to change.
- Maintaining domestic subsidy polices may require import restrictions. Canada maintains substantial import restrictions on imports of poultry and dairy products to protect their production quota policies that raise Canadian prices above U.S. egg, broiler, and dairy product prices.
- Maintaining national security may be used as justification for imposing import restriction to protect producers of staple commodities. Japan uses national security as justification for restricting rice imports.
- Protecting national health may be used as justification for imposing sanitary and phytosanitary restrictions on trade even if they may not be based on scientific research results. The EU restricts beef grown with the assistance of growth stimulating hormones even though there is a lack of scientific evidence to support an adverse affect on health. Likewise, for a period of time, the USDA prohibited the importation of cattle from Canada. This was done even though mad cow disease (BSE) was found to exist in both the United States and Canada and both countries were using scientifically sound methods to control and eradicate the disease.
- Protection against cheap labor is often asserted by labor unions and other protectionist advocates as a reason for imposing barriers to trade.[41] For example, unions may seek protection against imports of meat from Mexico as protection against cheaper Mexican labor. These protectionist attitudes spill over to advocacy of more strict immigration policies. This clearly has happened with regard to the migration of Hispanics to the United States, although there are other sociological and political arguments that play an important role in immigration policy issues.
- Retaliation against the policies of other countries that restrict trade may be used as a justification for imposing import restriction on unrelated commodities. Retaliation against another country's imposition of import restrictions is the starting point for trade wars.

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[40] James P. Houck. 1992. *Elements of Agricultural Trade Policies*. Prospect Heights: Waveland Press.
[41] See Walter J. Wessels. 2006. *Economics*, 4th ed. (Haauppauge, NY: Barrons Educational Series.

Import Quota Box

In the world market graph of Figure 6.7, the importing country sets an absolute limit on the quantity, Q_q, that it allows to be imported. Q_q is equal to D_q minus S_q, which increases the importing country price to P_q. With the reduced imports, the world market price falls to P_w as exports decrease to S_w minus D_w, relative to the free trade price.
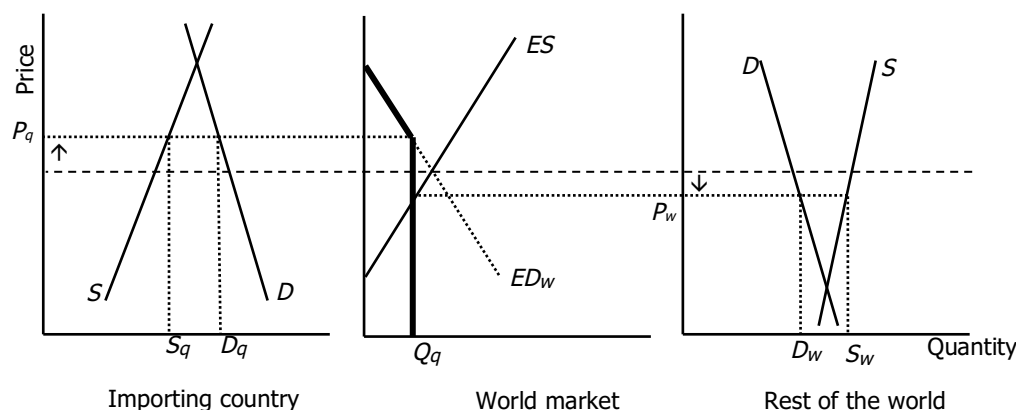

Figure 6.7 Economics of import quotas

Types of barriers to trade

Barriers to trade have direct implications for hunger because they affect the quantity and price of food available to low income consumers. As a result of the price impacts, they also affect the quantity of food production in the world as well as in the countries where food supplies are short. Barriers to trade fall into the general categories of quotas, tariffs, tariff rate quotas (TRQ), sanitary and phytosanitary (SPS) restrictions, export subsidies, export embargoes, and state traders. In this section, each of these types of protectionist policies will be discussed separately, and in several instances their effects will be illustrated with two-country trade boxes.

Quotas

A quota places an absolute limit on the quantity of product imported into a country. A zero quota means that no imports are allowed, meaning autarky exists for the importing country. The effect of a quota is to raise the price in the importing country by lowering the supply. The price in the rest of the world is likewise lowered by reducing the overall demand relative to the free trade price (see import quota box).

Quotas are the most effective form of import protection because they place an absolute limit on the quantity that can be imported. Therefore, no matter how efficient an exporting country may be, once the quota is reached, the market cannot be further penetrated. Quotas, therefore, override the principles of both absolute and comparative advantage. For this reason, the WTO has given particular attention to quotas as a barrier to trade, as will be seen in the next chapter.

Tariff Box

In the world market graph of Figure 6.8, the tariff imposed by the importing country has the effect of shifting the excess demand curve down vertically by the amount of the tariff, P_t minus P_w. The effect is to reduce world trade to Q_w, equal to D_i minus S_i imports and S_e minus D_e exports. As trade declines, the world price, P_w declines relative to the free trade price.
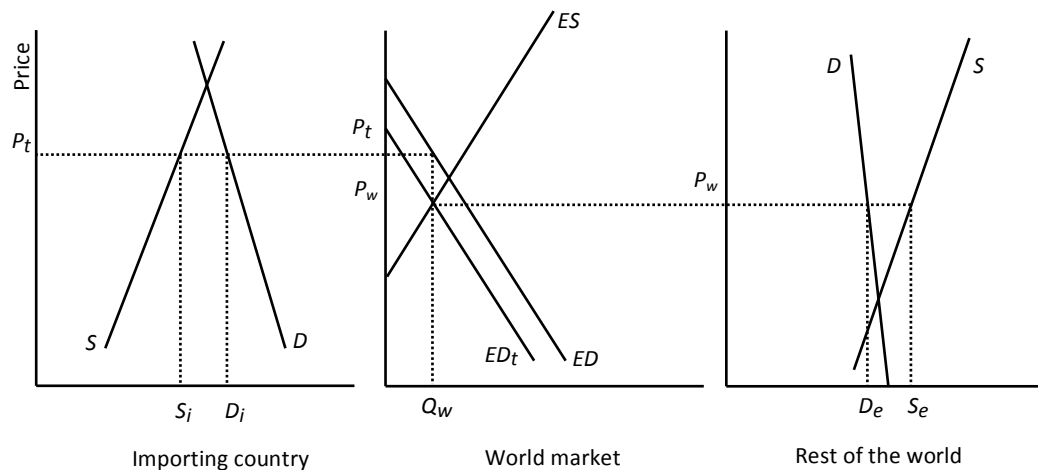

Figure 6.8 Economics of tariffs

Tariffs

Tariffs are taxes levied on products as they enter a country. The tax may be either specific (e.g., cents per bushel) or ad valorem (a fraction of the value of the imported good). Although tariffs were once used primarily as a source of government revenue, tariffs currently are utilized mostly to protect domestic producers from foreign competition. If a country is a net importer (imports more of a product than it exports), a tariff reduces the supply of imported products. This has the effect of raising the domestic price above the world price (see tariff box). Tariffs can also be used to protect a country's price support program from being flooded by imports.

Tariffs are trade distorting because they stimulate production in the country that employs them; they reduce trade; and they then lower the world market price. Despite these harmful effects, tariffs are preferred over import quotas and related trade barriers. Importing consumers pay higher prices and the exporter is adversely affected by the reduced sales and profits. In addition, tariffs are transparent (i.e., they can readily be detected or identified) and can be overcome if a competing country is sufficiently efficient.

Tariff rate quotas.

A tariff rate quota (TRQ), varies with the quantity that is imported. The tariff is usually low until a specific quantity of imports is reached, at which point it rises sharply. For example, to protect the dairy price support program, the United States employs both a tariff and a TRQ on imports of cheddar cheese. In 2011, the tariff was

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10 percent of the value of the cheese.[42] Once cheddar cheese imports from a country reach its quota, which is allocated among major cheese exporting countries, the tariff then increases to $1.227 per kilogram (about $0.56 per pound).[43]

A large TRQ has effects on imports that are similar to quotas because once the higher TRQ ia reached, the tariff becomes prohibitive, which is its purpose (see TRQ box). Canada operates a milk production control and price support program and has a TRQ of over 200 percent of the value of imported cheese.[44] The high tariff on over-quota imports protects Canada's high milk support prices and quotas on production. It will be seen in the next chapter that high TRQs have become the subject of WTO negotiations.

Sanitary and phytosanitary (SPS) protectionist barriers

Sanitary and phytosanitary (SPS) regulations are technical restrictions that are used to ensure food safety, protect human health, and prevent the spread of plant and animal diseases. All countries impose regulations on their food industry to protect the health of their people and to protect against the spread of plant and animal diseases and pests. SPS regulations extend these same requirements to other countries. This is not a problem as long as the SPS regulations are based on the findings of scientific research (referred to as being science-based).

SPS regulations are barriers to trade when they are not science-based and are used as protectionist measures to restrict the quantity of products entering a country. The EU restrictions on hormones used in beef production effectively eliminate imports of most beef from the United States. Its labeling restrictions on genetically modified organisms (GMOs) may have similar effects. Under certain circumstances, SPS regulations may become sufficiently restrictive that they effectively act as a zero quota. The more common case is where an absolute or comparative advantage gained from technological advance may be completely eliminated by the SPS regulation. In a contemporary context, SPS regulations are a substantial challenge for WTO trade negotiators, as will be seen in the next chapter and in the agribusiness chapter.

Export subsidies

Export subsidies are government payments to exporters to enable them to sell a product in the world market at a price lower than the domestic price. Effectively, it reduces the price of an exporting country's product. For example, if an exporter must pay $120 for a ton of wheat in the local market, but the world price is only $100 per ton; a government subsidy to the exporter of at least $20 per ton is necessary for the export sale to occur. The exporter, in essence, pays the buyer $20 per ton to buy the more expensive wheat. All export subsidies are not transparent dollar subsidies. They may also be in the form of reduced charges for credit, transportation, or a quantity bonus given by the government from commodity stocks it holds. For example, a government might offer a buyer one ton of wheat free for every two tons that it buys—effectively a 33 percent reduction (subsidy) in the price.

For the exporting country, the economic impact of export subsidies is to expand demand, reduce stocks, and lower storage costs in the exporting country. However, the greater supply being offered at a lower price has the direct effect of reducing the world market price (see export subsidy box).

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[42] United States International Trade Commission. 2011. "The Harmonized Tariff Schedule Of The United States." Washington, D.C.: USITC. Available at: http://hts.usitc.gov/ (accessed August 8, 2011).
[43] U.S. International Trade Commission.
[44] Agriculture and Agri-Food Canada. 2009. "TRQ Fact Sheet—Cheese." Ottawa, CA: Available at: www.agr.gc.ca/itpd-dpci/cheese.html (accessed July 10, 2009).

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Export Subsidy Box

In the world market graph of Figure 6.10, the exporting country pays a subsidy to exporters of P_e minus P_w. The world market perceives this as a shift in the world market supply from ES to ES_s. The resulting lower world market price, P_w, leads to reduced production in the rest of the world, and the quantity demanded increases. While producers in the exporting country enjoy higher than free trade prices, those in the rest of the world suffer the economic consequences.
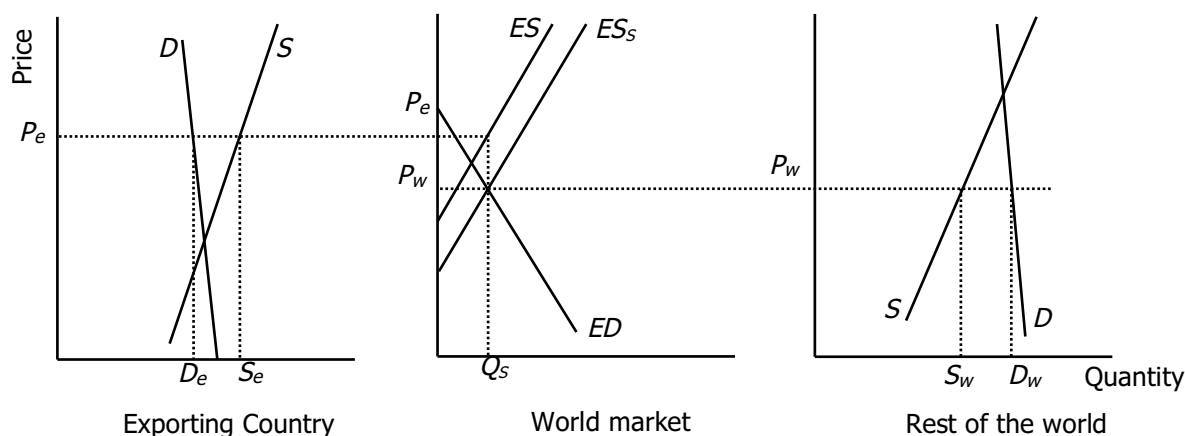

Figure 6.10 Economics of export subsidies

Farm program subsidies

In chapter 5, the effects of various farm subsidies were discussed. The economic impacts indicated that if the subsidy was coupled to price or production, it would have the effect of increasing supplies and lowering the market price. From an analytical perspective, this effect is the same as an export subsidy, meaning that coupled farm subsidies have the effect of lowering international prices and reducing the incentives of farmers in the rest of the world to produce. However, in contrast with an export subsidy, consumers in the United States and rest of the world all realize the benefits of lower market prices.

Export embargoes

An export embargo is a suspension of exports by one or more countries to one or more countries. Embargoes are typically utilized as an emergency measure when an exporting country concludes that there is a danger that its stocks of a staple commodity are getting sufficiently low that it may run out of the commodity. Alternatively or in addition, its prices may reach a sufficiently high level that there is danger that election results may be adversely affected or a political revolt may occur (which may be interpreted as being one and the same). Embargoes generally do not work in international trade because of the many options that exist to move commodities internationally through third countries and through third parties.

The U.S. experience with export embargo issues is both interesting and revealing. In 1973, the U.S. embargoed exports of soybeans in the face of impending shortages of soybean meal for poultry and hog production and high

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