CHAPTER I

Prices, Intercommunity Trade, and the Gains of Trade

§ 1

The Relation of Prices in One Country to Prices in Another

Through the influence of trade, the price in any country of any special kind of goods tends toward equality with the price of the same goods in other countries with which the first one trades. Cost of carriage, of course, must enter into the selling price of any kind of goods. Due to the natural productivity of land, greater efficiency of labor, better capital equipment, or other cause, some goods will probably be produced with less relative cost in one country than in the others trading with it. These goods will tend to be cheaper in the country having such an advantage, and to be sold by it to the others. The price of such goods in the other countries cannot, for any length of time, be higher than in the exporting country by much more than the expense of transportation or, if trade is restricted, the expense of transportation plus tariff charges; for if the price is much higher, none of the goods in question will be sold in the country where they are produced, until enough has been sent abroad to more nearly equalize prices. Neither can the price abroad of goods produced under competitive conditions, be less than the price in the producing country

plus cost of transportation and tariffs, if any of the goods at all are sent abroad.[1]

To illustrate, suppose a certain kind of cloth to be selling at wholesale in England for (the equivalent in English money of) $1 per yard. Assuming a transportation and tariff expense of 50 cents a yard, it would sell in Canada, wholesale, for $1.50. Suppose, next, that the Canadian demand raised the Canadian price to $1.75 per yard. If the carrying and tariff costs remained at 50 cents, and the Canadian price $1.75, obviously no one would sell the cloth in England for much less than $1.25. If, on the other hand, the Canadian demand should decrease so that the cloth could not be sold in Canada for more than $1.25, then none of this cloth would be sent from England to Canada unless the English price fell to $0.75. If, because the whole supply had to be sold in England, the price should fall to $0.75 per yard, a surplus might be exported. Otherwise, it would pay better to sell all the cloth in England.

It will be seen that the general level of prices in one country is not by any means necessarily the same as the price level in the other countries with which it trades. If we imagine two countries side by side, with no tariff barriers between them, and with a zero cost of transportation from any part of one to any section of the other, we may say that the price of each commodity in one country must equal, measured in the same standard of value, its price in the other. Obviously, if all prices

[1] Except as goods may be sold cheaper abroad temporarily in order to develop new business, and for other special reasons of very limited application. A tariff protected monopoly will purposely limit its sales at home in order to realize monopoly profits, while selling abroad, where competition must be met, at competitive prices.

are exactly the same, then the general average, the level of prices, must be exactly the same in one country as in the other. In comparing the price levels of two countries, we may take as a unit that amount of each kind of goods, in one of the countries, which sells for \$1 (or £1 or some other standard monetary unit). The average price in that country will be \$1. We may then learn the price in the other country, of each such unit amount of goods, and take the average of these prices. This gives us the general level of prices in the second country as compared with that of the first.[1] The most satisfactory average is, of course, a weighted one, *i.e.* an average in which each kind of goods is given an importance consistent with the proportionate value of it sold. By the method of averaging here described, it is obvious that, given costless transfer of all goods and services, the average price or price level in the one country would equal the average in the other; for all prices would be exactly the same in each, and an average, weighted or unweighted, must be the same.

As it is, however, the goods which are the special product of each country tend to be lower in that country, and to be higher in other countries, by an amount equal to the cost of transportation and other obstacles in the way of trade. This makes it unlikely that the average of prices in one country will be the same as the average in another country. Thus, wheat may be lower in price in Canada than in England by the cost of transportation. At the same time, cotton cloth may be lower in price in England by the cost of transportation. There

[1] Cf. Fisher's suggestion for comparing the price levels in the same country for two or more years, *Elementary Principles of Economics*, New York (Macmillan), 1912, p. 250.

is no logical reason for assuming that the average of prices (the level of prices) is the same. The lower priced wheat, in Canada, may conceivably have so great an importance as to make the weighted average of prices lower there, despite the higher relative price of cotton cloth. Or cotton cloth, cutlery, shoes, and machinery, all lower in England, may make average prices lower there even though wheat is lower in Canada. Or again, though many articles may be lower in price in England, yet these may be for the most part such things as houses, practically non-transportable, or goods transportable only at such great expense as generally not to be transported. A few things may be lower in Canada by enough to pay for shipment to England. Under these circumstances, average prices will certainly be lower in England although trade may be in perfect equilibrium. A dollar (or its mint equivalent in English money) will buy more in England, yet Canadian money will not flow to England for goods transportable at great expense, in any larger quantity than English money will flow to Canada for a few goods only slightly cheaper in Canada but easily transported. Wheat may be enough lower in Canada to pay for export, and cotton cloth enough lower in England. Everything else may be lower in England, yet not enough lower for shipment to Canada. If this is the situation, the general level of prices in England must be, and must remain, lower than in Canada.

But though the price levels of England and Canada are not, on these hypotheses, the same, they are nevertheless related. The level of prices in England may be continuously lower, but will be lower only to a certain extent. A rise of Canadian prices (the result of gold

discoveries, expansion of bank credit, inflow of gold from the United States, or other cause) will increase the importations by Canada from England, despite transportation and other obstacles, and will tend to raise English prices also, thus leaving the relation between Canadian and English prices substantially as before. Similarly a rise in English prices will affect prices in Canada; and a fall of prices in either country will affect prices in the other.

§ 2

What Prices Tend to be Lower in a Given Country, than Prices of the Same Kinds of Goods in Another Country

It is apparent that prices of all goods are not likely to be lower in one country than in another if transportation and tariff conditions are such as to make any appreciable trade profitable. For unless the cost of transportation, plus other obstacles, is very great, the low prices in the one country will cause flow of gold in that direction. This will continue until the price of some good or goods becomes lower in the previously high price country than in the other.[1] The condition of equilibrium will be realized at a point such that some prices are lower in the one country and some lower in the other. This may be called a moving equilibrium, or an equilibrium such that, other things equal,[2] about the same value of trade would flow in each direction.

[1] This principle is expressed with great clearness in Taussig's *Principles of Economics*, New York (Macmillan), 1911, Vol. I, pp. 486, 487.

[2] A gold mining country may export a surplus of gold and import a surplus of other things, but exports and imports as a whole, none the less, tend to be equal. A country which has large investments abroad will usually import more than it exports of goods in general. See Part I, Ch. V, § 7.

The conclusion that some prices will be lower in one country and some prices in others, is true in principle even if the countries trading have different monetary standards, *e.g.* if one country has a gold and the other a paper standard. *We saw, in the last chapter, that whatever the relation* or the non-relation of the monetary standards of two countries, trade might take place between them; and that the flow of this trade in one direction would tend, in the long run, to equal the flow in the other.[1] Any tendency to an excess flow in one direction would be self-terminating. When the position of equilibrium was established, some prices would be the lower in each country in the sense that the money of either country would, through the process of gold shipment or through the mechanism of the exchanges, buy more of some goods in the other country than at home.

What conditions determine which prices shall be lower in one country than in another or others? The answer is: those goods are lower in price in any country, for the production of which it has relatively great advantages. These advantages may lie in geographical position, may depend upon soil and climate or the possession of certain mines or other natural resources, or may, in certain lines of activity, depend upon high acquired efficiency of labor. Those goods in the production of which a country has a relative advantage and which, therefore, it sells at a low money price, will, of course, assuming trade to be free, be the things it exports. The people of other countries will avail themselves of the opportunity to buy these goods cheaply. The advantages for producing them will mean a large amount of labor and capital specializing in their production in the

[1] See Part I, Ch. VI, §§ 6, 7, 8, 9.

exporting country. Since the low prices at which these goods are sold result from the relative advantages in *that country for their production, therefore these low prices do not signify that the industries are unprofitable.* So much can be produced with a given amount of labor that, even at low prices, the yield to industry is high.

Similarly, the existence of a high level of money wages in any country, does not mean that in such a country some goods cannot be produced, and exported, at low money cost. The United States may have money wages twice as high, per day, as England. Yet if the American agricultural laborer can produce over twice as much wheat per day, because of the extent of good agricultural land, as can be produced in England with the same labor, then the money cost of the American wheat will be no greater and may be appreciably less per bushel. In selling his wheat in the foreign market, the farmer is not primarily concerned with the matter of how much he has to pay his men by the day. He is greatly concerned with the matter of what he must pay them per bushel produced. It is obvious, therefore, that a productive country can have at the same time low prices of goods which it exports, and high wages to the producers of those goods.

Neither is it essential, in order for a country to export certain goods at a low price, that it should be able to produce those goods more efficiently, *i.e.* with less labor expenditure, than other countries. All that is necessary is that for the production of such goods, its disadvantages shall be less than for the production of other goods. The converse of this proposition is that all goods will not necessarily be produced at the lowest price, in the country where they can be produced with

least labor. Even if the United States can produce woolen cloth with less labor expenditure than England, the advantage of the United States in the production of steam and electric engines and other machinery, may be still greater. If a given amount of labor in the United States will produce 10 per cent more woolen cloth or 100 per cent more engines and machinery than in England, then the United States gains more by producing the engines and machinery and importing the cloth. The price at which producers in the United States could afford to sell machinery, etc., would therefore be comparatively low, while it would require a relatively high price of woolen cloth to induce Americans to manufacture it. On our assumption, American labor and capital can secure more money, in the English market, for the product of a day's labor in making machinery than for the product of a day's labor in a cloth factory, and still undersell English machine makers. On the other hand, English labor and capital can get more money by selling, in the United States, the product of a day's labor in the cloth factory, than for the product of a day's labor in an English machine making factory, and yet undersell American cloth. If the United States is absolutely more productive in both lines, as well as in most or all others, it might be better, economically, for the people of England to migrate to the United States. But so long as they choose to remain in England, they will be better off if they specialize in the production of cloth.

It appears, therefore, that under conditions of entire free trade, there would be a high degree of geographical specialization; and that each industry would be located where the facilities for it were *relatively* the best, all things, including transportation cost, considered. In

fact, of course, the location of industries is considerably affected by tariffs. The higher, and the greater in number, are these trade restrictions, the more largely is industry turned from its natural channels. If there were a sufficiently high tariff around the borders of Maine, cotton could perhaps be raised in Maine hothouses. Similarly, a high tariff levied by South Carolina on steel rails brought in across its boundaries, might encourage the manufacture of steel rails for use within the state, in the midst of the South Carolina rice fields, with iron brought from the Lake Superior ore regions and coal imported from Pennsylvania.

§ 3

Trade between Two Communities when Each has an Absolute Advantage over the Other, in One or More Lines of Production

Let us now illustrate how the case stands as to prices and gains from trade when two communities engage in trade, each having an absolute advantage in one line of activity over the other. We shall suppose the trade to be between two of the states of our own country, South Dakota and Indiana. South Dakota we shall take as an example of a wheat-producing section and Indiana as an example of a corn-producing section. Suppose that one day's labor in South Dakota, of one man, produces 2 bushels of wheat *or* 1 bushel of corn, while in Indiana the same amount of labor produces 1 bushel of wheat *or* 2 bushels of corn. Assume, also, no cost of transportation and no tariff interferences with trade. If wheat sells in South Dakota for $1 per bushel, then a day's labor in the wheat fields will yield $2. No

one, therefore, will be satisfied to produce corn in South Dakota for less than $2 a day. But since only 1 bushel of corn can be produced, $2 reward will necessitate a price of $2 a bushel. Whatever the price of wheat, corn must sell, if produced in South Dakota, at double that price per bushel; and therefore, if we assume $1 per bushel for wheat, corn must sell at $2. No one in South Dakota will produce it for appreciably less. If it can be imported for less, it will be.

With Indiana the case is reversed. Corn, by our assumption, is produced there the more easily. If the corn can be sold for $1 a bushel, it will give producers $2 a day. Naturally they will not care to produce wheat for a less return, and therefore, if Indiana is less adapted to wheat production, they must get a higher price ($2 a bushel) in order to encourage its production in Indiana.

Both states gain by the trade. South Dakota can produce in two days' labor, 2 bushels of wheat at, say, $1 per bushel and 1 bushel of corn at $2 a bushel, a total of 3 bushels or $4 worth. Indiana can produce in two days of labor, 1 bushel of wheat at $2 and 2 bushels of corn at $1 a bushel, making a total of 3 bushels or $4 worth. If they trade, each state can specialize. South Dakota can produce in two days of labor, 4 bushels of wheat at $1 per bushel, or $4 worth; while Indiana can produce with two days of labor available, 4 bushels of corn at $1 each or $4 worth. Trade between the two states will make it possible (assuming an even exchange) for each state to get, from its two days of labor, 2 bushels of corn *and* 2 bushels of wheat, instead of 2 of one cereal and 1 of the other. There will be no gain in money values. In either case the total is $4 worth for each state. But there will be a considerable differ-

ence in what the money will buy. In the case we have assumed, money incomes will be the same with the trade as without it,[1] but the money "cost of living" will be appreciably reduced; $4 will buy a total of 4 bushels instead of only 3.

It is clear that, under our assumed conditions, Dakota wheat and Indiana corn could and would be sold the more cheaply; that, therefore, the people of Indiana would naturally buy Dakota wheat at a lower price (*e.g.* $1) rather than Indiana wheat at a higher (*e.g.* $2), while the people of South Dakota would choose to buy corn from Indiana; also that this arrangement, so obviously to the individual interests of the persons concerned, would make both states the richest. Is it necessary to point out that what is true as regards two states, territories, or sections under the same general government, is also true of two different nations? If Indiana and South Dakota gain by such a trade when united as parts of one nation by the government at Washington, it is reasonable to suppose that they would gain in just the same way and to the same extent if each were a separate nation. And in an exactly analogous way, the United States gains by trade with Canada.

§ 4

Trade between Two Communities or Countries when One is More Productive than the Other in Several or in All Lines, but has a Greater Advantage in One Line or in a Few Lines than in the Rest.

Let us next illustrate the relations of money prices, and the gains from trade, when one country or community

[1] See, however, Ch. IV (of Part II), § 2.

has an advantage over another in several or in all lines, but a greater advantage in one than in the others. Assume that in Canada one man's labor for a week will produce 20 bushels of wheat or 14 yards of linen cloth, while in Ireland, a week's labor of one man will produce 6 bushels of wheat or 10 yards of cloth. Ireland is at a disadvantage in both lines, but her disadvantage is less in linen manufacture, and Canada's advantage is greater in wheat production. Both gain if Ireland produces linen and Canada produces wheat and they trade. Without trade, two weeks of labor in Canada, equally divided, would produce 20 bushels of wheat *and* 14 yards of linen. In Ireland, two weeks of labor would produce 6 bushels of wheat *and* 10 yards of linen. Similarly, four weeks of labor in Ireland would produce 12 bushels of wheat *and* 20 yards of linen. Suppose, now, that they trade, and that a bushel of Canadian wheat buys a yard of Irish linen. Then Canada can produce, in two weeks, 40 bushels of wheat, and, by trading half of it for linen, have 20 bushels plus 20 yards, instead of 20 plus 14. Ireland can produce in two weeks 20 yards of linen, or in four weeks, 40 yards. By trading half of this linen for wheat, Ireland will have 20 yards plus 20 bushels instead of 20 plus 12, as a reward for four weeks' work. On our present hypothesis, Ireland must exchange the product of two weeks' work with the product of one week of work in Canada, yet gains more by so doing than can be gained by refraining from the exchange of goods.

That, in the absence of trade restrictions or excessive cost of transportation, such trade will automatically take place, becomes evident so soon as we ask what prices will be charged by the producers in each country.

If Canadians are able to produce wheat for \$1 a bushel (and, therefore, \$20 a week), they will, of course, be unwilling to produce linen for any smaller weekly return, *i.e.* for less than \$20 for 14 yards, or \$1.43 a yard. If linen can be imported from Ireland for less than \$1.43, say for \$1 a yard, Canadian wheat producers will buy it from Ireland, and would-be Canadian linen manufacturers will find more profitable employment in wheat raising.

On the other hand, Irish producers, if selling linen to Canada at \$1 a yard, will be earning only \$10 a week, though considerably more than they could earn producing 6 bushels of wheat at \$1 a bushel. To induce an Irish linen worker, under these circumstances, to enter wheat production, would require \$10 a week or \$1.67 per bushel. Hence, Irish linen producers will prefer to buy wheat in Canada; and, with Canada demanding Irish linen, Irish wheat producers will find a more profitable occupation in making linen. As we have seen,[1] it is altogether probable that some goods will be lower in price in each country than in the other. All prices could not long be lower in either, since the resulting inflow of gold would raise them. While there is no special virtue in the particular prices of \$1 a bushel and \$1 a yard here assumed for illustration, the conditions of production in each country, as stated in the hypothesis, are such as would make the wheat of Canada and the linen of Ireland the cheaper goods.

Trade between nations, as well as trade between parts of the same nation, results in a gain to both sides, for it makes possible geographical specialization and therefore a more productive employment of the factors of industry.

[1] § 2 of this chapter (I of Part II).

In theoretical discussion, international trade is sometimes separated from intranational trade, because of the fact that labor and capital flow, as a rule, with greater difficulty, from one nation to another.[1] Distance and expense, a strange government, separation from old friends and old associations, unfamiliar customs, different language, different religion, — any or all of these considerations may prevent the free movement of labor from one country to another. Some of them will cause hesitancy in making foreign investments. The argument is that within a nation, labor and capital will move freely to those localities where they receive the largest return. If Connecticut were more productive in every way[2] than Massachusetts, then labor and capital from Massachusetts would flow freely into Connecticut until conditions[3] were equalized, until the greater crowding of Connecticut and the less crowding of Massachusetts in comparison with resources, made labor and capital no more productive in the former than in the latter state. If Massachusetts had superiority in some lines and Connecticut in others, they would trade; while if Connecticut were superior in all lines, Massachusetts people would largely migrate. But if labor in the United States is more productive than in England, even in all lines, most of the English people may nevertheless prefer to stay at home. They will then simply produce those things in which their disadvantage is least. There is really no difference in principle between international and intranational trade, as such. In any case there is some immobility of labor and capital. In any case a sufficient inducement will at least partly overcome

[1] See Mill, *Principles of Political Economy*, Book III, Ch. XVII, § 1.
[2] At the margin of production.
[3] At the margin.

the immobility, — witness the flow of Italian, Greek, and Polish labor into the United States. So the difference is one of degree and not one of kind. Also, such difference as exists may be as marked between widely separated parts of the same nation or empire, *e.g.* Maine and Montana, or Ireland and Canada, as between different nations, *e.g.* Germany and Austria. In either case, so long as labor and capital remain where they are, specialization is worth while.

§ 5

Summary

In this chapter we have discussed trade from the standpoint of relations of prices and price levels, location of industries, and the gains of trade. Through the influence of trade, the price in any country of any kind of goods tends towards equality with the price in other countries. The difference will not much exceed cost of carriage plus tariffs, etc. As a consequence, the price level of one country is related, if they have a common value standard, *e.g.* gold, to the price level of other countries, but is unlikely to be the same. The prices of some goods are lower in one country and the prices of other goods are lower in other countries, according to what each country can produce with greatest relative advantage.

If a country has great advantages for production in any line, it can produce in that line with great profit and can pay high wages, while yet selling abroad at low prices, the goods so produced. It is not necessary in order that a country shall export certain goods at a low price, that it shall be able to produce those goods with

less effort than their production would require elsewhere; but only that its disadvantage shall be less in that line than in others. On the other hand, if one country has an advantage over another in nearly all lines, but a greater advantage in some lines than others, it gains most by specializing in those lines where its advantage is greatest. Under conditions of free trade, there would be, then, a large amount of geographical specialization, each country devoting its energies to those lines where its productive capacity is relatively the greatest. Industry is turned the more from the lines it would otherwise follow in each country, the more widely and intensively restriction is followed. The gains from trade, when each of two communities has an absolute advantage over the other, and when each has a relative advantage in some line, were illustrated by hypothetical figures.

The distinction sometimes made between international and intranational trade was referred to, viz., that in the latter case, greater advantages of one community in all lines would cause movement of population, while in the former, immobility of labor and capital is more in evidence. In the former case (that of international trade), therefore, differences in *relative* advantages may sometimes be the principal basis of trade. But it was pointed out that this distinction is but a distinction in degree, and that, in any case, political boundaries are often less important factors in immobility of labor and capital than distance and natural barriers.