

Understanding the Gains from Trade

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International trade is justified on the grounds that trade is beneficial for *all* countries and persons involved; there are no such things as 'losers' in trade. Here, I shall explore the gains from trade by explaining the bases of international trade theory. This shall be achieved by the adoption of a convenient backdrop; let's assume an employee in the clothing industry has lost his job. How do I explain the gains from trade to this person whilst avoiding a thump?

My primary concern in my unhappy situation of having to explain the gains from trade to this ex-employee is my own physical well-being; for in an endeavour to explain the gains from trade - essentially, the very trade that has caused his job loss - I risk being the object of his violence and frustration at the entire free trade system. Hence, my first step is to ascertain his frame of mind and to gear my explanation accordingly. Regardless of the worker's character, he will be interested in learning why he lost his job. Since my task is to explain the gains from trade to him, it is via this explanation that I shall, at least partially, clarify the reasons for his redundancy. Now, he is obviously interested first and foremost in his future prospects. I shall explain that, depending on the cause of his redundancy, his ability and ease of

being re-trained are affected, but that, in theory, he shall be at least as well off as he was before he lost his job. Finally - and whether I make this 'confession' shall depend entirely on his demeanour - I may admit to him that in the real world, where there are no such things as 'ideal' lump-sum transfers or Walrasian general equilibrium, there are no guarantees that he shall be as well off as he was before trade.

Assuming that the worker lives in a developed country such as Ireland, it is probable that he lost his job due to import competition in an industry which still exists in his country; but in the branch of production in which he unfortunately specialised, it became more profitable to import. The classical comparative advantage argument, where the entire industry gives way to import competition, also remains a possibility, and I shall deal with this first.

Comparative Advantage

"Each region is best equipped to produce the goods that require large proportions of the factors relatively abundant there...clearly, this is a cause of inter-regional trade, just as varying individual ability is a cause of individual exchange" (Ohlin, 1935). The theory of comparative advantage simply states

that it pays a country to trade by exporting the good it can produce relatively more cheaply and to import the relatively more expensive good, (Krueger, 1991). Ricardo, the first to formalise this theory, demonstrated that even though one country may have the absolute advantage in the production of *all* goods, trade is *still* worthwhile; as long as the opportunity cost of producing some good is lower at home than in the other country, that is, as long as each country has a comparative advantage in some good, then trade is mutually beneficial (or, at the limit, one country shall gain and the other shall neither gain or lose). He used the example of a two country, two good world, with one factor of production (labour) and compared their costs of production in units of labour-hours:

	1 unit of wine	1 unit of cloth
Portugal	80	90
England	120	100

In other words, it costs Portugal 80 hours of work for one unit of wine and 90 hours of work for one unit of cloth, whereas it costs England 120 hours of work for one unit of wine; and 100 hours of work for one unit of cloth. Therefore, the opportunity cost for Portugal of one unit of wine is $8/9$ units of cloth, and for England, is $12/10$ units of cloth. Thus, if Portugal can get cloth for less than $9/8$ units of wine, or, alternatively, get more than $8/9$ units of cloth for 1 unit wine, trade will be to its advantage, and if England can get wine for less than $12/10$ units of cloth, trade will be to its advantage. So, if the price

of wine lies between $8/9$ cloth and $12/10$ cloth, both countries can gain from trade, and thus, trade will take place (Sodersten, 1971). However, this is only half the picture, for it ignores the importance of consumer tastes and preferences and the distribution of income, which have an important effect on the pattern of trade. According to Ohlin (1935), it is the price-mechanism, resting on the demand and supply conditions, that determines trade amongst nations. Representing the demand for two goods in one country diagrammatically, we can clearly see that trade leaves us at least as well off as autarky.

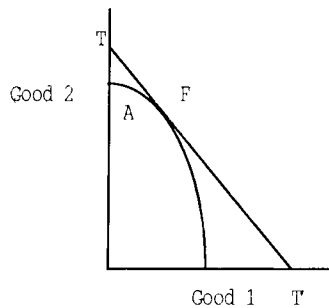


Figure 1

Before trade is opened, production and consumption take place at A. When trade is opened at a lower world price, given by the slope of the line TT', production moves to F. Consumption is now free to move anywhere along the line TT'; the imports in one good being paid for by an equal and opposite movement in the exports of the other good. Clearly, assuming the consumers' indifference curves are well-behaved,

the nation will end up at a higher level of utility (Kenen, 1989). Finally, it is of some interest to see that this example can be extended to an economy with a continuum of goods (Dornbusch et al, 1967); each country will efficiently produce all those commodities for which domestic unit labour costs are less than or equal to foreign unit labour costs. Of obvious concern to our factory worker is the fate of the workers in those industries which *did not* enjoy a comparative advantage; how were they compensated for their loss of job? We shall turn to this question in due course; for the moment, we recall the second, more likely, cause of redundancy for our worker; namely, intra-industry specialisation.

Intra-Industry Specialisation

We distinguish between two kinds of trade: inter-industry trade based on comparative advantage, and intra-industry trade based on economies of scale. Krugman (1983) explains intra-industry specialisation thus:

"The industrial structure of a country's production will be determined by its factor endowments. Within each industry, however, there is assumed to be a wide range of potential products, each produced under conditions of increasing returns. Because of these scale economies, each country will produce only a limited subset of the products in each industry, with the pattern of intra-industrial specialisation - which country produces what - essentially arbitrary".

When we relax the rather limiting and unrealistic assumptions of constant

returns to scale and perfect competition, essential characteristics of the Heckscher-Ohlin model, we find increasing returns to scale as an alternative, and often more important, explanation of trade than the older model of comparative advantage. (The US exports about \$1 billion of automotive engines and imports almost \$3 billion; it imports and exports approximately the same amount of batteries, and so on (Kenen, 1989). The rationale is simple; in an industry with substantial economies of scale, it is inefficient for one enterprise to produce the entire range of varieties, as by doing so it would deprive itself of the benefits of these scale economies. In industries where scale economies are very large, such as automobiles, where no one country can produce all varieties, each specialises in certain ones, and trades, so each reaps the benefits of the economies of scale, and consequently, each country is better off. What will happen to our worker under this scenario?

While the worker may find the gains from trade to his nation as a whole academically interesting, his primary concern will obviously be the repercussions for himself: does he gain or lose? The answer to this question depends on several factors: whether his job loss was the result of a growth in inter- or intra-industry trade; and the type of economy are we dealing with - a market driven one, or one more heavily geared toward welfare. I shall deal with each of these possibilities in turn.

If the worker was made redundant due to intra-industry trade, the implications for his income and

future prospects are not so gloomy. If trade liberalisation takes place between two countries with similar relative factor endowments, where scale economies play a large role, all factors can gain from trade. Labour as a factor of production will still be in demand; its price will not fall. Meanwhile, the worker who lost his job in one area of clothing will pick up employment in another, as he already has the necessary skills for the occupation, and thus, will not need much re-training. If we assume, however, that the worker lost his job due to inter-industry trade, that is, because he is living in the capital-abundant country and was made redundant by the cheaper import of the goods he once produced, then according to the Stolper-Samuelson theorem, the price of labour will fall. This is because trade raises the relative price of the export good (as we have seen in the Ricardian example) and reduces the relative price of the import good and has the same effects on the prices of the factors of production going into them. So, assuming he finds a new job, he will be paid less than he was getting before trade took place. We must also keep in mind that finding a new job may not be easy; since the clothing industry, in which he was employed, no longer exists close to home, he may have to re-train in a very different industry, which, depending on his age and mobility will be a more or less difficult task.

If, as under this scenario, the worker is actually made worse off by trade then, why did he agree to it in the first place? Because, according to Samuelson (1962), 'trade lovers' are

theoretically able to compensate 'trade haters' for the harm done to them.

It can be proven that trade lovers can theoretically compensate trade haters - theoretically being the operative word. The proof hinges crucially on the assumptions of the feasibility of ideal lump-sum reallocations of income and on society's wanting to reallocate in an equitable manner: "There is no guarantee that every consumer will be better off under free trade than under no trade, even though the country as a whole will be better off. Only if a policy of redistribution is pursued can free trade guarantee such an outcome." (Sodersten, 1971).

Conclusion

So, my answer to our unfortunate worker is this; indubitably, his nation in the aggregate is better off because of free trade. Depending on whether he was working in a firm that went out of business due to inter or intra-industry trade, he will have a greater or lesser chance of finding new work, respectively. Whether he will be compensated for his job loss will obviously depend on whether he finds work, but also on society's efforts to redistribute the post-trade wealth increase. Krueger (1991) has some good insights and ideas into this problem; she suggests providing short-run adjustment measures for workers and employees affected by changes in trade patterns, but "in the longer term, however, it is difficult to understand why those affected by foreign competition should be treated any differently than those affected by

technological change, changing tastes, or other variables. Policy should therefore be part of overall social policy." The best hope for our worker is economic growth, so that demand for all factors of production will rise, and for an 'ideal' policy of redistribution; under these limiting circumstances, the worker will be as well off as, or better off than he was before import competition made him redundant.

American Economic Review 73(2).

Ohlin, B. (1935) *Inter-regional and International Trade*. Cambridge: Harvard University Press.

Samuelson, P. (1962) "The Gains from International Trade Once Again", *Economic Journal*.

Sodersten, B. (1971) *International Economics*. London: Macmillan.

References

Bhagwati, J. (1988) *Protectionism*. Cambridge, Mass. and London: MIT Press.

Dornbusch, R., Fischer S., and Samuelson, P. (1977) "Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods," *American Economic Review* 67(5).

Kenen, P. (1989) *The International Economy*. Englewood Cliffs, N.J.: Prentice Hall.

Keynes J. (1936) *The General Theory of Employment, Interest and Money*. London: Macmillan

Krueger, A. (1991) *Free Trade is the Best Policy*.

Krugman, P. (1987) "Is Free Trade Passe?" *Economic Perspectives* 81(5).

Krugman, P. (1983) "New Theories of Trade Among Industrial Countries",