2.8: Welfare Impacts of International Trade

The welfare analysis of international trade can be conducted using the three-panel diagram (Figure \(\PageIndex{1}\)). The welfare impacts on wheat consumers and producers can be calculated by measuring the changes in consumer surplus and producer surplus before trade (time \(t=0\)) and after trade (time \(t=1\)). The welfare changes for the exporting nation are shown in the left panel of Figure \(\PageIndex{1}\). Prior to trade, the closed economy price is \(P_e\) at the closed economy market equilibrium, where \((Q^s = Q^d)\). After trade, export opportunities allow the price to increase to the world price \(P_w\). Quantity supplied increases and quantity demanded decreases. Consumers lose, since the price is now higher \((P_w > P_e)\) and the quantity consumed lower. The loss in consumer surplus is equal to area \(A\), the area between the two price lines and below the demand curve: \(\Delta CS = -A\). Producers receive a higher price \((P_w > P_e)\) and a larger quantity, and an increase in producer surplus equal to the area between the two price lines and above the supply curve: \(\Delta PS = +A + B\) (Figure \(\PageIndex{1}\)).

The net gain to all groups in the exporting nation, or change in social welfare \(\Delta SW\), is defined to be \(\Delta SW = \Delta CS + \Delta PS\). Thus, \(\Delta SW = +B\), since area \(A\) represents a transfer of surplus (dollars) from consumers to producers in the exporting nation (USA). Interestingly and importantly, the exporting nation is better off with international trade \(\Delta SW > 0\). However, not all individuals and groups are made better off with trade. Wheat producers in the exporting nation gain, but wheat consumers in the exporting nation lose. Trade has a positive overall net benefit.
In the importing nation, consumers win and producers lose from trade (right panel, Figure \(\PageIndex{1}\)). The pre-trade price in the importing nation is \(P_i\), and trade provides the opportunity for imports \((Q^d > Q^s)\). With imported wheat, the market price falls from \(P_i\) to the world price \(P_w\). Quantity demanded increases and quantity supplied decreases. Consumers gain at the lower price \((P_w < P_i)\): \(\Delta CS = + C + D\). Producers lose at the lower price \((P_w < P_i)\): \(\Delta PS = – C\). The net gain to the importing nation, or change in social welfare \((SW)\) is \(\Delta SW = + D\).

The area \(C\) represents a transfer of surplus from producers to consumers in the importing nation. As in the exporting nation, the net gains are positive, but not everyone is helped by trade. Producers in importing nations will oppose trade. This is a general result from our model of trade: producers in importing nations will oppose trade, since they face competition from imported goods.

The results of the three-panel model clarify and explain the politics behind trade agreements. Politicians representing the entire nation will support the overall benefits from trade, brought about by efficiency gains from globalization. However, representatives of constituent groups who are hurt by trade will oppose new free trade agreements. A large number of trade barriers are erected to protect domestic producers from import competition, including tariffs, quotas, and import bans.

The world is better off due to globalization and trade: the global economy gains areas \(B + D\) from producing wheat in nations that have superior grain production characteristics. These efficiency gains provide real economic benefits to both nations. However, globalization requires change, and many workers and resources will have to change jobs (and many times locations) to achieve the potential gains. Labor with specific skills and other inflexibilities will have high adjustment costs to globalization. However, there have been huge increases in the incomes of trading nations due to moving resources from less efficient employments into more efficient employment over time.

The three-panel diagram highlights who gains and who loses from trade. Producers in exporting nations and consumers in importing nations gain, in many cases enormously. Producers in importing nations and consumers in exporting nations lose, and in many cases lose a great deal. Industrial workers and textile workers in the USA and the EU used to be employed in one of the major sectors of the economy. Today, these jobs are in nations with low labor costs: China, Indonesia, Malaysia, and Viet Nam are examples.

Should a nation support free trade? The economic analysis provides an answer to this question: unambiguously yes. The overall benefits to society outweigh costs, with the net benefits equal to areas \(B\) and \(D\) in Figure \(\PageIndex{1}\). Economists have devised the **Compensation Principle** for situations when there are both gains and losses to a public policy.
**Compensation Principle** = A decision rule where if the prospective winners gain enough to compensate the prospective losers, then the policy should be undertaken, from an economic point of view.

The actual compensation can be difficult to achieve in the real world, but the net benefits of the program suggest that if society gain from the policy, it should be undertaken.

Agricultural producers in most high income nations are subsidized by the government. These subsidies can be viewed as compensation for the impacts of the adoption of labor-saving technological change over time. Technological change has made agriculture in the USA and the EU enormously productive. However, it has led to massive migration of labor out of agriculture. Subsidies can be viewed as the provision of compensation for the massive substitution of machines and chemicals for labor in agricultural production.