International Trade and Protectionism. Here is some alphabet soup for you, NAFTA, GATT, and the Euro. And then of course, there are words like tariffs, and quotas, and trade deficits. In dumping and no-tariff barriers and protectionism. People across the globe are now speaking this language of international economics on television, in the newspapers, in corporate offices, in stores and in union halls. And while it may seem like a foreign language to you now, it is a language that we must come to master.

The idea of absolute advantage as a basis for trade was set forth by Adam Smith. A country that can produce a good at a lower cost than another country is said to have an absolute advantage in the production of that good.

For example, Saudi Arabia has millions of barrels of cheaply accessible oil but growing food in its desert climate and sandy soil is very expensive. In contrast the United States can grow food cheaply in its tempered climate and fertile soil but American oil isn't as cheap to extract as Saudi crude. Because it can produce a certain amount of oil with fewer resources. Saudi Arabia has an absolute advantage over the United States in producing oil. Just as the United States has an absolute advantage over Saudi Arabia in producing food. And the theory of absolute advantage would predict. In this case, quite correctly. That America should sell food to Saudi Arabia and buy oil from it.

At first glance, the principle of absolute advantage appears to make imminent sense. Nonetheless it has a significant implication in one that is badly flawed. Take a look at this table to see what I mean. Here we have two countries, Germany and Algeria, producing two goods, food and autos, with the same amount of resources. From the table, it is clear that the Germans are able to produce both food and autos with fewer resources than Algeria. In this case, the theory of absolute advantage would predict that Germany has nothing to gain from trading with Algeria. After All why should Germany trade with a country that cannot produce anything as efficiently as it can? Why indeed. Because this is where a more subtle understanding of trade patterns enters the picture. This more subtle understanding is embodied in the theory of comparative advantage.

The theory of comparative advantage was first set forth in 1817 by the same English economist who helped us in an earlier lecture develop a theory of land rent, namely, David Ricardo. The historical context for the development of Ricardo's theory of comparative advantage is interesting in and of itself.

At the time, Europe was considering protecting its markets from American imports through the use of tariffs or quotas.

Europe's concern was that America with its abundant land and inexpensive labor would have an absolute advantage in producing many goods and might therefore not import anything from Europe, but merely export its cheaper goods, thereby destroying jobs in Europe.

Riccardo addressed these concerns by articulating the principle of comparative advantage. It holds that each country will benefit if it specializes in the production and export of those goods that it can produce at relatively low cost. Conversely, each country will benefit if it imports those goods that it produces at relatively high

costs. And it is this simple principle that provides the unshakable basis for international trade.

To demonstrate the theory of Comparative Advantage, let's go back in our time machine to Ricardo's day and imagine a debate between Ricardo and another economist in front of a group of European trade ministers trying to decide whether to impose protective tariffs on America. The other economists we will call John Strawman and he is a strong supporter of the theory of absolute advantage. In fact, Strawman has just presented this table in support of his recommendation for a heavy tariff against American imports.

This table illustrates how much labor is necessary to produce food and clothing in America verses Europe. Which country has the absolute advantage in food? And which has the absolute advantage in clothing? Clearly, America has the absolute advantage in the production of both food and clothing. In America, it takes one hour of labor to produce one unit of food, while a unit of clothing requires two hours of labor. In contrast, in Europe, the cost of one unit of food is three hours of labor, while one unit of clothing costs four hours of labor. But looking at this table, the skeptical David Ricardo asked John Strawman the same question I'll now ask you. Which country has the comparative advantage in food versus clothing? From the table, you can see that America has the comparative advantage in food while Europe has the comparative advantage in clothing. This is because clothing is relatively more expensive in America, while food is relatively more expensive in Europe. And what I mean by that is this. In America, a unit of food costs one half that of a unit of clothing. However, in Europe a unit of food costs 3 4ths that of a unit of clothing.

You should see at this point that if the Europeans could trade some of their clothing for some of America's food, both countries would be better off.

But John's Strawman doesn't yet understand this. So David Ricardo has to use a simple production possibilities frontier analysis to demonstrate it. Here's the gist of Ricardo's demonstration. We assume that both America and Europe have 600 hours of labor available. We further assume that costs are constant so that we can draw our production possibilities curve as straight lines. And, we finally assume that transportation costs are zero.

Now, given the production requirements, as set forth in our earlier table. . Why don't you try to draw the production possibilities frontiers for both America and Europe? And so that you and I are on the same page, please put clothing on the vertical axis, and food on the horizontal axis. Do your figures look like this?

America can produce 300 units of clothing, or 600 units of food, or some combination thereof, as indicated by the red line in the left hand figure. In contrast, Europe can produce 150 units of clothing or 200 units of food As indicated by the black line. So one conclusion that we can draw from this figure, is that, if Europe does, in fact, cut off trade with America. The best it can do is to consume no more than 150 units of clothing, or 200 units of food. Or some combination thereof. At this point in the demonstration, Ricardo turns to John Strawman and says,'

Suppose I sent you to American with 150 units of clothing. How many units of food could you trade that for?' And what's the answer to Ricardo's question? The answer lies in this table. Because clothing costs twice as much as food, in terms of labor requirements, John Strawman might be able to trade Europe's clothing for as much as 300 units of food. This is 100 units more than Europe could have produced with its own labor resources alone. That is, in the absence of trade. This possibility is represented in this figure. The grey area in the figure represents the possible gains from trade that Europe would forego with protectionism instead of specializing in clothing production and trading with America for its food.

Now, Ricardo asked John Strawman to look at the trade issue from America's perspective. Specifically, he asks whether America might be better off trading with Europe, even though it can produce both food and clothing more efficiently than Europe. And, he frames the question this way. Suppose the American president sent a trade representative to Europe with 100 units of food and instructions to trade for as much clothing as possible. Would America be pleased with the result in deal? Well, because the cost of producing four units of clothing in Europe is three units of food An American trader could come to Europe and exchange 100 units of food for as much as 75 units of clothing, and America is clearly better off from this trade. This is because, in the absence of trade, the 100 units of labor that went into producing the food in America Could alternatively have only produced 50 units of clothing in America. So, at least in this example, America's net gain from trade is 25 units of clothing. And from this figure we can similarly see the gains from trade that America might achieve from specializing in food production and trading with Europe for its clothing.

This is despite, I might reiterate, having an absolute advantage in food production. The broader point here is that the theory of comparative advantage is one of the deepest truths in all of economics. And nations that disregard the lessons of comparative advantage will pay a heavy price in terms of their living standards and economic growth.

Now let's turn to the issue of trade barriers and protectionism. To better understand the politics of protectionism, let us return in our time machine to another meeting between David Ricardo and the European trade ministers.

It is now two years after these trade ministers voiced their support for free trade. And since that time, there has been a flood of American food imports into Europe.

While the European clothing industry has grown dramatically. And is experiencing record profits, because of heavy exports to America. Thousands of European farmers have been put out of work.

This unemployment has provoked political unrest, in newspapers from farm districts around Europe, have fanned the flames of discontent. They have written scathing editorials, calling for voters to throw out the political rascals. And replace them with leaders, who will protect the European economy, by supporting strict quotas on American food imports.

In fact, this is an age-old problem faced by political leaders who support free trade. Even though free trade can provide benefits to all countries, and create thousands of jobs in export industries. It can just as easily destroy jobs domestically in import-competing industries.

Given the enormous political pressures that can build for protectionism. It is useful for us to analyze the two most common ways of restricting trade, tariffs and quotas. And as I do this, I want you to ponder this question.

Why, from a political perspective are quotas often preferred to tariffs?

This figure illustrates the domestic market for food in Europe. You can see that equilibrium occurs at point A at a price of eight, and quantity of two hundred. Now, suppose that food is available in an unlimited amount from the rest of the world, at a price of $4 per unit. How might you represent this in our figure? The world supply curve, would be represented by this red horizontal line. Now, given this line. What will be the price of food to European consumers? The quantity of American imports, the value of those imports, and the level of domestic production? In the absence of any transport costs, the food price in Europe, must be equal to the world price of $4. And at this price, you can see that domestic European production, is measured by the line segment B,C and will be one hundred units. Considerably less than before free trade. The same time, American imports are measured by the line segment C, D and are equal to two hundred units. And revenues from the sale of these imports are equal to the shaded area C, D, E, F. Now let's suppose that the farmers and their lobbyists, are able to successfully lobby the European trade ministers. Who impose a tariff of $2 per unit of imports. Where in a tariff is a tax levied on imports. What happens now to domestic production and imports in this figure and who wins and loses? Clearly, domestic producers win because their production not only rises by fifty units, but their profits rise by the shaded area B, C, H, G. Equally clearly European food consumers loose, not only because the price of food rises from $4 to $6. But also because they consume fifty less units of food. In fact, the total loss to consumers, is measured by the area B, D, I, G. But there are two more players in this game. One winner and one loser. Who are they? And, what do they win? And, what do they lose? The other big loser is the American food industry, which now exports one hundred fewer units and looses revenues equal to the shaded areas C, J, L, E and K, D, M, F. And the other big winner is none other than the European governments that imposed the tariff. They collect tariff revenues, equal to the area H, I, J, K.

From a political perspective, what is perhaps most interesting about this figure is this. Relatively small handful of people in one domestic industry, farming, has gained a considerable profit at the expense of a much larger, but politically less powerful group. Namely, food consumers. But also note that this protectionist tariff, has also considerably harmed food producers in America. And this group is unlikely to remain silent on the tariff question.

In fact, one likely result is that pressure will build politically in America, to retaliate against European food tariffs with protectionist tariffs of its own. Say, on European clothing imports.

There may however be a way for Europe to avert this trade war. And you tell me why replacing the European tariff on food with an equivalent European quota, might be a viable political solution? And by the way, a quota is an explicit quantity limit on imports. An equivalent quota in this case would be a one hundred unit limit on American food. Since that is the level of imports after the $2 per unit tariff. Now let me give you a hint as to how you might think about this political question. Look carefully at our figure, and think about how one of our big losers from the tariff would become a big winner with a quota. Under a tariff, the shaded area H, I, K, J goes to the European governments in the form of tariff revenues. However, under a quota foreign exporters, in this case American food producers, will be able to capture these revenues. And in many cases, these additional revenues will largely offset their losses from selling fewer exports. The result in America will be far less political pressure from food producers for retaliatory tariffs. Now, before we leave this figure, there's one more thing I want to show you. Namely, the efficiency or deadweight loss associated with the imposition of a tariff or quota. In fact, the loss is the same regardless of whether a tariff or quota is used. Look carefully at the figure now. Can you figure out which areas of the figure represent the deadweight loss, and why? The shaded area C, H, J. Represents the loss in producer surplus. In this case too many European resources are being diverted into the inefficient production of food, at the expense of production in other sectors. At the same time the shaded area K, I, D represents the loss in consumer surplus. The loss in consumer satisfaction, from consuming fewer units of food. Together the two triangles measure the deadweight loss.

Now, at this point, you may be totally convinced that free trade is always best for a nation. After all, I've demonstrated to you that there are economic gains from trade. And I have also shown you that there are efficiency losses from protectionism.

None the less, it is useful at this point to review some of the legitimate, as well as arguably illegitimate arguments for protection as trade barriers. First there is the national defense or military self sufficiency argument. This is not an economic argument, but rather a political and strategic one. In particular, protective tariffs are needed to preserve or strengthen industries, such as steel or motor vehicles, producing goods and materials essential for defense or war.

Unfortunately, there is no objective criterion for weighing the worth of an increase in national security, relative to a decrease in economic efficiency.

Accompanying the re-allocation of resources towards strategic industries. A second argument for protectionism is to save jobs. This is an argument that often becomes politically fashionable, when a country enters a recession. It is also an argument that is often made in the context of discussions of cheap foreign labor. As the argument goes, more highly paid workers such as in the United States, must be protected from countries like Mexico and China. Which pay workers a few dollars a day.

Closely related to the jobs argument is the dumping argument. Dumping occurs when foreign producers sell their exports at a price less than the cost of production.

Why might they do this? One possible reason is to drive competitors out of a market, seize that market, and then use their new found monopoly power to later raise prices. In such a case, the long term economic profits resulting from this dumping strategy, may more than offset the earlier losses which accompanied the dumping. Because dumping is a legitimate concern, it is prohibited under American trade law.

Where dumping occurs and is shown to injure American firms, the federal government can impose tariffs called anti-dumping duties on the specific goods. The fact that one country may use protectionism or dumping to create jobs at the expense of its neighbors, raises a fourth argument for protectionism. Namely, to retaliate against another nation that engages in such protectionist measures. Unfortunately, it is through such retaliatory measures, that trade wars are born. A graphic case in point, is the Smoot Hawley tariff act of 1930, approved by the American Congress.

It imposed some of the highest tariffs ever enacted in the United States. While it was designed to protect American jobs during the onset of a severe recession, it backfired miserably. As one nation after another retaliated with its own restrictions, the resultant trade war helped push the entire global economy into the Great Depression. Finally, a favorite argument in support of protectionism in developing countries, is the so-called infant industry argument.

The idea here is that, temporarily shielding young domestic firms from the severe competition of more mature and more efficient foreign firms, will give infant industries a chance to develop. And become efficient producers.

This argument must be weighed cautiously. Historical studies have turned up some genuine cases of protected infant industries, that grew up to stand on their own feet. And studies of successful, newly industrialized countries such as Singapore and South Korea. Show that they have often protected their manufacturing industries, from imports during the early stages of industrialization. But the history of tariffs reveals even more contrary cases like steel, sugar and textiles, in which perpetually protected infants have not shed their diapers after low these many years. I should note at this point that while we have focused primarily on tariffs, many nations also use so-called nontariff barriers or NTBs. NTBs, which include quotas, also consist of formal restrictions or regulations that make it difficult for countries to sell their goods in foreign markets.

For example, a country such as Japan might restrict the import of all vegetables grown where certain pesticides are used, knowing full well that all other countries use these pesticides. The effect of such a regulation, would be to halt the import of vegetables.

Before we leave this lecture, and move on to the financial side of international trade. And look particularly at exchange rates in lecture ten. It's important to point out what, in reality, can be the very severe real world limitations of the simplified Ricardian free trade model.

The essence of that model, as we have learned, is that if two countries engage in unrestricted trade, free of tariffs and quotas, and other market restrictions. And, if these counties abide by the principles of comparative advantage, both countries are likely to experience gains from trade.

In other words, free trade in this simplified Ricardian world is a win-win for both countries. In the real world however, it's important to understand that free trade between two countries is much like a marriage. If one partner cheats on the other, the relationship simply will not serve both partners' interests.

In the context of the Ricardian free trade model. If one country cheats by using unfair trade practices, like illegal subsidies to promote its exports, or employs tariffs in not tariff barriers to protect its own markets, free trade becomes much more of a zero sum game. In which jobs and growth shift to the cheater, at the expense of the country being cheated upon. In the early part of the 21st century, we witnessed just such a problem between China and much of the rest of the world.

When China joined the World Trade Organization in 2001, and gained access to new markets around the world. It promised to abide by the rules of free and fair trade. However, over the next decade and beyond, China would systematically engage in unfair trade practices ranging from currency manipulation and the use of illegal export subsidies, to the theft of intellectual property, and the requirement of forced technology transfer for foreign corporations entering the Chinese market. All of these violations, of both the spirit and letter of the world's free trade laws, would lead to a major structural shift in manufacturing to China at the expense of growth and jobs, in many other countries and regions, including both the United States and Europe as well as Australia. Canada, Mexico, and much of both Latin America and Africa. This was certainly not how David Ricardo envisioned free trade.

In the next lecture, you will be introduced to a companion theory to Ricardian comparative advantage.

Namely, the basic exchange rate model. It predicts that trade imbalances between countries should smoothly adjust through currency adjustments and market forces, and all countries should likewise gain from trade. That the smooth adjustments haven't always taken place across the globe, often because of managed or manipulated currencies, provides further evidence. That the simple text book model of free trade, while providing important insights, should be taken with a hefty grain of salt.