What I'd like to do in this segment is talk more generally about what we know about the structure of international interactions. So what I'm going to do is start off by talking about trade flows. Because the interesting thing about trade. Or, the attractive thing about trade from this perspective is. If you go to my Maps page on www.ghemawat.com and then, click on the Maps page, you'll come to this clickable map of the world. And let me explain what this clickable map of the world does. Basically if you click on any of the countries in blue, the rest of the countries in the world will get rescaled in proportion to how much the country you just clicked on. Exports to them in the way of merchandise. So again, the idea is if we click on any country in blue, the rest of the world is going to get reshaped and resized in proportion to how much that country exports to other countries in the rest of the world. And, what I'd like to do is show you a couple of maps as a way of starting to build our intuitions about what the patterns of international interactions look like. And then after this session, after watching this tape. Obviously you can go to my webpage and spend as much time as you would like playing around with these maps because I'm only going to get a chance to show you four or five.

So, let's click on, well, let's start off with the largest economy in the world. I've clicked on the U.S. This is a chart that summarizes the U.S. pattern of merchandise exports in 2011. And I should also explain that this is a little bit of a heat map, that there's something interesting going on with the color coding. So the fact that Canada and Mexico are both colored in deep red. Is meant to indicate the fact that not only does the U.S. export a lot to them, those are the two largest trading partners as measured two largest export markets as measured by overall size of Canada and Mexico on this map. But also. U.S. exports to Canada and Mexico account for a large proportion of Canada and Mexico's total imports.

So the U.S. also exports a lot to Europe, but Europe imports a lot of merchandise from all around the world and so Europe is shaded in blue. Because there, the intensity of trade isn't that high. While in the aggregate, the U.S. does export a lot of merchandise to Europe, that U.S. export share of Europe's total merchandise imports is relatively low. So Europe is colored in blue, unlike Canada and Mexico, which are colored in red. So red in, indicates intense trading or exporting relationships, blue indicates not very intense trading relationships. And the first thing that stands out from this map, by the way, when one looks at the shading. Is this notion that if the world were perfectly flat, every single country would be colored the same color. Obviously it's not. Obviously, there's a more than a factor of ten variation between the U.S. share of Canadian and Mexican imports and the U.S. share of say, India's imports.

And so this is a reminder, first of all, of how uneven the structured international interactions are. But we can go beyond unevenness to actually look at the pattern here. So what do we see? Well, we see that the two countries that the U.S. shares borders with. Are the ones that are colored in red. That as one heads farther south through Central America, there's a combination of beiges, etc. Until one gets all the way down to Panama, and then past that, Colombia. The Andean Pact countries, Venezuela and Ecuador, are also colored relatively in beige tones, indicating. Relatively intense trading relationships. But by and large, south of Colombia, it's very, very hard to see countries where U.S. exports really account for a. Dominant share of the market. And so the U.S.'s merchandise exports do show this pattern of significant localization, at least in terms of intensity in North and Central America.

So that's the U.S. case. Let's head down to South America. Let's take a look next at Brazil, another very large country, and here first of all, if we focus just on the Americas, the pattern has changed. What's in red and pink now is South America, specifically the countries around Brazil, and what's in blue is North America, Mexico, the U.S., and Canada. In fact, Brazil exports so little to Canada that it's virtually invisible on this particular map. So that's within the Americas. Brazil's pattern of merchandise exports looks very different from the U.S.'s.. It's obviously much more focused on southern America. And on Brazil's immediate neighbors.

And we also start to see some interesting patterns when we look at other parts of the world. Brazil actually sells a fair amount to Asia because Brazil's exports are dominated by natural resources. China is a huge market, so China shows up in beige. But the pinks are interesting. The pinks include other former Portuguese colonies in Africa particularly, Mozambique and Angola. A little bit of reminder that that's created some linkages between Brazil and Africa. And so, when one looks at the Brazilian map, it's more focused on South America. And then given the pattern of commodity exports, Brazil is actually fairly far flung in terms how far its exports go.

Let's now turn to Europe, and let's look at the country that in value added terms is probably still the world's largest exporter. Germany. And this map looks very different indeed. So Germany is part of the European Union, which is the world's single most integrated region. And so unsurprisingly depending on how you define Europe. Somewhere between 60 and 70 percent of Germany's merchandise exports go to the rest of Europe. So first of all, this chart, even more than the maps of the US and Brazil, indicates really strong regional integration in this part of the world. But second, not all countries within Europe are colored the same way. So, which color, which countries are colored in pinks or rosés? Well, the ones where German exports account for the largest share of imports, are Switzerland, Austria, the Czech Republic and Poland. Which are all countries that border on Germany. All countries where German is spoken to a significant extent as the first or as the second language, and all countries, with the exception of Switzerland, that shared common political ties with Germany for a long time. Roughly under the auspices of the Holy Roman Empire. So, those are the countries that are color, colored in the darkest shades of pink. Those are the ones with which Germany has the most intense export relationships.

Looking beyond that, there are other countries in pink within Europe as well. So Belgium, France, Italy, Slovakia, etc. stand out in that particular regard. And then, there are countries where there aren't that much in the way of exports going on. So look at the Iberian peninsula, which is part of Europe, but relatively far from Germany. German exports to Iberia, don't account for a large share of Iberia's total merchandise imports. The same is the case in Great Britain. So, when we look at the German map, we see of course regionalization, but we also see significant variations within the region. Not all countries in Europe are equally close to or equally far from Germany.

Now let's turn to Asia and let's look at the country that in nominal terms is the world's largest exporter and here the pattern again is somewhat different. First of all, there is a regional emphasis so East Asia looms much larger on this particular map. Than it did on any of the previous maps. And there are a lot of darker reds or pinks in Asia, etc. But, having said that, the Chinese really are an export power house. And, so we see significant pinks in other parts of the world as well. Denoting significant Chinese export shares. So from the Chinese perspective, the underpenetrated part of the world is Europe where we see some blues and some beiges. And so for those Europeans who think they've seen a lot of Chinese exports already. This is a little bit of a reminder that currently Chinese export shares in Europe actually are quite limited, given Europe's intense internal regional integration. So. Once again we start to see that there are some patterns of regionalization, but China, as the world's largest exporter, is one of the few countries that one sort of sees actually exporting significantly. In terms of breadth across all the regions and achieving reason, reasonably high market shares.

The other thing I should add is so far, we've looked at four very large economies. And it's worth remembering that patterns of localization or regionalization are much more marked typically for smaller economies. So take the case of Mongolia next to China, which in 2012 was the world's fastest-growing economy. When we look at Mongolia's merchandise exports, what stands out, of course, is China. There are few outward processing exports to Canada. But by and large from the Mongolian perspective, globalization really looks like it's about selling to the Chinese market. And this is a not uncommon pattern when we look at a relatively small economy located right next to a relatively large economy.

So there are many more such maps that you can look at on my website, these are all the ones that I'm going to have time to cover during this video segment today, but what this, what this little excursion through the trading patterns of five different countries should have suggested. Is not only are international interactions limited, which was the topic of the first session we had, but the lion's share of the international interactions that do take place occur between countries that are close to each other in some sense. And in the next segment of this video, we're going to explore what closeness actually means.