ECONOMIC RESEARCH

Trade Dynamics and China, Part 3: How Do the United States and China Compare?

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Editor's note: This article is also available in Spanish and Portuguese.

In the minutes of its June 14–15, 2016, meeting, the Federal Open Market Committee stated that "continued uncertainty regarding the outlook for China's foreign exchange policy and the relatively high levels of debt in China and some other EMEs [emerging market economies] represented appreciable risks to global financial stability and economic performance." It is now widely acknowledged that China has become a key player in the global economy.

This article completes a three-part series on China and international trade. Unlike the two previous articles, this last one compares China's and the United States' trade relationships with other countries.[1] The first part of the article looks at the percentage of Chinese and American imports and exports from the perspective of approximately 190 countries over time, and the second part looks at the types of goods traded.[2]

Overall Trade with China and the United States

A lot has changed since the former Chinese premier Zhu Rongji pointed out in 2001 that "although China and the United States are competitors, China and the United States are indeed partners in trade." Map 1 offers a descriptive picture of the amount of goods that countries around the globe sent to the United States and China in 1980, 1990, 2000, 2003, 2007, 2010, and 2014. Once again, we chose the years 1980, 1990, 2000 as decade-change indicator years; 2003 is a couple of years after China joined the World Trade Organization; 2007 is right before the Great Recession; 2010 is the year following the end of the recession; and 2014 is the last year for which revised data are available.

The color blue indicates that a country has imported more from the United States than from China; the darker the blue, the larger the gap in shares.[3] Similarly the color orange indicates that a country has imported more from China than from the United States, and the intensity of the color represents the difference in shares. (The color white indicates that there were no data available for that country at the time.) For example, in 2014, Mexico sent 80 percent of its total exports to United States and only 1.5 percent to China. Indeed, since the difference between Mexico's exports to China and to the United States is so large, Mexico appears on the map with a dark blue.

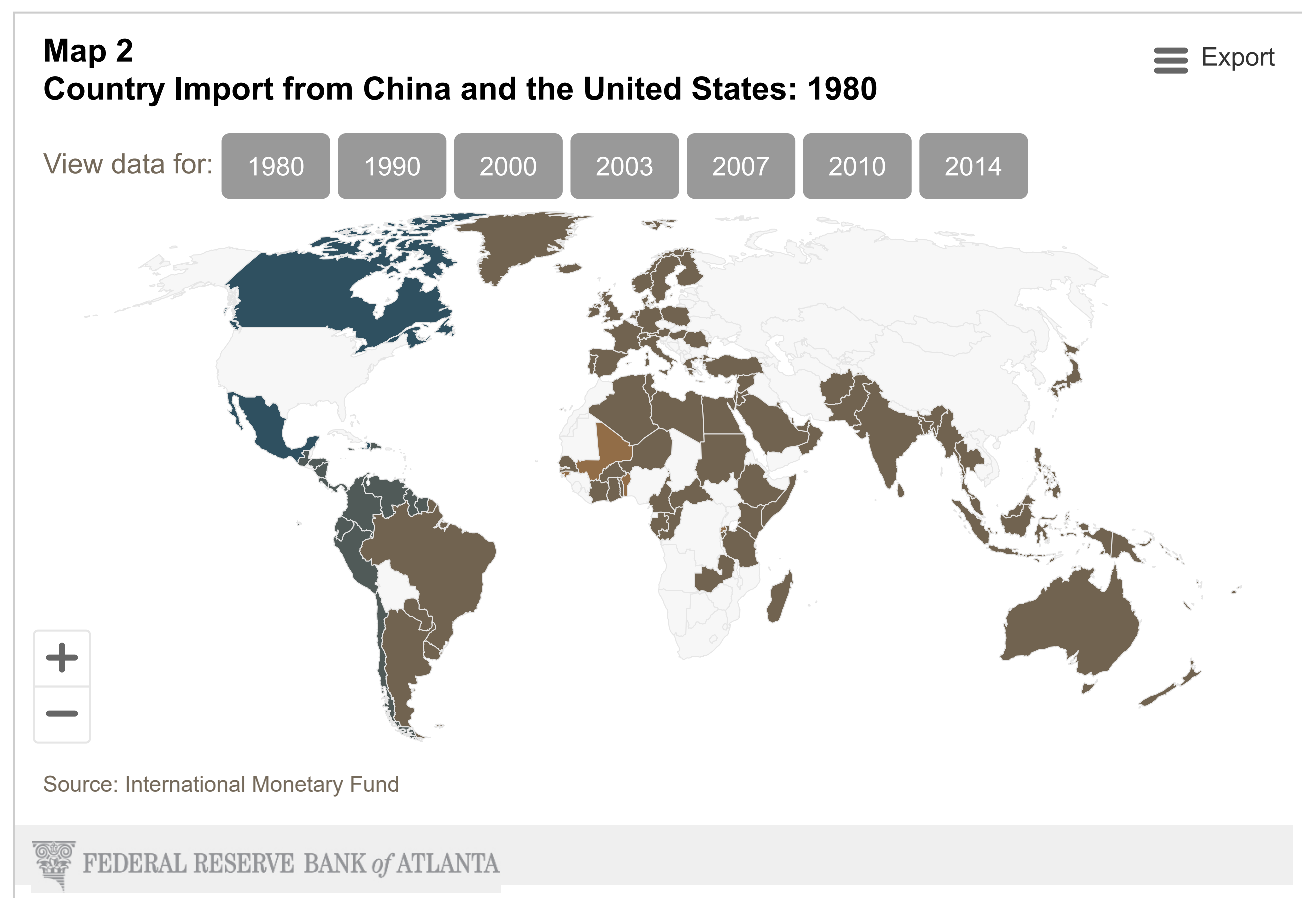
In 1980, only 11 out of 83 countries[4] traded more with China than with the United States. By 2014, this proportion had dramatically increased: 70 out of 177 countries exported more to China than to the United States. Approximately 30 percent of the countries that exported more to the United States in 1980 ended up exporting significantly more to China by 2014: Hong Kong,[5] Australia, Liberia, Macao, Chile, New Zealand, Ethiopia, Cameroon, Uruguay, Papua New Guinea, Ghana, Zambia, Tanzania, Qatar, Singapore, Brazil, Malaysia, Togo, Peru, Argentina, Indonesia, Thailand, and Saudi Arabia. Clearly, most of these shifts happened after China's accession to the World Trade Organization (WTO) in 2001.

On the import side, China is way ahead of the United States. In 2014, 136 countries (out of 180) imported more from China than from the United States. This trade dynamic has radically changed since the 1980s, when only eight countries (out of 122) imported more from China than from the United States. Considering these ratios, it is not surprising that 60 percent of the countries that had a larger trade with the United States in 1980 ended up importing more from China by 2014. The countries that have experienced the largest shift in trade dynamics since the '80s were Myanmar, Vanuatu, Tanzania, Cameroon, Pakistan, Madagascar, Togo, Ghana, Brunei, and Paraguay.

Indeed, in 2014, the top 10 countries that received more of their total imports from China rather than from the United States were North Korea, the Kyrgyz Republic (Kyrgyzstan), Tajikistan, Myanmar, Hong Kong, Mongolia, Nepal, Vanuatu, Gambia, Iran, and Macao. Most of these countries are small, open economies located near China (such as Vanuatu and Mongolia), have strong political ties with China (such as Hong Kong and Macao), or have political tensions with the United States (such as North Korea and Iran).

On the opposite side, in 2014, the countries that imported more of their total from the United States than from China were Aruba, Canada, the Dominican Republic, Honduras, St. Kitts and Nevis, the Netherlands, Costa Rica, El Salvador, Jamaica, Mexico, Guatemala, Trinidad, St. Lucia, Barbados, and the Bahamas. Most of these countries are geographically close to the United States (such as Costa Rica and Jamaica) or have strong trade agreements with the United States (such as Mexico and Canada).

Map 2 shows the percentage of imports that each country has been receiving from both the United States and China. Just as before, the color blue indicates that a country imported more from United States than from China that year; the darker the blue, the larger the gap between the shares.[6] Similarly, the color orange indicates that a country imported more from China than from the United States, and the intensity of the color represents the difference in shares.



For example, in 2014, Canada received 54.4 percent of its total imports from the United States and only 11.5 percent of its total imports from China. The difference between the share imported from China and the share imported from the United States is large. Therefore, Canada is highlighted in the map in dark blue.

Goods Traded with China and the United States

It is important to emphasize that knowing the trade balance between countries in not sufficient to conclude that countries worldwide have increased their trade with China at the expense of other trade relationships, including the one with the United States. Specialization plays an important role in international trade. Generally, nations can consume more by specializing in the production of a good based on their comparative advantage.

To compare the different types of goods traded with China and the United States, I have created two groups comprised of a sample of developed[7] and developing countries.[8] In both samples are countries that are located in different geographic areas and that have access to different natural resources, which are key components of production and specialization. By analyzing the 2-digit Harmonized System code, or HS-2, in 2014, I can summarize the main differences between the major goods traded by several countries worldwide with both China and the United States. In estimating the percentages of goods imported and exported, I have downloaded data on bilateral trades from the United Nations Comtrade.

On the imports side, machinery, electrical equipment, clothing, furniture, toys, iron, and steel are the goods most imported by developing countries from China. Some of these goods (clothing, toys, and furniture) are imported only from China, while others (such as electrical equipment and machinery) are also imported from the United States. For example, in 2014, 4 percent of Australia's total imports was machinery from China and 2 percent was machinery from the United States. Overall, the goods that developing countries import from the United States are more diversified than those they import from China. Those goods imported from the United States were mainly classified as aircraft, commodities, food, machinery, equipment, fuel, precious stones, chemicals, oil, medical equipment, pharmaceutical products, and vehicles.

Unlike developed countries, developing countries imported a large variety of goods from both the United States and China. Electrical equipment and machinery are still at the top of the list and are often imported at the same rate from both countries. For example, 2 percent of South Korea's imports is machinery from China and 1.6 percent is machinery from the United States. Just as for developed countries, clothing, iron, and steel are important elements of the trade between developing countries and China. On top of this, vehicles, chemicals , fuel, spices, and optical machineries are also Chinese goods that are high in demand. Only a handful of products are uniquely imported from the United States by the developing countries observed here: mineral fuels, aircraft, and waste from food industries.

On the exports side, developed countries export a large variety of food (animal, vegetables, dairy, fish, salt, and cereal) and minerals (oil, iron, copper, oil seeds, ores, slag, and ash) to China along with wood, plastic, and aluminum. Electrical equipment, machinery, and vehicles are exported to both China and the United States. Unlike with China, developed countries export vehicles and related medical products to the United States while only a few countries (Australia, New Zealand, and Iceland) export food.

As previously seen for developed countries, developing countries' main exports to China are food, ores, and slag. These goods are not considered major exports of developing countries to the United States; those major exports are, rather, clothing, sugar, tobacco, tea, and beverages. Woods, tobacco, copper, and electrical equipment are often exported to both China and the United States.

The Comparative Advantage of Both Countries

Countries worldwide have been increasing their share of both imports and exports of Chinese products over time at the expense of other trade relationships, such as with the United States. Unfortunately, it is not possible to isolate how much of this trade has been driven by outsourcing instead of actual competition, but in one way or another, this could have a negative effect on the U.S.

economy. On the one hand, outsourcing reduces job opportunities in the United States, leaving consumers slightly better off from a price/cost reduction. On the other hand, some say that increasing competition makes firms conduct more aggressive pricing strategies that could reduce labor costs or induce market exit.

By looking deeply into each country's bilateral trade, it is not surprising that China has a comparative advantage in labor-intensive goods while the United States has a comparative advantage in the production of high-tech machinery. While China demands food and fuel from both developing and developed countries, the United States demands clothing. Once again, it is important to stress that these data do not distinguish how much of this trade is driven by outsourcing or competition. Furthermore, some of the goods that these countries export to and import from both China and the United States (like machinery and electrical equipment) need to be broken down into four digits to assess whether these markets are compensating for each other or competing against each other. Overall, we can conclude that international trade has dramatically changed over the past several years, and China is now one of the major players.

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[1] Shares are calculated using a country's total imports/export by year.

[2] The first article in this series looks at the trade relationship between China and the United States from a direct and indirect point of view. The second article analyzes the trade relationship between China and the rest of the world from the perspective of China. Shares are calculated using China's total imports or exports by year.

[3] Calculated as the percentage of exports of a country to China that year divided by the percentage of exports of a country to the United States that year.

[4] Only 83 countries had data on international trade for 1980.

[5] Hong Kong is considered to be China's "middleman."

[6] Calculated as the percentage of imports of *X* country to China that year divided by the percentage of imports of *X* country to the United States that year.

[7] The developed countries I considered are Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Iceland, Ireland, Japan, Luxembourg, Netherlands, New Zealand, Portugal, Spain, Sweden, and the United Kingdom.

[8] The developing countries I considered are Argentina, Bolivia, Cameroon, Chile, Indonesia, Jamaica, Malaysia, Mexico, Morocco, Nepal, Nicaragua, Nigeria, Panama, Philippines, South Korea, South Africa, Thailand, the United Arab Emirates, and Zambia.