The economic nexus between China and emerging economies

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ABSTRACT

China is currently the largest trading nation in the world, which implies that trade relationship with China may have great significance for many countries around the world. This study examines the influence of trade relations with China on GDP and manufacturing growth rates of other countries. The paper first examines the impact of the fluctuations in exports to China from other countries on the latter’s GDP growth rate. The analysis reveals that, in 48 countries and regions where exports to China exceed 9% of their total exports, the growth of exports to China has a positive and significant impact on their GDP growth rates. The latter half of the paper examines the impact of imports of manufactured goods from China on the manufacturing industries of importing countries. The analysis of manufacturing growth rates of 153 countries and regions reveals that an increase of imports of manufactured goods from China leads to a decline of manufacturing growth in the next year. With growing demand for primary goods in China as well as increase of manufactured goods exports from China, many countries show a trend toward concentration on primary goods exports in their trade relationship with China. This may be beneficial for them in the short run, but in the long run there is a concern that they may suffer from “the curse of natural resources.” In the final part of the paper, some initiatives taken by China to reverse this trend in Africa are reviewed.

KEYWORDS

Economic nexus; China; emerging economies; the curse of natural resources; Africa

1. Introduction

China is currently the largest trading nation in the world with its trade value amounting to $3.96 trillion in 2015, which was 104% of that of the United States, although China’s GDP in the same year was still 61% of the United States’ GDP. China’s trade partners are more diversified than those of the United States. In 2015, 101 countries and regions had more trade with China than with the United States, while 43 countries and regions, which were mostly in the Americas and Europe, had less trade with China than with the United States.

With the huge amount of China’s trade, trade relationship with China will likely to have significant impacts on its trade partners. This paper examines the influence of trade relations with China on GDP and manufacturing growth rates of other countries. In the next section, the impact of the fluctuations in exports to China from other...
countries on the latter’s GDP growth rate is measured by using panel data. In the third section, the impact of imports of manufactured goods from China on the manufacturing industries of importing countries is examined by using panel data. The fourth section points out the trend toward concentration on primary goods production and exports by China’s trade partners, which leads to the latter’s concern on suffering “the curse of natural resources.” The section reviews some initiatives taken by China to reverse this trend in Africa, which is followed by the conclusion.

2. The impact of the fluctuations in exports to China from other countries

There is a saying in business journalism that “when America sneezes, the world catches a cold.” This metaphor indicates not only that the size of the United States’ economy in relation to the global economy is large but also that the United States’ economy influences the rest of the world, not vice versa. Although China’s import amount is currently still less than the United States, it had expanded to 81% of US imports in 2014, and its share in global imports had risen from 3.3% in 2000 to 10.3% in 2014. It is likely that the fluctuations in Chinese economy will have significant impacts on the rest of the world, or, at least, on the economies that are highly dependent on exports to China.

Exporters of iron ores, for example, have been strongly influenced by the fluctuations in China’s iron and steel industry. As China imports two thirds of internationally traded iron ores, the booms and busts of Chinese iron and steel industry influence their international prices. The boom in iron and steel production in China resulted in a sixfold rise of iron ore price from April 2005 to April 2011, and its subsequent deceleration of growth resulted in a sharp drop of iron ore price to only one fifths of the level of April 2011 by the end of 2015. Such a sharp rise and fall of iron ore price will surely affect the iron ore exporting countries.

In the following, the impact of fluctuations in China’s imports on the exporting countries’ economy will be examined. Table 1 shows 26 countries and regions that exported more than 20% on average during 2006–2014 of their total exports to China. Table 1 also shows the shares of exports to China in total exports in 2006, 2010, and 2014, the most important export item among commodities classified by 4-digit level HS commodity classification, and the share of the most important item in total exports to China.2

The reason that in some countries’ cases the share of exports to China exceeds 100% is because the shares are calculated by: (the import value of China from the exporting country)/(total export of the exporting country). The reason why I used China’s import statistics instead of using export statistics of the exporting countries is as follows. There are sometimes great discrepancies between China’s import value from a certain country and the latter’s export value to China, and I adopted the former because generally speaking the former seems to be closer to the truth than the latter.

Let me show this point by two cases. The most extreme case of such discrepancy is South Africa’s exports to China. In 2014, for example, the amount of South Africa’s exports to China was $8.7 billion according to South African statistics, but China’s

1Wilson, “Chinese Resource Security Policies,” 331–9.
2The average share of exports to China in total exports by Tuvalu is slightly higher than Turkmenistan. However, since Tuvalu’s export amount is so small and unstable, the country’s data were omitted from Table 1.
Table 1. Countries and regions having high export dependence on China and their main export items.

| Share of exports to China | Average share during 2006–2014 (%) | Top export item in 2014 | Share of the top export item (%) | Other major export items |
|-------------------------|------------------------------------|------------------------|----------------------------------|-------------------------|
|                         | 2006 (%)  | 2010 (%)  | 2014 (%)  | 2006–2014 (%) |                       |                        |
| Solomon Islands         | 103       | 128       | 105       | 101          | Wood in the rough     | 100                    |
| Mongolia                | 74        | 88        | 88        | 78           | Copper ore and concentrates | 52                    |
| Bahamas                 | 24        | 89        | 87        | 54           | Recovered paper       | 85                    |
| Mauritania              | 29        | 47        | 60        | 52           | Iron ore and concentrates | 80                    |
| Sudan                   | 34        | 59        | 35        | 51           | Crude oil             | 89                    |
| Taiwan                  | 39        | 42        | 48        | 43           | Electronic integrated circuits | 19 | Liquid crystal panels |
| Gambia                  | 4         | 22        | 35        | 40           | Wood in the rough     | 88                    |
| Angola                  | 34        | 45        | 50        | 40           | Crude oil             | 99                    |
| Marshall Islands        | 1         | 16        | 67        | 38           | Frozen fish           | 100                   |
| D.R. of Congo           | 14        | 47        | 41        | 37           | Crude oil             | 28                    |
| Philippines             | 37        | 31        | 34        | 36           | Electronic integrated circuits | 29 | Nickel ores |
| Yemen                   | 34        | 34        | 37        | 34           | Crude oil             | 66                    |
| Costa Rica              | 21        | 33        | 37        | 33           | Electronic integrated circuits | 89 |
| Laos                    | 6         | 34        | 67        | 31           | Wood in the rough     | 44                    |
| Oman                    | 28        | 27        | 45        | 31           | Crude oil             | 95                    |
| Republic of Korea       | 28        | 30        | 33        | 30           | Electronic integrated circuits | 26 |
| Australia               | 16        | 29        | 40        | 28           | Iron ore and concentrates | 56 |
| Myanmar                 | 6         | 11        | 141       | 27           | Mounted precious or semiprecious stones | 76 |
| South Africa            | 7         | 16        | 49        | 26           | Commodities not elsewhere specified | 60 | Iron ore and concentrates |
| Sierra Leone            | 0         | 3         | 89        | 26           | Iron ore and concentrates | 98 |
| Turkmenistan            | 0         | 16        | 54        | 24           | Natural gas           | 99                    |
| Zambia                  | 7         | 36        | 32        | 23           | Unrefined copper      | 51                    |
| Chile                   | 10        | 25        | 28        | 22           | Refined copper        | 42                    |
| Malaysia                | 15        | 25        | 24        | 22           | Electronic integrated circuits | 45 |
| Japan                   | 18        | 23        | 24        | 22           | Electronic integrated circuits | 8 | Passenger cars |
| Iran                    | 13        | 18        | 31        | 21           | Crude oil             | 76                    |

Source: Author’s elaboration based on data from UN Comtrade, and Bureau of Foreign Trade (Taiwan).
custom statistics reported that the amount of China’s imports from South Africa was $44.6 billion in the same year. Such big discrepancies between the two countries’ trade statistics exist not only in 2014, but in all years since 2008. According to Ron Sandrey and others, these discrepancies are caused by gold trade. In South African trade statistics, the destination of a large amount of export is not specified and it is likely that this part of exports consists of gold exports. Gold may be exported first to another country and then re-exported to China. In China’s trade statistics, gold imports are often classified as “commodities not elsewhere specified” (HS code 9999) and are reported as imports from South Africa because it is the origin of gold. In this way, a big discrepancy between Chinese and South African trade statistics arises.

There are also discrepancies between Japanese and Chinese trade statistics, which mainly stem from trade through Hong Kong. Exports originating from Japan through Hong Kong to China are often reported as exports to Hong Kong in Japanese trade statistics while they are reported as imports from Japan in Chinese statistics. The same thing happens in exports from China through Hong Kong to Japan. This is why both Japan’s trade balance with China and China’s trade balance with Japan are often reported as negative in the same year. One way to avoid the contradictions caused by the difference in the classification of importers’ statistics and exporters’ statistics caused by entrepôt trade through Hong Kong is to use only import statistics. Arguably, import statistics are more rigorous in classifying imports by the origin of goods than export statistics in reporting the final destination of export goods.

The earlier two cases suggest that import statistics better reflect the reality of bilateral trade than export statistics. However, perhaps because in some cases Chinese import statistics do not report the origin of imported goods correctly, or because of the time gap between exports and imports, the amount of imports reported in Chinese statistics from a certain country occasionally exceeds the total amount of exports reported by the latter.

The countries and regions listed in Table 1 can roughly be grouped into three. The first group consists of countries and regions that are geographically close to China. These countries and regions are strongly connected with China not only by trade but also by international investment, and therefore the shares of exports to China are high and stable. Mongolia, Taiwan, the Philippines, Republic of Korea, Malaysia, and Japan belong to this group. Solomon Islands, with its very strong trade relationship with China, can also be included in this group, though it is not geographically so close to China.

The second group consists of oil exporters in the Middle East and Africa. Sudan, Angola, Yemen, Oman, and Iran belong to this group. The shares of exports to China were already high in these countries in 2006 and did not increase so much since then.

The third group consists of exporters of primary goods other than crude oil. Mauritania, Gambia, Marshall Islands, Democratic Republic of Congo, Laos, Australia, South Africa, Sierra Leone, Turkmenistan, Zambia, and Chile belong to this group. The shares of export to China rapidly increased during 2006 and 2014 in these countries. Because China has become a major importer not only of crude oil but also of iron ores, wood, copper, and other primary goods during this period, China has become the most important export market for these countries.

Sandrey et al., “Assessing South Africa’s Trading,” 309–31.
Table 1 shows that countries with high shares of exports to China, in particular exporters of primary goods, tend to concentrate on the exports of some specific items. Even countries that mainly export manufactured goods, such as the Philippines, Costa Rica, and Malaysia, concentrate on exports of electronic integrated circuits.

Exports by China to the rest of the world consist mainly of manufactured goods, and the items China exports are diversified in apparel, steel, electric machinery, and other miscellaneous manufactured goods. The trade structure in which China exports various manufactured goods and the other countries specialize in the export of some specific items of primary goods reminds us of the trade structure between the advanced industrialized countries and underdeveloped countries in the post-World War II era, which was criticized by Raul Prebisch and Hans Singer. They argued that the terms of trade of primary goods against manufactured goods were deteriorating in the long run. Therefore, they argued, underdeveloped countries would not succeed in raising their per capita income as long as they remain to be primary goods exporters.

Prebisch and Singer explained the tendency of the terms of trade for primary goods exporters to fall by the structural difference between industrialized countries’ and underdeveloped countries’ economy. In the industrialized world, productivity growth would lead to the rise of wages and income and not to the fall of prices because manufactured goods were provided by oligopolistic enterprises, and their labor unions were strong enough to negotiate with the management to share the fruits of productivity growth with the workers. The price of primary goods tends to fall because they are supplied competitively by small producers and the income elasticity of demand for primary goods is small.

Several decades later, the “Prebisch–Singer thesis” has revived with a new name: “the curse of natural resources.” Sachs and Warner argue that countries having rich natural resources tend to grow slower than resource-poor countries even when the influence of price changes is controlled. They argue that income growth caused by the abundance of resources leads to the rise of the prices of non-traded goods in resource exporting countries, which results in the increase of costs in the manufacturing industry and its decline.

Because China started to import large amounts of primary goods in the twenty-first century, even the relatively industrialized countries in the developing world, such as Brazil, South Africa, and Indonesia, are pushed back to the position of primary goods exporters through the expansion of trade with China. When China’s imports are growing rapidly, the prices of primary goods will rise, and their exporters will be satisfied with the trade relationship with China. But, when the prices fall as a result of the deceleration of China’s growth, as in the case of iron ores after 2011, the exporting countries’ economy will be adversely affected.

In the following, the influence of fluctuations in exports to China on exporting countries’ economy is examined. While there are countries that depend heavily on China for exports, such as the countries and regions shown in Table 1, the shares of exports to China were less than 3% of the total exports of 88 among 187 countries and regions throughout the world for which trade data are available. It is unlikely that the fluctuations in exports to China will have a big impact on the economy of these

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4 Prebisch, *Economic Development of Latin America*; and Singer, “The Distribution of Gains,” 473–85.
5 Sachs and Warner, “The Curse of Natural Resources,” 827–38.
countries and regions. The scope of the following analyses is limited to 54 countries and regions with shares of exports to China above 9% on average during 2007–2014. The impact of the changes in exports to China (which are measured by China’s import statistics due to the aforementioned reason) on the exporting countries’ GDP growth rates is measured by panel data analyses, using the following model:

\[
\text{Growth}_{it} = A + b_1 \text{Investment}_{it} + b_2 \text{Inflation}_{it} + b_3 \text{GrowthExChina}_{it} + \gamma_i + \varepsilon_{it}
\]

The dependent variable is the year-on-year GDP growth rate of country \(i\) in year \(t\) during 2007–2015 \((\text{Growth}_{it})\). Growth rates in 2015 for some countries are using estimates made by the International Monetary Fund.\(^6\) The independent variables include the following: a country’s total investment measured as a share of GDP \((\text{Investment}_{it})\), which Sachs and Warner find to have a positive influence on economic growth;\(^7\) a country’s inflation rate \((\text{Inflation}_{it})\), which, according to Barro, has an adverse impact on growth;\(^8\) and the growth rate of exports to China compared to the previous year \((\text{GrowthExChina}_{it})\), which is the focus of our analysis. Institutional and geographic factors that may influence the level of each country’s growth rate must be absorbed in the individual effect \((\gamma_i)\).

The estimation results are shown as (1) and (2) in Table 2. Six countries and regions were dropped due to lack of data. The coefficients of investment and inflation have signs that are consistent with our expectation and are statistically significant. The coefficients of growth rate of exports to China in both fixed effect and random effect models are positive and statistically significant, implying that a 1 percentage-point increase in the annual growth of exports to China will lead to a 0.002% increase in the annual GDP growth rate. The \(F\)-test and LM-test suggest that fixed effect and random effect models are preferred to pooled OLS. The Hausman test suggests that the fixed effect model is not necessarily superior to the random effect model.

**Table 2.** Panel data analyses of GDP growth rates and export growth to China.

| Dependent variable: GDP growth rate | (1) | (2) | (3) | (4) |
|------------------------------------|-----|-----|-----|-----|
| Investment/GDP                    | 0.094 ** (2.00) | 0.064 ** (1.96) | 0.28 *** (4.40) | 0.16 ** (3.61) |
| Inflation rate                    | −0.099 *** (−2.91) | −0.071 *** (−2.49) | −0.15 *** (−2.68) | −0.089 * (−1.83) |
| Growth-ExChina                    | 0.0020 * (1.87) | 0.0020 ** (1.97) | 0.0051 *** (2.85) | 0.0055 *** (3.13) |
| Constant                           | 2.446 ** (1.99) | 2.985 *** (3.20) | −1.910 (−1.18) | 0.465 (0.36) |

| Model | Fixed effect | Random effect | Fixed effect | Random effect |
|-------|--------------|---------------|--------------|---------------|
| Obs   | 430          | 430           | 207          | 207           |
| Countries and regions             | 48           | 48            | 23           | 23            |
| \(R^2\)                           | 0.27         | 0.27          | 3.51         | 21.7          |
| \(F\)-test: \(y_i = 0\)          | 2.75 ***     | 3.51 ***      |              |               |
| LM-test: \(\text{Var}(\gamma_i) = 0\) | 39.62 ***    | 10.64**       |              |               |

\(t\)-Statistics are presented in brackets.  
*** indicates statistical significance at the 1% level; ** indicates statistical significance at the 5% level; * indicates statistical significance at the 10% level.

\(^6\)International Monetary Fund, *World Economic Outlook Database*.

\(^7\)See note 5.

\(^8\)Barro, "Inflation and Economic Growth."
If we further limit the scope of analysis to 27 countries and regions in which China’s share in total exports exceeds 20% as shown in Table 1, the impact of the ups and downs of exports to China is likely be greater. The estimation results are shown as (3) and (4) in Table 2. The Hausman test suggests that the fixed effect model is superior to the random effect model. The fixed effect model estimation shows that a 1 percentage-point increase of exports to China leads to a 0.0051 percentage-point increase in the GDP growth rate of exporting countries. In 2010, 2011, and 2012, exports from these countries to China increased by 58%, 47%, and 78% on average, pushing their GDP growth rates up by 0.30, 0.24, and 0.40 percentage-points, respectively. But in 2015, exports to China decreased by 17% on average, pushing their growth rates down by 0.09 percentage points.

The earlier analyses suggest that fluctuations in demand from China had significant effects on the growth rate of countries and regions that export a relatively large portion of their total exports to China. The decrease of steel production by 2.2% in 2015 due to overcapacity could only be a “sneeze” for the Chinese economy as a whole. However, import of iron ores decreased by 38% as a result, and total exports to China from Sierra Leone and Mauritania decreased by 90% and 34%, respectively, in the same year. Sierra Leone’s GDP decreased by more than 20%, and it is attributed to the closure of iron ore mines forced by the decline of iron ore price and the outbreak of Ebola virus disease. The decrease of iron ore exports is pointed out as one of the reasons of the decline of Brazil’s GDP by 3.8% in 2015.

3. The impact of China’s export growth on the other countries’ manufacturing industries

The amount of China’s exports exceeded that of Germany’s and became the world’s largest in 2009. In 2014, China accounted for 12.3% of global exports. As 95% of China’s exports consist of manufactured goods, the expansion of China’s exports can pose a threat to countries that have manufacturing industries that compete with China. In South Africa, for example, the number of manufacturing employment decreased from 1.5 million in 1990 to less than 1.2 million in 2010, and within this decrease of employment it is estimated that 100,000 jobs were lost because of the competition with manufactured goods imported from China. Apparel, footwear, textile, and furniture are the industries that have been hit hard by the competition with Chinese goods. The South African government introduced quantitative restriction on apparel imports in 2007 to protect the domestic industry. For South African manufacturing industries, China puts competitive pressure through several routes. First, Chinese products compete with South African products in the South African market. Second, Chinese products pour into sub-Saharan Africa which used to be a major market for South African products. Third, the increase of natural resource exports such as iron ores to China from South Africa leads to the appreciation of South African currency and the rise of production cost in South African manufacturing, making it more difficult for South African industries to export manufactured goods. Apart from the loss of 100,000

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9 Gbandia, “Sierra Leone Economy.”
10 Jenkins and Edwards, “Chinese Competition.”
jobs that was brought about by the inflow of Chinese goods to South African market, it is estimated that South Africa lost $900 million of exports to the sub-Saharan market.\textsuperscript{11}

Competitive pressure from China through the aforementioned second and third routes will be the severest in countries that are exporters of both manufactured goods and primary goods, such as South Africa, Brazil, and Indonesia. In the case of Brazil, the share of manufactured goods in its total export increased from 39% in 1980 to 59% in 1995, but since China entered the WTO in 2001, the share started to decline, decreasing to 44% in 2014. In the case of South Africa, the share declined from 71% in 2001 to 61% in 2014. Although the causal relationship between China’s rise as a manufacturing power house and the decrease of the share of manufactured goods in Brazilian and South African exports awaits careful scrutinization, we can at least say that trade relationship with China is a driving force of their deindustrialization of exports.

Countries and regions that are affected the most by China’s exports of manufactured goods will be those with high shares of imports from China. Table 3 lists the countries and regions that import more than 20% of total imports from China. The figures in this table are calculated by using the importing countries’ trade statistics. Comparing to the situation of exports to China, the shares of imports from China in total imports are relatively modest. With the exception of Hong Kong and Macau, which are special administrative regions of China, no country in the world imports more than 30% of its total import from China. While in the case of export shares there were countries with extremely high and extremely low shares, import shares are relatively even across countries. The standard deviation of export shares was 14% and that of import shares was 6%.

Manufactured goods account for a large portion of imports from China. Only in the cases of Macau and Mongolia, the percentages of manufactured goods in imports from China are less than 90% (Table 3). This is related to their geographical proximity to China. In the case of Macau, 11.6% of its imports from China consist of electricity (which is not classified as manufactured goods here) and 7.7% consist of food. In the case of Mongolia, electricity accounts for 5.8% of imports from China.

\begin{table}
\centering
\begin{tabular}{lcccccc}
\hline
& \multicolumn{5}{c}{Average share during} & \multicolumn{1}{c}{Percentage of manufactured goods} \\
& \multicolumn{5}{c}{2006–2015 (%)} & in imports from China (%) \\
\hline
& 2006 (%) & 2010 (%) & 2014 (%) & 2015 (%) & \\
\hline
Hong Kong & 45.8 & 44.7 & 44.7 & 47.1 & 45.2 & 96 \\
Macau & 39.3 & 30.5 & 32.8 & 33.7 & 69 \\
Mongolia & 27.2 & 33.1 & 29.9 & 87 \\
Paraguay & 26.7 & 34.2 & 25.3 & 23.5 & 99 \\
Myanmar & 27.1 & 27.1 & 27.1 & 97 \\
Cambodia & 17.5 & 24.2 & 39.3 & 26.0 & 98 \\
Vietnam & 16.5 & 23.8 & 29.5 & 23.4 & 92 \\
Niger & 12.5 & 43.8 & 22.6 & 22.3 & 93 \\
Ethiopia & 12.3 & 24.0 & 26.5 & 27.8 & 99 \\
Japan & 20.5 & 22.1 & 22.3 & 25.6 & 21.7 & 93 \\
Kirgistan & 14.3 & 20.7 & 25.3 & 20.2 & 94 \\
\hline
\end{tabular}
\caption{Countries and regions having high shares of imports from China.}
\end{table}

All percentages are calculated by the data for 2014, except for Myanmar which uses 2010 data and Kirgistan which uses 2015 data.

Source: Author’s elaboration based on data from UN Comtrade.

\textsuperscript{11}Ibid.
countries import mostly manufactured goods ranging from apparel and footwear to electric machinery from China. As China exports various types of manufactured goods, shares of imports from China are relatively stable.

It is likely that China’s export of manufactured goods has led to the decrease of employment in South African manufacturing industry. Did the increase of manufactured goods imports from China have similar effects in other countries too? It is not an easy task to examine this effect, however, because the growth of manufactured goods imports from China and the growth of domestic manufacturing industry can coincide for several reasons. For example, a growth in domestic demand may lead to the increase of imports from China and the growth of domestic manufacturing industries simultaneously. When there are forward and backward linkages between Chinese and domestic manufacturing industries, the growth of domestic manufacturing industries may induce the growth of intermediate goods imports from China, or the rise of finished goods imports from China may entail the growth of domestic intermediate goods production. Therefore, it is likely that imports of manufactured goods from China and the growth of domestic manufacturing industries move in the same direction. It is not easy to differentiate the negative impact of import growth on domestic manufacturing from the positive relationship between them.

To examine the impact of import growth on domestic manufacturing industries without being confused by the impact of domestic manufacturing growth on imports or by the impact of domestic demand on both imports and domestic manufacturing, a one-year time lag is introduced in the following analyses. The growth of manufacturing added value in one year is regressed to the growth of imports from China in the previous year. A surge of imports from China in a certain year is likely to have a negative impact on not only the output of domestic industries in the same year but also in the next year, but it is unlikely that the output of domestic industries will have an impact on imports from China in the previous year. The other explanatory variable in the regression is the GDP growth rate, which represents the growth of domestic demand. In sum, in the following regression analyses, the annual growth rates of added value of domestic manufacturing industries during 2008–2014 are explained by GDP growth rates of the same year and the growth of imports from China in the previous year.

The result of regression analyses is reported in Table 4. Fixed effect panel analyses are performed along with pooled OLS regressions. Since the individual effect of each country and region is absorbed by the GDP growth rate, the fixed effect models (2, 4) are not necessarily superior to the pooled regression models (1, 3), as indicated by the F-test. The growth of imports from China has a negative and significant impact on manufacturing growth. In the analysis of 153 countries and regions (1), a 1% increase in imports from China leads to a 0.0082% decrease of manufacturing added value in the next year. In the analysis limited to 53 countries and regions in which shares of imports from China exceed 10% (3 in Table 4), the absolute value of the marginal effect of imports from China is greater.

I have also tried regressing manufacturing growth to GDP growth rates and growth of imports from China in the same year, which is not reported in Table 4. The coefficient of growth of imports from China is positive but not significant. This suggests that the negative impact of imports from China is cancelled by the positive relationship between imports and domestic manufacturing.
The analyses in the previous sections can be summarized as follows:

As China’s share in global imports increases, many countries with high shares of exports to China have emerged, and their export concentrate on a single or a few items in most cases. The growth of exports to China has small but positive and significant impact on the GDP growth rate of the exporting countries. The fluctuations of Chinese industries have resulted in economic fluctuations in the exporting countries and some are affected quite seriously.

The expansion of exports from China is bringing about the decline of manufacturing industries in its trade partners. A negative and significant relationship was found between the growth of imports from China and domestic manufacturing growth in the next year.

The ever-increasing appetite for primary goods in China will induce the economic structure of primary goods exporters to move toward more concentration on a limited number of items. The expansion of exports of manufactured goods from China will negatively affect the manufacturing industries of newly industrialized countries. Extending these trends into the future, China is poised to have larger shares in global manufacturing while the other emerging economies are heading toward more concentration on primary goods exports.

The believers in the principle of comparative advantage will find no problem in such a development. But if the resource exporters tend to grow slower than manufactured goods exporters, as being pointed out by Prebisch, Singer, and the proponents of “the curse of natural resources,” the countries that are experiencing the growth of primary goods exports at the expense of the decline of their manufacturing industries will feel uneasy with this trend. The reason why manufactured goods exporters grow faster than resource exporters is attributed to the feature of manufacturing industries of having external economies through backward and forward linkages and learning by doing.\(^{12}\)

The analyses of this paper suggest that the expansion of China’s imports and exports is driving many emerging economies toward deindustrialization of their exports and domestic economy. Su, Wei, and Tao insist that China’s resource imports do not cause any detrimental effect to the economic growth and industrialization of the exporting economies.

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**Table 4. Regression analyses of manufacturing growth and the growth of imports from China.**

| Dependent variable: real growth rate of added value of manufacturing industries | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| GDP growth rate | 1.05 *** (17.94) | 1.12 *** (14.9) | 1.40 *** (12.73) | 1.57 *** (10.85) |
| Growth of imports from China(−1) | −0.0082 *** (−2.65) | −0.0083 ** (−2.27) | −0.028 ** (−2.55) | −0.031 *** (−2.59) |
| Constant | −0.09 *** (−3.26) | −1.18 *** (−3.49) | −2.02 *** (−3.14) | −2.65 *** (−3.35) |

| Model | Pooled regression | Fixed effect | Pooled regression | Fixed effect |
|---|---|---|---|---|
| Obs | 955 | 955 | 350 | 350 |
| Countries and regions | 153 | 153 | 53 | 53 |
| R\(^2\) | 0.26 | 0.26 | 0.33 | 0.33 |
| F-test: γ\(_i\) = 0 | 1.03 | 1.03 | 0.87 | 0.87 |

t-Statistics are presented in brackets.

*** indicates statistical significance at the 1% level; ** indicates statistical significance at the 5% level.

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4 “The curse of natural resources” and Chinese investments in Africa

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The analyses of this paper suggest that the expansion of China’s imports and exports is driving many emerging economies toward deindustrialization of their exports and domestic economy. Su, Wei, and Tao insist that China’s resource imports do not cause any detrimental effect to the economic growth and industrialization of the exporting economies.

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\(^{12}\) Sachs and Warner, “Natural Resource Abundance”; and Lall, Weiss, and Oikawa, “China’s Competitive Threat,” 163–94.
countries. However, since the period of their analysis is confined to the period when China was still not a major importer in the world (1995–2007), their analysis may not be persuasive to those who worry about the overreliance on resource exports. Besides this, since “the curse of natural resources” stems from the reliance on natural resources in general, it is unclear whether it is meaningful to single out resource export to China and examine whether it has a detrimental effect on domestic economy. The increase of (resource) exports to China implies the increase of external demand for the exporting country, and therefore it should have a positive impact on the latter’s GDP growth in the short run. Indeed, in the analyses presented in Section 2, we have observed a positive impact. The argument on “the curse of natural resources,” on the other hand, refers to a long-term effect of the decline of manufacturing. An analysis based on annual data such as Su, Wei, and Tao’s is not relevant for discussing the existence of the curse.

Although it is out of the scope of this paper to examine whether “the curse of natural resources” really exists, I must point out that China itself has succeeded in avoiding the curse by industrializing its export structure. In the 1980s, China relied on the exports of primary goods, such as petroleum and coal. In 1985, 53% of China’s export consisted of primary goods. Through technology transfer, introduction of foreign direct investment (FDI), and export promotion policies, China has changed itself into a manufactured goods exporter, and arguably this was one of the key factors that brought about continuous high-speed growth in China. In light of this experience, China should avoid imposing the position of primary goods exporters to other emerging economies. It should rather help them to industrialize.

The most effective way to help emerging economies to industrialize is FDI. The amount of China’s FDI is increasing rapidly, reaching $116 billion in 2014, exceeding Japan’s FDI for the first time. In Africa, Chinese firms are far more aggressive in investing than Japanese firms. The stock of FDI from China to Africa exceeded $26 billion at the end of 2013, which was more than twice the size of FDI stock from Japan ($12 billion). Firms that are engaged in FDI in Africa include not only state-owned enterprises and major private firms but also self-employed individuals who emigrate to Africa and start new businesses there.

In many countries in Africa, China’s investments consist of large-scale investments made by state-owned enterprises in the mining sector and small-scale investments in retailing and wholesaling made by self-employed individuals. In Zimbabwe, for example, the Anhui Foreign Economic Construction Group is engaged in various construction projects and diamond mining and a number of Chinese merchants are engaged in the retailing of clothing and daily necessities. In Gabon, SINOPEC, a state-owned petroleum corporation, is engaged in petroleum extraction, while a Chinese private enterprise named Huazhou Mining is engaged in manganese mining in collaboration with CITIC, a state-owned conglomerate, and China National Machinery Import and Export Corporation and a state-owned steel maker are engaged in iron ore mining. In the Democratic Republic of Congo, a joint venture between Sinohydro, China Railway Group, and a Congolese state enterprise, which received a 9-billion-dollar loan from

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13 Su, Wei, and Tao, “China and Natural Resource Curse,” 18–40.
14 Marukawa found a weak negative correlation ($r = −0.07$) between the share of primary goods exports in 2006 and per-capita real GDP growth during 2006 and 2014. See Marukawa, “The Impact of China’s Economic Fluctuations,” 3–6.
15 French, China’s Second Continent.
16 Mapaure, Chinese Investments in Zimbabwe.
China’s Export and Import Bank, is engaged in the mining of copper and cobalt and plans to construct roads with a total length of 3600 km. A number of Chinese small and medium enterprises are also engaged in copper mining and refining in the Democratic Republic of Congo.\(^{17}\)

In South Africa, which is the largest destination for China’s FDI in Africa, Chinese firms are engaged not only in resource extraction and retailing but also in manufacturing. Jidong Development Group, one of the leading cement manufacturers in China, erected a cement plant; First Automobile Works, a leading state-owned automobile manufacturer, established an assembly plant of trucks; and Hisense erected a factory of household electric goods.\(^{18}\) Hisense’s project started from an $800,000 investment in 1997, and after becoming one of the leading brands of television sets and refrigerators in South Africa, the company built a new plant in Atlantis, Western Cape. Atlantis is a city built during the Apartheid era as an industrial center and a community for the colored population, and later suffered from severe unemployment. Hisense’s plan to employ 1200 workers at the Atlantis plant was favorably received by South African and Western Cape governments.\(^{19}\) The aforementioned three manufacturing projects by Chinese firms received funding from the China–Africa Development Fund, which was established by the Chinese government. The funding of these projects suggests the Chinese government’s willingness to support China’s FDI in manufacturing in Africa.

5. Conclusion

The position of manufactured goods exporter was monopolized by the advanced countries until recently. Currently, China assumes this position, and with its exports of manufactured goods and imports of primary goods, China is driving other emerging economies toward deindustrialization. Although such development may benefit other emerging economies in the short run, they may suffer from “the curse of natural resources” in the long run. This is why China, even though it is still a middle-income country with a per capita GDP of $8000 in 2016, needs to help other emerging economies to avoid de-industrialization. There are some initiatives taken by China in South Africa to boost industrialization. The establishment of the Asian Infrastructure Investment Bank and China–Africa Development Fund are also major initiatives taken by the Chinese government to help other emerging economies to industrialize.

Disclosure statement

No potential conflict of interest was reported by the author.

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\(^{17}\) Jansson, Burke, and Jiang, “Chinese Companies in the Extractive Industries.”

\(^{18}\) Alden and Wu, “South Africa and China.”

\(^{19}\) Grimm, Kim, and Anthony, “South African Relations with China.”
Japanese), *Contemporary Chinese Industries* (Chuko Shinsho, 2007) (in Japanese), *Chinese Dream: Mass Capitalism Changes the World* (Chikuma Shinsho, 2013) (in Japanese), and *Contemporary Chinese Economy* (Yuhikaku, 2013) (in Japanese). Besides these books, he has published several articles in international academic journals including *Economic Systems, China: An International Journal, Journal of East Asian Studies, Eurasian Geography and Economics,* and *Asia Pacific Business Review.*

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