Are Japanese Exports Competitive?
The Structural Change in Comparative Advantage

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The Japanese economy has as of late been supported by a significant increase in exports, a tentative relief from a prolonged period of sluggish demand. Although exports to the United States have decelerated due to the Iraqi war this year, those to Asia and Europe have continued to show double-digit increases over last year. Can we conclude that Japanese exports continue to be competitive? The answer is “no.” In the long term, the situation is by no means optimistic. Figure 1 shows the change in real exports for Japan, the United States, the industrialized countries (including Japan and the U.S.) and the whole world for the period 1970-2002. Japanese exports enjoyed remarkable growth in the 1980’s and then stagnated in and after the 1990’s. We can observe the same trend in the nominal data.

Theoretically, exports are influenced by international relative prices (real exchange rates) and demand size (world real imports). However, for a last decade, a different factor has been at play for Japanese exports. This is a structural change in “the comparative advantage” among trading countries. When the composition of superior and inferior industries in terms of labor productivity differs between countries, that is, when an industry is competitive in one country yet not in another country, then trade is promoted between these “complementary” partners. This is the basis of the comparative advantage theory. Estimates indicate that the degree of comparative advantage between Japan and its export partners has been declining, and that has led to the stagnation of Japanese exports.

The solid line in Figure 2 is the Japanese trade complementarity index, and the broken line is the index of Japanese real exports divided by the Japanese real exchange rates and world real imports. The complementarity index is calculated by adding the degree of complementarity with four trading areas; the U.S., Europe, Asia and others; to which Japan exports various kinds of capital, intermediate, and consumer goods.

The broken line starts to show a declining trend in the latter half of the 1990’s, although the line should be stable if exports were driven by just price and income factors. On the other hand, the movement of this broken line and the complementarity index, the solid line, are almost the same. This clearly indicates that the slowdown in Japanese exports that can be seen over the long term has been brought about by the decline in complementarity of comparative advantages.
This change has been caused mainly by the catching-up of Asian economies. Accordingly, Japanese products, capital, and intermediate goods, which have been very competitive internationally for a long time, have started to lose their power. Furthermore, the complementarity index has fallen while the overseas production ratio has increased as a result of Japanese firms’ foreign direct investment (FDI). FDI has the effect of increasing capital and intermediate goods exports from a host country to its overseas production base, and this effect FDI has on trade seems to be drastically declining in Japan.

There have been many empirical analyses that have concluded that Japan and Asia are not competitive, but rather complementary with respect to their industrial and trade structures. However, I think such viewpoints are one-sided because they ignore the aforementioned change. It is more important to pay attention to the extent of change in the degree of complementarity.

As there are some problems in the availability of effective foreign direct investment data, the amount of analysis regarding said structural change has been insufficient. We need further analytical research on the effects that FDI has on industrial and trade structures.

Figure 1  Real Exports of Japan and Other Countries

(Note) Industrial countries include Japan and United States
(Source) IMF, Bureau of Labor Statistics, Bureau of Economic Analysis, Bank of Japan, Ministry of Finance Japan,
Figure 2 Complementarity Index of Comparative Advantages and Japanese Real Exports Divided by World Real Imports and Real Exchange Rates

(Source) IMF, United Nations.