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The Role of Global Production Linkage on the Exchange Rate Elasticity of Firm Exports

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The effectiveness of exchange rates on exports empirically appears to be weak across countries, while many theoretical models conclude that exchange rate depreciation can stimulate economic activities and boost exports through the mechanism of price competitiveness. This anomaly is the so-called "exchange rate disconnect puzzle," one of the central puzzles in international macroeconomics, referring to how large movements in the exchange rate have but modest effects on aggregate variables such as export and import prices, consumer prices, and even the quantity of exports and imports. The anomaly also applies to the case of Korea, where the real aggregate exports and imports co-moved with the real exchange rate throughout 2000–2018 except for the period of the global financial crisis, which means, on average, increases in exports and imports associated with the appreciation of real exchange rate.

In Choi and Kim (2018), we explore whether global production linkage through foreign ownership and foreign subsidiaries contributes to weakening the effectiveness of changes in exchange rates on firm exports by using detailed Korean firm-level data, Survey of Business Activities provided by Statistics Korea (KOSTAT). First, we examine the exchange rate elasticity of total exports in order to investigate the role that foreign ownership and foreign subsidiaries play in explaining export sensitivity to exchange rate changes. Second, we estimate the exchange rate elasticity of exports to destinations other than foreign affiliates to examine the role of exports to the foreign parent company or foreign subsidiaries for inelastic exchange rate elasticities. Last, we examine whether the industry-level GVC measures and imported intermediate inputs play roles in weakening the exchange rate elasticities.

The empirical results show that the estimated exchange rate elasticity of total exports is about -0.64, which implies that a 10% appreciation in the Korean won would lower total exports by 6.4%. However, the exchange rate elasticities of total exports for foreign-owned firms and firms that own foreign subsidiaries are estimated to be insignificant. Thus, we can expect that the relationships with a foreign parent firm or foreign subsidiaries play a role in weakening the effect of exchange rate movements on firm exports. Even after controlling for the exports to foreign affiliates, we still find that exchange rate elasticities of firms are not homogeneous. The elasticities of domestic firms and firms without foreign subsidiaries are estimated to be statistically significantly negative, but the elasticities of firms with global production linkages are statistically insignificant. However, the elasticities of foreign-owned firms and firms with foreign subsidiaries become negative and relatively larger, which implies that exports to foreign-related firms partially dilute the effect of exchange rate changes on firm exports. Also, we find that the elasticities shrink further for firms in higher GVC participation industries and those depending more on imported intermediate inputs.

All in all, global production linkages alleviate the effect of exchange rates on firm exports. This may be an important finding when understanding the low exchange rate elasticity of aggregate export. KIEP

Reference

Choi, Hyelin and Hyo Sang Kim. “Exchange Rates and Firm Exports: The Role of Foreign Ownership and Subsidiaries.” KIEP Research Paper. Working paper 18-03. Sejong: Korea Institute for International Economic Policy.