A comparison of Productivity Level among China, Japan, ROK and USA using international input-output tables

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Abstractï¼šThe research questions of this paper are an improvement in method for international comparison of productivity level and showing the measured results concerning productivity level of China, Japan, ROK and USA.

Now many studies of productivity are done using of TFP (total factor productivity). We propose TLP (total labor productivity) as better indicator of productivity level. TLP is ratio of output to total labor (direct and indirect labor). Direct labor means labor used in the industry concerned. Indirect labor means labor used for production of fixed capital, raw material, etc. Total labor quantity can be gotten by solving simultaneous linear equations using extended input coefficient matrix including not only ordinary intermediate input coefficient matrix but also fixed capital depreciation coefficient row and fixed capital formation coefficient column. Labor quantity inputted in imported fixed capital, imported raw material etc. can be calculated by using international input-output tables. We convert from calculated results in each countryâ€™s price to results in common price using purchasing power parity.

We have used OECD World Input-Output Tables (WIOD) and Eora Multi-Region Input-Output Tables (MRIO) through internet. Also we have used ICP purchasing power parity (Basic Heading) gotten from World Bank. (Our deepest thanks to OECD, Eora and World Bank)

We measured TLP using national input-output tables for years. We wrote that TPL was better indicator of productivity than TFP in our several papers. In 2016 IIOA conference we presented a comparison of TLP growth among China, Japan, ROK and USA using international input-output tables. This time we will present a comparison of TLP level among them using international input-output tables and purchasing power parity. We will compare those with the results using national input-output tables. And we will make characteristics of TLP level comparison using international input-output tables clear.