

## EALC 2009

The Japan Center for Economic Research has been pursuing the revision and updating of the East Asian Listed Companies Database (EALC) with the assistance of the Hitotsubashi University Global COE Program's "Research Unit for Statistical and Empirical Analysis in Social Sciences," the Center for Economic Institutions, Hitotsubashi University, the CENU Center for China and Asian Studies at Nihon University, and the Center for Corporate Competitiveness at Seoul National University. The most recent version, EALC 2009, is composed of the necessary data for estimating the total factor productivity (TFP) of all companies listed on the stock exchanges in Japan, China, South Korea, and Taiwan as well as the TFP of each company adjusted for purchasing power parity. The above-mentioned necessary data includes the annual figures for capital stock and cost of real capital services, labor input (man-hours) and labor cost, and both nominal and real production and intermediate input.

The target periods and stock exchanges are as follow.

Japan: 1985 - 2005	First and second section of the Tokyo, Osaka, Nagoya, Fukuoka, and Sapporo stock exchanges, and Jasdaq, Mothers, and Hercules, etc.
South Korea: 1985 - 2005	Korea Exchange-Stock Market Division and Kosdaq
China: 1999 - 2005	Shenzhen Stock Exchange and Shanghai Stock Exchange
Taiwan: 1985 - 2005	Taiwan Stock Exchange and Gre Tai Securities Market

The following points are the main differences between EALC 2009 and the former version, EALC 2007.

1. Data on all listed companies in Taiwan was added.
2. The EALC Database 2007 presented international comparisons of TFP separately for Japan-South Korea and Japan-China. However, this time the data was pooled after performing a purchasing power parity adjustment on data for all listed companies in the same industry in the four countries of Japan, South Korea, China, and Taiwan, and the TFP of those companies was calculated by measuring the disparity between the geometric mean for all companies in 2000 and each company's output and production factor inputs in each year. This enables direct and reciprocal comparison of the

productivity of all listed companies in the four countries.

3. As the deflator for output and intermediate input in South Korea, the EALC Database 2007 utilized the producer price index. However, this time the deflators from the Korea Industrial Productivity (KIP) Database (Korea Productivity Center, Seoul National University) and the EU KLEMS Database were utilized. The original source for the deflator data used this time appears to be internal materials prepared by the Bank of Korea for South Korean SNA statistics.

As in the case of the EALC 2007, the purchasing power parity data is extrapolated from the price indexes of each country in 1997, the International Comparison of Productivity Analysis (ICPA) benchmark year, based on estimates of the ICPA Project for the Pacific Rim countries carried out by the Research Institute of Economy, Trade, and Industry. In the future, we think that it is necessary to conduct an international comparison of price levels for the most recent years as well and to make an international comparison based on a double benchmark. For example, in the case of Taiwan, the rate of increase of the deflator used for gross output displays a visible trend toward being significantly lower than the rate of increase of the deflator used for intermediate input. Due to this, it is possible that the increase in the TFP of Taiwanese companies in the 2000s is overestimated.

Each Excel file contains the following variables in the given units.

1. Year
2. Industry code: See the Table of Industry Codes and Industry Names shown below.
3. Country
4. Stock code
5. English company name: (Taiwanese data is not yet included)
6. Company name in home country language
7. Real gross output: Year 2000 prices; units are one million yen for Japan, one million won for South Korea, one million yuan for China, and one million new Taiwan dollars for Taiwan
8. Real intermediate input: Year 2000 prices; units are one million yen for Japan, one million won for South Korea, one million yuan for China, and one million new Taiwan dollars for Taiwan
9. Real capital stock: Year 2000 prices; units are one million yen for Japan, one million won for South Korea, one million yuan for China, and one million new

Taiwan dollars for Taiwan

10. Labor input: Man-hours
11. Cost share of intermediate input
12. Cost share of real capital service input
13. Cost share of labor input
14. TFP level (local, logged value, 2000 industry average (geometric mean) = 0): TFP (logged value) of the relevant companies, with the TFP (logged valued) geometric mean of listed companies in the same industry in the Year 2000 in a given country standardized to zero.
15. TFP level (logged value, 2000 industry average (geometric mean) = 0): TFP (logged value) of the relevant companies, with the TFP (logged valued) geometric mean of listed companies in the same industry in the Year 2000 in the four countries of Japan, South Korea, China, and Taiwan standardized to zero. Adjustments for purchasing power parity have been completed.
16. Real gross output: Year 2000; Japan prices, million yen
17. Real intermediate input: Year 2000; Japan prices, million yen
18. Real capital stock: Year 2000; Japan prices, million yen

Table of Industry Codes and Industry Names

No./ Industry Name
1 Agriculture
2 Coal mining
3 Metal and nonmetallic mining
4 Oil and gas extraction
5 Construction
6 Food and kindred products
7 Textile mill products
8 Apparel
9 Lumber and wood products
10 Furniture and fixtures
11 Paper and allied products
12 Printing, publishing, and allied products
13 Chemicals
14 Petroleum and coal products
15 Leather
16 Stone, clay, and glass products
17 Primary metal
18 Fabricated metal
19 Non-electrical machinery
20 Electrical and electronic machinery
21 Motor vehicles
22 Transportation equipment and ordnance
23 Instruments
24 Rubber and miscellaneous plastics
25 Miscellaneous manufacturing
26 Transportation
27 Communications
28 Electrical utilities
29 Gas utilities
30 Trade
31 Finance, insurance, and real estate
32 Other private services
33 Public service