



Compilation of the JIP Database Enabling Cross-country Comparisons in Productivity



Kyoji Fukao
Professor
Hitotsubashi University

[Background]

We renew the JIP (Japan Industrial Productivity) Database annually, in a joint effort with RIETI (Research Institute of Economy, Trade and Industry). The database is directed toward providing basic information for analyzing Japan's industry structure and productivity, on which we base our ongoing research of Japan's potential growth factor (rate). The JIP database provides information on 108 sectors encompassing the entire Japanese economy, and give estimations for annual figures for factors such as productivity, labor, capital and energy cost of each industry. JIP has also contributed data to the EU KLEMS project, a database measuring productivity in European Union member nations, to make possible comparative studies of productivity and industrial structure between different countries. Because empirical research using data on individual companies and business are effective in identifying productivity trends, we have also compiled the EALC (East Asian Listed Companies) Database in collaboration with Professor Yuan Tangjun (foreign visiting scholar from 2007-2008;

associate professor of the Institute of Economic Research, Hitotsubashi University, since 2009) and other scholars and research institutions in Japan, China, South Korea and Taiwan.

[Results]

Economic growth in Japan was analyzed using the JIP database as shown in Figure 1. It can be seen that the steep decline of Japan's economic growth rate from the 1990s has been caused not only by a slowdown in labor and capital investments, but also a fall of the TFP (Total Factor Productivity) rate. This marks a contrast to the United States, where TFP rates accelerated after 1995. Industries that utilized IT (information technology) in their products and services led this economic growth in what has been called the IT revolution. Using the JIP database it becomes apparent why a similar IT revolution failed to occur in Japan. In Figure 2, various nations' IT investment rates with respect to GDP are compared. In Japan, IT investment was extremely low compared to other countries, which was probably why the IT revolution did not hap-

pen in Japan. The JIP Database has made such precise statistical cross-country analyses possible for the first time.

[Outlook]

The JIP Database is updated every year, and the results are made public. The JIP Database is used in trade white papers, and reports by government offices such as the Bureau of Economic Analysis of the U.S. Department of Commerce and the U.S. Federal Reserve Bank. JIP has begun to be treated on the same level as official government statistics in Japan as well. For example, the STAN (Structural Analysis) Database compiled by the OECD as a tool for analyzing industrial activity uses JIP as one of its basic statistics. And a Global COE Program in Hitotsubashi University collaborated with RIETI in organizing the CAED (Comparative Analysis of Enterprise Data) conference in Tokyo in October 2009, the first time that this international conference has been held in an Asian country, with participation by more than 150 researchers from around the world.

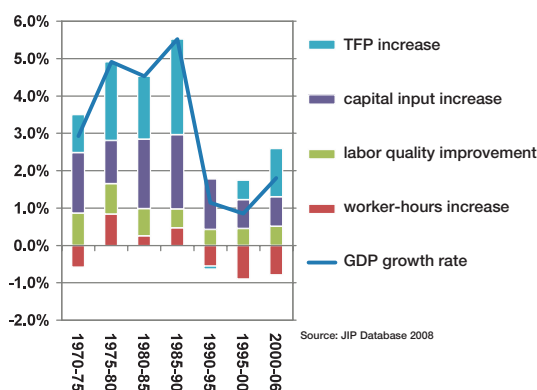


Fig. 1: Growth Factors: Market Economy and Gross-Product Originating

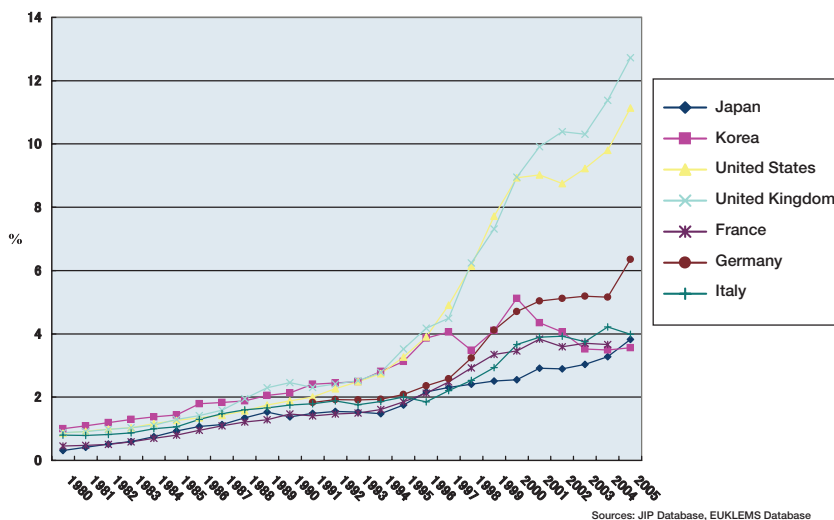


Fig. 2: Cross-country comparison of IT investment/GDP ratios

Related Grants-in-Aid for Scientific Research:

FY2003-2004 Grant-in-Aid for Scientific Research (B): "Industrial Structure and Productivity in Japan and its Relation to Economic Growth"