

Korea-Japan Workshop on the Industrial Productivity Database

**Discussion of Future Joint Work on the
Comparison of International Productivity
:Research Plan on Japan**

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1. ESRI-HISTAT JIP Database

- **HI-STAT project team and ESRI will collaborate on**
 - 1. the extension of the period covered from 1970-98 to 1970-2001 or 1970-2002;**
 - 2. the revision from 1968 SNA base to 1993 SNA base;**

and

 - 3. revisions of labor input data and other data.**

2. RIETI Manufacturing Database 1

- The HI-STAT project team and RIETI (Research Institute of Economy, Trade and Industry) will collaborate on the compilation of the RIETI Manufacturing Database, which will contain annual industry-level data on output, employment, payroll and other input costs, investment, capital stocks, TFP, and various industry-specific price indexes.**
- The database will cover all 4-digit manufacturing industries from 1960 to 2001, in two versions: a database, which covers all establishments, and a database, which does not cover very small establishments.**

Comparison between the NBER-CES Manufacturing Database and the RIETI Manufacturing Database

| | NBER-CES Manufacturing Database | RIETI Manufacturing Database |
|-------------------------------------|--|---|
| Period | 1958-1996 | 1960-2000 |
| Activity-base or establishment-base | Establishment-base | Both |
| Industry classifications | 1972 SIC industries (448 industries) 1987 SIC industries (459 industries) | 1963 JSIC activities 1967 JSIC activities 1972 JSIC activities 1976 JSIC activities 1984 JSIC activities 1993 JSIC activities |
| Coverage | In census years, all establishments are covered. In other years, the activity of all establishments is estimated from a sample survey. | Annual survey covers establishments with 4 or more employees But, surveys in years ending with 0, 3, 5 and 8 cover all establishments |
| Headquarters and support facilities | Not included | Included before 1987 |
| Output data | Shipments, value added | Production and net-value added data are available in the case of establishments with 10 or more workers. In the case of smaller establishments, only data on shipments and gross value added are available, since data on inventories and depreciation are not available. |

Comparison between the NBER-CES Manufacturing Database and the RIETI Manufacturing Database (*continued*)

| | | |
|---------------------------|---|--|
| Intermediate input data | Non-energy, energy | Data on intermediate input of raw materials, fuels, electricity, subcontracting are available for establishments with 30 or more employees. Disaggregated data on intermediate inputs are not available for smaller establishments. |
| Capital stock | Capital stock at the 4-digit industry using FRB 3-digit capital stock data is used. Net capital stock (excluding land) Computer | we use JIP database as the basis of 4-digit estimates We cannot separate computer |
| Capacity utilization | Not available | We can use the JIP database. |
| Labor quality | Not available | Not available. But we can use data of population survey (3-digit industries) |
| Work hours | Available | We need to use other statistics. |
| Output deflator | Before 1972: BLS producer price index From 1972: 5-digit product deflators of BEA | Either the Bank of Japan WPI or Commodity flow deflators can be used. |
| Material deflator | Input-Output Table Energy deflator | I-O tables can be used. |
| Investment goods deflator | Investment flow matrix | Fixed capital flow matrix and commodity deflators |

Example of commodity code of JSIC

| Code | 1960-61 | 1961-63 | 1963-67 | 1967-71 | 1971-78 | 1978-80 | 1984-88 | 1988-92 | 1992-94 | 1994-99 | 2000-01 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 181111 | 181111 | 181111 | 181111 | 181111 | 181111 | 121111 | 121111 | 121111 | 121111 | 121111 |
| 2 | 181111 | 181111 | 181111 | 181111 | 181111 | 181111 | 121111 | 121111 | 121111 | 121111 | 121111 |
| 3 | 181111 | 181111 | 181111 | 181111 | 181111 | 181111 | 121111 | 121111 | 121111 | 121111 | 121111 |
| 4 | 181112 | 181112 | 181112 | 181112 | 181112 | 181112 | 121112 | 121112 | 121112 | 121112 | 121112 |
| 5 | 181112 | 181112 | 181112 | 181112 | 181112 | 181112 | 121112 | 121112 | 121112 | 121112 | 121112 |
| 6 | 181112 | 181112 | 181112 | 181112 | 181112 | 181112 | 121112 | 121112 | 121112 | 121112 | 121112 |
| 7 | 181113 | 181113 | 181113 | 181113 | 181113 | 181113 | 121113 | 121113 | 121113 | 121113 | 121113 |
| 8 | 181113 | 181113 | 181113 | 181113 | 181113 | 181113 | 121113 | 121113 | 121113 | 121113 | 121113 |
| 9 | 181113 | 181113 | 181113 | 181113 | 181113 | 181113 | 121113 | 121113 | 121113 | 121113 | 121113 |
| 10 | 181211 | 181211 | 181211 | 181211 | 181211 | 181211 | 121211 | 121211 | 121211 | 121211 | 121211 |
| 11 | 181211 | 181211 | 181211 | 181211 | 181211 | 181211 | 121211 | 121211 | 121211 | 121211 | 121211 |

Outline of the principal source of US manufacturing database

- Census of Manufactures:
 - Conducted every five years ending in 2 and 7
- ASM (Annual Surveys of Manufactures)
 - Conducted every years except ones ending in 2 and 7
- Cut-off point for size of establishments surveyed: none
 - Census surveys ca.350,000 establishments, while ASM surveys ca.55,000 establishments as sample.
- Industrial classification
 - Present series since Census 1997: in accordance with NAICS
(North American Industry Classification system)
 - Former classifications: 1987 SIC, 1972 SIC ..

3. Our Long-Run Goal

1. **Construct a database for total factor productivity analysis, which is**
 - **open to the public;**
 - **at a detailed industry level (about 60 to 90 industries);**
 - **harmonized among countries so that we can use it for international comparison;**
 - **and covers the macro-economy so that we can derive macroeconomic implications.**
2. **Conduct economic analyses and international comparisons. For this goal we need to**
 - **measure PPP;**
 - **evaluate the equivalence of each labor category;**
 - **innovate new approaches, which are based on our industrial database;**
 - **and compare results of industry level analyses with results based on micro data.**