

## **RIETI FDI Database 2010**

Toshiyuki Matsuura<sup>1</sup> and Kiyoyasu Tanaka<sup>2</sup>

This paper provides a description of the RIETI Foreign Direct Investment Database 2010. We first explain the survey on foreign affiliates owned by Japanese parent firms, which is conducted annually by the Ministry of Economy, Trade and Industry (METI). Next, we describe some details of procedures to improve data on Japanese multinational activities from the METI surveys. Finally, we discuss the distinctions between the 2010 FDI database and the previous FDI datasets for 2006 and 2009.

### **1. The Survey of Overseas Business and Activity**

The Survey on Overseas Business and Activities (SOBA) is a firm-level survey by the Ministry of Economy, Trade and Industry. This survey aims to obtain basic information on the activities of foreign affiliates of Japanese parent firms. The survey covers all Japanese firms that have at least one business enterprise in a foreign country. The survey consists of two parts: the Basic Survey and the Trend Survey. The former contains detailed items in the questionnaire and is carried out once every three years. The latter has relatively basic information and is conducted in the years between the Basic Surveys. The survey covers both manufacturing and non-manufacturing sectors, but firms in the finance, insurance, and real estate sectors are not surveyed. In these surveys, a foreign affiliate is defined as follows:

- A foreign affiliate in which a Japanese corporation has invested capital of 10% or more;
- A foreign affiliate in which a "subsidiary," funded over 50% by a Japanese corporation, has invested capital of over 50%; and
- A foreign affiliate in which a Japanese corporation and a subsidiary funded over 50% by a Japanese corporation has invested capital of over 50%.

---

<sup>1</sup> Institute for Economic and Industrial Research, Keio University, 2-15-45, Mita, Minato-ku, Tokyo, Japan, 108-8345, Japan; e-mail: matsuura@sanken.keio.ac.jp

<sup>2</sup> Economic Integration Studies Group, Inter-Disciplinary Studies Center, Institute of Developing Economies, 3-2-2 Wakaba, Mihama-ku, Chiba-shi, Chiba 261-8545, Japan; e-mail: kiyoyasu\_tanaka@ide.go.jp

Major items in the SOBA include establishment year, sales and purchases by destination market, employment, operation costs, R&D expenditures, etc. For further information on the SOBA, please refer to the “Survey Form for Overseas Affiliates” and “Guide for Completing the Surveys” provided by METI.

## **2. Development of RIETI FDI Database**

The SOBA survey provides detailed information on foreign affiliates of Japanese parent firms and serves as a standard data set for analyzing Japanese multinational activities. However, the survey suffers from low response rates of around 60% across years partly because it is not mandatory for Japanese parent firms to respond to the SOBA. As a result, aggregate information on foreign affiliate’s activities across countries and years is likely to be influenced by varying samples of parent firms over time and widely fluctuating sales at the affiliate level. Such issues motivated us to improve the SOBA data so that it can be used for formal economic analysis.

In order to improve data on economic activity by foreign affiliates, we use the confidential data of individual questionnaires from the SOBA. A construction of panel data at the affiliate level proceeds with making a complete list of foreign subsidiaries in operation that is consistent over the survey years 1995-2006. First, we use a confidential questionnaire on Japanese parent firms to make a consistent identification number for them. The majority of parent firms maintain the same identification number across survey years, but some sample firms have a company name with different numbers. These reporting errors are corrected at this stage. Second, the SOBA assigns different identification numbers to foreign subsidiaries across survey years. To make a consistent number for each foreign affiliate, the same foreign affiliate in different survey years is identified by the information on their company name, parent firm, host country, and industry code.

For this project on the RIETI FDI Database 2010, we were able to exploit confidential micro data of the SOBA for the period 1995 through 2006. However, 2006 data do not contain the identification number for each foreign affiliate in the SOBA. To construct a panel data set, we linked foreign affiliates in 2006 with corresponding affiliates in previous years by using the information on their name, location, establishment year, and other relevant information.

The third step is to compile a unified list for the industry classification during the survey

period in order to assign a single industry code for each foreign affiliate. To assure the information in a comprehensive list for foreign affiliates, we need to identify the period in which each foreign affiliate enters and exits a host market. The entry date is determined by information contained in the SOBA on the establishment of a foreign affiliate and the capital participation in the foreign business enterprise. If the establishment date is inconsistent across survey periods, the most frequently reported year is chosen. On the other hand, the exit date is identified by the survey question on the status of operation by foreign affiliates, for which parent firms indicate the consolidation or relocation of their foreign affiliates. In addition, the information on bankruptcy and mergers of parent firms is used to determine the exit of their foreign affiliates.

These procedures yield a complete set of panel data on foreign subsidiaries by Japanese parent firms during the sample period. As a final step, the missing sales figures of foreign affiliates are estimated by linear interpolation at the affiliate level. The estimated data on affiliate sales are aggregated over industry, country, and year in order to permit public access to the data set. In addition to the affiliate's total sales, we provide public access to the aggregate data on Japanese multinational activity including affiliate sales by destination market, affiliate purchases by origin market, and the number of employees.

### **3. Notes on RIETI FDI Database 2010**

As we have explained up to this point, the RIETI FDI Database 2010 is constructed in a number of procedures to improve information on foreign affiliate activities. The FDI Database for 2006 and 2009 was also made using the same methodology.

An important distinction in the 2010 FDI database is that formal access to confidential micro data is granted to us only for the period 1995-2006. The data prior to the year 1995 were used in the 2006 FDI Database and 2009 FDI Database, but not used in the 2010 FDI Database. As coverage years are different for affiliate-level data, such a difference yields a deviation in some estimates of sales and employment between the 2010 FDI Database and previous FDI Databases. In particular, the deviation is potentially large for certain industries in Tables 3 through 5 even if the period and industry are identical across the databases.

There are two possible sources for the gaps in FDI databases. First, industry codes

reported in the SOBA survey switch often across years for some foreign affiliates. Because an unsystematic switch in the industry codes is likely to arise from reporting errors, an industry for a foreign affiliate is defined as the industry code that appears the most often for years 1995-2006. As a result, the industry defined in this way could change when the coverage year in micro data is different. In particular, deviations in aggregate data on employment and sales are likely to be large for countries, regions, and industries in which the number of foreign affiliates is relatively small. Second, the exit of some foreign affiliates is identified from the recent survey information in which such affiliates are not reported. The missing information on the affiliates is used to define an exit. Thus, an inclusion of micro data for 2006 may increase the number of foreign affiliates in operation, which might be otherwise out of operation in the previous databases.