

## **Business Survey Frame for Coordinated Statistical Production**

Masato Aida\*

Statistics Bureau, Ministry of Internal Affairs and Communications

Tokyo, Japan maida@soumu.go.jp

### **Abstract**

To ensure and improve the accuracy and consistency of statistics, many national statistical offices are taking integrated approaches to combining statistical enumeration data and administrative records effectively. In Japan, the Economic Census for Business Activity was conducted in 2012 by incorporating administrative records into the census frame for the first time. Both census enumeration data and administrative records have some weaknesses in coverage of enterprises and establishments and in accuracy of reported information, but by combining two ways of data collection, quality of economic statistics could be improved. This paper presents the experiences gained in the 2012 Economic Census for Business Activity in conjunction with the Business Survey Frame in Japan.

**Key Words:** Business survey frame, economic census, administrative records

### **1. Introduction**

1. Recently two improvements have been carried out in the field of economic statistics in Japan: (i) creation of the Business Survey Frame using information from major statistical censuses and surveys and administrative records, and (ii) implementation of the Economic Census for Business Activity for the first time to obtain financial information of all the establishments and enterprises simultaneously.

2. The Business Survey Frame which provides the master sampling frame for various economic statistical surveys started its full operation in January 2013. The frame uses information both from statistical censuses and surveys and from administrative records to ensure accuracy and consistency of economic statistics.

3. The Economic Census in Japan consists of two parts, (i) Economic Census for Business Frame (ECBF) and (ii) Economic Census for Business Activity (ECBA). ECBF collects mainly profile information of establishments and enterprises, and was conducted in 2009 by Statistics Bureau of Japan (SBJ) which belongs to the Ministry of Internal Affairs and Communications. ECBA collects detailed financial data of establishments and enterprises, and was conducted by SBJ and the Ministry of Economy, Trade and Industry (METI) jointly in 2012. Both censuses are to be conducted at interval of five years.

4. In ECBA, financial data such as sales and costs were collected not only from enterprises but also from establishments. Establishment basis data are important for the production of prefectural statistics, and needless to say, enterprise basis data are necessary for the production of national level statistics.

5. This paper first describes outlines of the Business Survey Frame and ECBA, and preliminary results of the 2012 ECBA, and then discusses the degree of usefulness of administrative records for the Business Survey Frame at the 2012 ECBA and in future.

## **2. Outline of the Business Survey Frame**

6. In current operation and maintenance of the Business Survey Frame, information from the Economic Census for Business Frame, information from the Corporation Registration System and information from the Labor Insurance System are used. In this section, these three types of information are explained.

7. Before the creation of the Business Survey Frame, the results of the Establishments and Enterprises Census which had been conducted using enumerators by SBJ twice every five years until 2006 were used as the master sampling frame for various economic statistical surveys in Japan. In this Census, financial data of establishments and enterprises were not collected. At the decision of initiating the Economic Census, the Business Survey Frame was planned to be established using not only the results of censuses but also administrative records in order to keep the sampling frame for economic statistical surveys always up to date.

8. The Economic Census for Business Activity adopts a mailing method for large enterprises, but largely adopts an enumerator method in which all the establishments existing in each of enumeration districts are checked by enumerators. Thus all the newly established or closed establishments can be found by enumerators, and the census results are expected to have high accuracy as an information source for the Business Survey Frame. However, its frequency is limited, and additions and deletions between the Censuses cannot be captured.

9. Information on changes recorded in the Corporation Registration System concerning new additions and deletions in the Registration is offered to SBJ from the Ministry of Justice every six months. This system covers only legal entities such as enterprises. The number of newly registered corporations per year is about 100 thousand and that of the corporations deleted from the registration is about 30 thousand per year.

10. Records on corporations offered from the Corporation Registration System do not include detailed descriptions of economic activities necessary for coding of industrial classification, number of employees, locations of branches (establishments) etc., so that the records cannot be used directly for updating the Business Survey Frame. Thus, SBJ conducts a follow-up inquiry survey to newly registered corporations by direct mailing or telephone interview to obtain economic activities, number of employees etc. The response rate for this inquiry is about 45 percent now, and the responses are stored in the Frame. As for those corporations which have not responded to the inquiry, their information cannot be stored, but they are included in the establishment list so that their information can be collected in the next Economic Census for Business Frame.

11. Information on changes recorded in the Labor Insurance System concerning new applications and withdrawals are offered to SBJ from the Ministry of Health, Labor and Welfare every month. The number of establishments which apply newly is about 150 thousand per year and that of the withdrawals is about 60 thousand per year.

12. SBJ also conducts a follow-up inquiry survey to establishments which have applied newly, to obtain economic activities, number of employees etc. by direct mailing or telephone interview. The response rate for this inquiry is about 60 percent. The responses are stored in the Frame. Concerning to the non-responses to the inquiry, the records of non-responses are also stored in the Business Survey Frame after proper complements by staff of SBJ, because records of establishments offered from the Labor Insurance System contain the number of employees and a certain level of descriptions about their economic activities. Shortcomings of the Labor Insurance System are as follows: (i) small establishments with no employees are not covered, and (ii) even if establishments withdraw from the Labor Insurance System after having lost all the employees, they might continue to operate.

### **3. Creation of the Economic Census (ECBF and ECEA)**

13. The official statistical system is decentralized in Japan, and the Economic Census had to be created reorganizing existing statistical censuses and surveys of SBJ and other ministries. In this section, the basic idea concerning the creation of the Economic Census is described.

14. Each ministry is responsible for producing statistics corresponding to the industries under its jurisdiction while SBJ conducts censuses and surveys fundamental to the status of the country. However, the weight of the service sector in economy increased greatly in recent years, and the necessity for comprehensive statistics on the service sector was pointed out. So, creation of the Economic Census that covers all industrial sectors simultaneously was urged in the 2005 Economic and Financial Policy Statement by government. After this statement, detailed discussions and test surveys were conducted by the related statistical departments, and the framework of the Economic Census was determined: The Economic Census is composed of two statistical censuses: ECBA and ECBF; ECBA should be a quinquennial census and its first round should be conducted in 2011 fiscal year; ECBF should be conducted between ECBA's and its first round should be implemented in 2009 fiscal year, i.e. two years before ECBA.

15. The first round of ECBF was conducted as of 1st July 2009. One of the two rounds of the former Establishment and Enterprise Census which had been conducted by SBJ twice every five years was reorganized to form new ECBF. On the other hand, the first ECBA was conducted as of 1st February 2012. At the creation of the first round of ECBA, the following integrations, abolitions etc. of statistical censuses and surveys which had been scheduled to be conducted in 2012 were performed.

\*The other round of the former Establishments and Enterprises Censuses was integrated into ECBA.

\*The Basic Survey on Service Industry (a large scale sample survey conducted by SBJ

- with the sampling rate of 1/6) was also integrated into ECBA,
- \*The yearly Manufacturing Census scheduled as of 31st December 2011 by METI was integrated into ECBA,
  - \*The Commercial Census scheduled in 2012 by METI was integrated into ECBA

#### **4. Implementation of the 2012 ECBA**

16. At the 2012 ECBA, multi-modal data collection methods i.e. enumerator method, direct mailing method and collection via the Internet were employed. Moreover 16 types of questionnaires were developed for various types of industries. Data collection method adopted in the 2012 ECBA is explained in this section.

17. In case of an enterprise that is comprised of plural establishments, questionnaires not only for the enterprise but also for its subsidiary establishments were mailed out together to the head office. In this case, responses via the Internet were arranged upon request. For non-response enterprises in this mailing method, enumerators visited them to collect filled-in questionnaires.

18. For enterprises with only one location, questionnaires were distributed and collected by enumerators. In this enumerating method, the establishment list of the enumeration district concerned was printed out from the Business Survey Frame, and handed over to the enumerator designated to the district. Enumerators checked the status of establishments on the list, i.e. existing or closed, and added newly established establishments.

19. To prepare the establishment lists for the 2012 ECBA, information from the Labor Insurance System had not been prepared in time and was not utilized, and mainly the results of the 2009 ECBF were used. The results of the SBJ's follow-up enquiry survey to the newly registered establishments at the Corporation Registration System were also used.

20. For such industrial sectors as transportation industry and information and communication industry (so called network type industries) in which sales and costs cannot be answered by establishments, sales and costs were asked only to enterprises and not to branch establishments. For example, in case of a railway transportation company, financial data were asked only to the headquarter office and not to its branches or stations.

21. In some cities, towns and villages of snowy zones, a mailing-back method was adopted instead of collection of questionnaires by enumerators. In other cities, towns and villages which suffered great damages from the Great East Japan Earthquake, a private survey company was entrusted by SBJ to check the existence of establishments at the preparation stage of the Census to alleviate responsibilities of municipalities which were tied up in disaster reconstruction, and a mailing method was applied in the Census.

22. 16 types of questionnaires were developed correspondingly to major industrial sectors considering their characteristics. Enterprises and establishments

were requested to answer financial situations not only for the total figures but also for the sub-total figures for economic activities which they were engaged in.

## 5. Preliminary results of the 2012 ECBA

23. According to the preliminary results released on 29 January 2013, the total number of establishments was 5,804 thousand, decreasing by 395 thousand from the 2009 ECBF. Of this total, the number of establishments having reported their economic activities etc. was 5,466 thousand, decreasing by 421 thousand establishments from the 2009 ECBF, while the number of persons engaged was 56,324 thousand, decreasing by 2,118 thousand persons from the 2009 ECBF. The number of enterprises was 4,097 thousand, decreasing by 380 thousand from the 2009 ECBF.

24. The total amount of value-added of all industries for 2011 obtained from the Census was 243 trillion in Japanese Yen (JPY), which was much smaller than that of the 2011 National Accounts (i.e. GDP), which was 471 trillion in JPY. The gap is fairly justifiable taking into consideration the following points:

\*Consumption of fixed capital was not calculated in ECBA (102 trillion JPY).

\*Amount of employer's burden of employee's social insurance premium was not included (39 trillion JPY).

\*Industrial sectors in agriculture and forestry were not covered in ECBA (30 trillion JPY).

\*Imputed rent was not included in the calculation in ECBA (24 trillion JPY).

\*Establishments and enterprises of the public sector were not covered in ECBA (14 trillion JPY).

The remaining balance (19 trillion JPY) may be attributable to the non-responses.

25. As for enterprises with plural establishments, head offices (establishments) and their branch offices (establishments) were matched (linked) in the Business Survey Frame. Using this head branches relationship, value-added amount of an enterprise with plural establishments will be distributed to its branch offices (establishments) in proportion to the number of employees so that value-added for prefectures can be estimated.

## 6. Degree of usefulness of administrative records

26. Changes in the status of establishments between the 2009 ECBF and the 2012 ECBA (two and half years) are shown below:

\* The number of establishments that did not exist in the 2009 ECBF but were confirmed (enumerated) in the 2012 ECBA was about 670 thousand (270 thousands per year).

\* The number of establishments that existed in the 2009 ECBF, but were found to have closed in the 2012 ECBA was 1,070 thousand (420 thousands per year).

27. The information offered from the Corporation Registration System contains about 100 thousand records of newly registered corporations per year. On the other hand, the information offered from the Labor Insurance System contains about 140 thousand records of new applications per year. There must be a lot of duplications of

records between these two information sources. This would mean that the number of new establishments based on the administrative records did not reach the results obtained from the 2012 ECBA (270 thousands; see. Para.25). The reason for this inconsistency might be difficulty in confirmation of small non-legal entities with sole proprietors to which the Labor Insurance System is not applied compulsorily and which the Corporation Registration System does not cover.

28. According to the results of the 2012 ECBA, about 400 thousand establishments closed per year (see para.25). But the number of withdrawals from the Labor Insurance System is about 60 thousand per year, and the number of deletions in the Cooperation Registration System is about 30 thousand per year. Therefore, it can be said that confirmation of closed and new establishments by enumerators in the field operation is necessary.

## **7. Conclusion**

29. The Business Survey Frame was not developed in time for the preparation of the 2012 ECBA, but information from the Labor Insurance System is now fully used and will contribute to rising up the accuracy of the Frame in future. The following challenges are pointed out:

- \*Use of other administrative records to confirm new small establishments which are out of the scope of the Labor Insurance System.
- \*Increase in the collection rate in the SBJ's follow-up inquiry survey for offered administrative records from the Corporation Registration System and the Labor Insurance System.
- \*Effective use of major statistical survey results and other administrative records to confirm closed establishments.

30. As for the preliminary results of the 2012 ECBA, the tabulated figures seem reliable compared with other statistics. Especially the national level value-added amount after adjustment for definitions is fairly consistent with the National Accounts. In order to compile prefecture level value-added amounts, value-added figures for enterprises will be distributed to their branches, and then prefecture level statistics will be compiled. As these prefectural statistics are consistent with the national statistics, they are very useful for various analyses.