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Turnover for Railway Transport In Japan

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Contents

- 1. Definition of the service being collected**
- 2. Market conditions and constraints**
- 3. New Survey on turnover for railway transport**
- 4. Turnover method**
- 5. Relationship with the Economic Census**
- 6. Summary**

1. Definition of the service being collected

1-1 Railway transport

In Japan Standard Industrial Classification (JSIC), the railway transport sector comprises establishments engaged in the transport activities of passengers and freight using railways. The activities refer to the operation of railway vehicles, and the maintenance and repair of transport facilities such as the rolling stock, tracks and signal-and-communication facilities for the purpose of operation.

1-2 Establishments

A single establishment is unit of the railway transport sector. If located separately, each of establishments is deemed, in principle, a separate establishment.

Individual organs located in the same premises are each dealt with as a separate unit by organ. Namely, work-site organs such as stations, conductor's offices, engineer's stations, coach and cargo sections, track maintenance sections, construction sections, electric power supply sections, signal-and-communication sections, electricity-related-affairs sections, etc., as well as management organs such as a main office and branch offices are each deemed to be an individual and separate establishment by organ.

However, in cases where stations or sections, even if so named, are not assigned with administrative managers such as a stationmaster, they are included in the establishment that manages them and deemed to be one establishment as a whole.

Repair shops, warehouses or the like of railway transport companies for its own use are classified in the railway transport sector, but manufacturing factories, power stations, laboratories, training institutes, hospitals, recreation facilities are classified in industries other than the railway transport sector according to the types of their respective activities.

Establishments of railway transport companies engaged in the repairs or remodelling of the rolling stock, if these activities are conducted for their own purposes, are classified in the railway transport sector.

Establishments of railways or ropeways provided in factories, mines or forests for their own exclusive use are classified in industries other than the railway transport sector.

1-3 Standard classification Structure

JSIC is composed of four stages, namely, divisions, major groups (2-digit), groups (3-digit), detail classes (4-digit). The railway transport in JSIC is structured as follows:

Division H: Transport and Postal Activities

- 42 Railway transport
- 420 Establishments engaged in administrative or ancillary economic activities
 - 4200 Head offices primarily engaged in managerial operations
 - 4209 Miscellaneous establishments engaged in administrative or ancillary economic activities
- 421 Railway transport
 - 4211 Ordinary railways
 - 4212 Tramways
 - 4213 Underground railways
 - 4214 Monorails, except underground railways
 - 4215 Guide-rail system railways, except underground railways
 - 4216 Cable railways
 - 4217 Ropeways
 - 4219 Miscellaneous railways

The classification structure of JSIC for railway transport above pretty differs from ISIC rev.4 classification structure. The classification structure of JSIC is more detail than that of ISIC. The following table compares JSIC with ISIC for railway transport.

Table 1. Comparison of industrial classifications for railway transport

JSIC	ISIC rev.4
4200, 4209	7010 Activities of head office
4211	4911 Passenger rail transport, interurban
	4912 Freight rail transport
4212~4215	4921 Urban and suburban passenger land transport
4216~4219	4921 Urban and suburban passenger land transport
	4922 Other passenger land transport

2. Market conditions and constraints

The number of the companies engaged in railway transport, JSIC 42, is 328 according to the 2006 Establishment and Enterprise Census conducted by the Statistics Bureau of Japan. The data on the passengers carried and the freight transportation by these companies are collected every month by Ministry of Land, Infrastructure, Transport and Tourism (MLIT). The monthly data on turnover of these companies had been collected excluding activities classified in JSIC 4217 and 4219, in this survey until March 2006. According to the results of this survey, Monthly Statistical Report on Railway Transport, turnover data for railway transport were as follows:

Table 2. Turnover for Railway Transport for FY 2005 and before
(fiscal year, million yen)

		Passenger turnover	Freight turnover	Total
FY2003		5,852,551	207,198	6,059,748
FY2004		5,761,721	203,231	5,964,952
FY2005		5,893,461	203,109	6,096,570
2005	April	449,910	17,394	467,304
	May	496,120	14,795	510,915
	June	457,235	16,262	473,497
	July	550,705	16,038	566,743
	August	523,519	15,908	539,427
	September	465,962	17,443	483,404
	October	539,968	18,477	558,444
	November	500,132	18,209	518,342
	December	471,019	18,391	489,409
2006	January	501,117	15,127	516,243
	February	452,902	15,801	468,703
	March	484,873	19,265	504,138

Passenger turnover for FY 2004 was down from the previous year, but it recovered in FY 2005. For the past several years, it had been relatively stable. On the other hand, freight turnover had been on a decreasing trend for about ten

years until FY 2005.

The company which intends to enter the railway transport industry is required to obtain the permission of the authority. Recently, not many companies enter this industry, because they have to prepare the facilities such as rails which are heavy burden for them. In metropolitan areas, however, a few companies enter this industry, or existing companies extend their lines in order to ease the congestion of passengers. Some companies have exited from this industry, or discontinued some of their lines especially in rural area.

Turnover for railway transport is not collected now in this survey as mentioned above. Though, in the Annual Report of Railway Transport Statistics compiled by MLIT using administrative records, annual turnovers of the companies engaged in railway transport have been collected. But short-term data on turnover is not included in that report, and in addition, it takes more than a year to compile the data.

3. New survey on turnover for railway transport

Short-term data on turnover is needed for improvement in accuracy of Quarterly Estimates of GDP and other economic indicators. To meet the needs, the Statistics Bureau of Japan launched the Monthly Survey on Service Industries (MSSI) in July 2008 on the decision by the Cabinet. In this new survey, monthly turnover for railway transport, JSIC 42, is collected.

3-1. Background

In Japanese economy, over the last several decades, the share of the service industries has steadily risen to exceed 70% in 2006 in terms of both GDP and employment. But there has been no single survey covering the service industries comprehensively, although there have been some surveys covering only some parts of the industries. As a result, there have been criticisms that statistics on service industries are insufficient and improvements are needed in this regard. To meet the increasing needs for statistics for service industries, the new survey was initiated in July 2008.

3-2. Industries to be surveyed in MSSI

MSSI aims to provide a set of monthly estimates of turnover and the number of employees of the service industries as a whole and its breakdown. MSSI covers a

wide range of service industries, and its GDP coverage is about 44 percent.

Industries to be surveyed in MSSSI are as follows:

- Information and communications,
- Transport and postal activities
- Real estate and goods rental and leasing
- Scientific research and professional and technical services
- Accommodation, eating and drinking services
- Living-related and Personal service and amusement services
- Education, learning support
- Medical, health care and welfare
- Service, not elsewhere classified

In MSSSI, turnover and the number of employees for railway transport are collected as part of Transport and postal activities every month.

3-3. Statistical unit

Establishment is used as a survey unit of MSSSI as mentioned above. An enterprise can engage in multiple activities, so in some cases a service activity is carried out as the secondary activity of an enterprise whose predominant activity belongs to a non-service activity such as manufacturing. Therefore, establishment is a preferred unit for collecting data on service activities. This is the reason an establishment is used as a survey unit in MSSSI.

3-4. Sampling method

The sample size of MSSSI is about 39,000 establishments. The sampling frame is the result of the 2006 Enterprise and Establishment Census. In the frame, the primary stratification is by industry group according to main economic activities of establishments, and the establishments contained in an industry stratum are substratified by employment size. The MSSSI sample is selected independently within each size substratum contained in an industry stratum. (The method of Neyman allocation is used to allocate the sample to each size substratum.) The selection procedure follows a systematic probability scheme.

Out of the population of 4750 establishments classified in JSIC 42, sample covers 1200 establishments every month. In the population, all kinds of establishments engaged in railway transport, namely, stations, conductor's offices, engineer's stations, coach and cargo sections, track maintenance sections, construction sections, electric power supply sections, signal-and-communication sections, electricity-related-affairs sections, etc. are included.

4. Turnover method

4-1. Data collected

Monthly data on turnover for railway transport is collected from these establishments. Turnover for the total of JSIC 42 will be estimated and published. As to carrying passengers, turnover is usually generated from stations by tickets sales (including commuter's tickets sales). Most of other kinds of establishments don't generate turnover. However, employees in the establishments other than stations are also engaged in railway transport activities, so they together with the employees in stations provide services of railway transport as a whole. In MSSSI, data on turnover and the number of employees are, therefore, collected from all kinds of establishments. Those data will be useful for estimating productivity for railway transport sector.

4-2. Issues in data collection

In Japan, passengers can take some lines which belong to different companies by one railroad ticket. It means that turnover of a station by selling tickets does not necessarily belong to the station. So, if we intend to collect the precise turnover of respective stations, turnover of a station should be adjusted between stations of different companies. But it takes several months to calculate the precise turnover of respective stations. In MSSSI, therefore, turnover before adjustment is to be collected for timeliness of data publication. There would be no problem in estimating total turnover for railway transport sector based on turnover before adjustment, because adjusting turnover between stations is just a matter of reallocation of turnover.

In Japan, use of IC card for taking a train is continuing to grow instead of use of a railroad ticket. The IC card is a prepaid transportation card allowing the user to take a train or subway. The IC card is rechargeable at stations. It also can be used to take a bus and pay for items purchased at some stores or vending machines. It is convenient for users, but this convenience leads to difficulty in estimating turnover for railway transport. Turnover will be overestimated if the total amount of charging IC cards was included in turnover of station, because it includes inevitably payments other than the amount of railroad fares. Therefore, in MSSSI, only the amount of paying railroad fares is collected, which are recorded at the stations when passengers took train, in order to exclude the amount of bus fares and paying for items purchased at stores or vending machines.

4-3. Freight transportation

Turnover for freight transportation is collected as part of JSIC 42. But, it is not separated from passenger transport, because freight transportation is not classified as a sector in JSIC. Companies engaged in freight transportation usually carry out the operations based on freight transportation contracts, which branch offices or main offices of companies make with users. These offices are included in the establishments of railway transport sector. Therefore, turnover data is collected from these establishments as part of railway transport sector. In MSSSI, turnover and the number of employees for freight transportation are collected.

5. Relationship with the Economic Census

In Japan, an Economic Census, which covers all economic activities of every industrial sector at the same point in time, is to be conducted in 2009 and 2011 (2009 Economic Census was already conducted). The results of the 2009 Economic Census for Business Frame is planning to be used as a sampling frame for MSSSI in 2012. In the 2011 Economic Census for Business Activity based on the 2009 Economic Census, accounting items such as turnover for all industrial sectors will be collected. Therefore, the results of the 2011 Economic Census will be used as a benchmark for turnover for railway transport obtained from MSSSI. It would contribute to the systematization of service statistics in Japan as well as improving accuracy of MSSSI. So, it would be desirable to consider carefully benchmarking methods to be applied.

6. Summary

Turnover for railway transport is collected in MSSSI by the Statistics Bureau of Japan. The results of MSSSI will be published from December 2009 every month. The data on turnover for railway transport, JSIC 42, will be published as part of the results at that time. It will be necessary to examine the accuracy of the data on turnover. And, it should be considered how the results of 2011 Economic Census will be used as a benchmark for the results of MSSSI.

Monthly data on turnover for railway transport is not available now. The results of MSSSI will be published from December 2009, and it is expected to be useful for improving accuracy of the Quarterly Estimates of GDP.

