Estimation of the Service sector in the Korean Economy : Methodology and Source

Scope of the Service Sector and Recent Relative Importance among the Industries in the Korean Economy

Scope of the Service sector

Production accounts of the National Accounts use the classification by its economic activities so as to focus on understanding the production structure and the spot transaction of goods and service. Here, the Producers in Service Sector include Service Industries, Producers of Government Services, Producers of Private Non-profit Service to Households, and Domestic Services of Household Accounts.

- Service Industries includes wholesale and retail trade; restaurant and hotels; transport, storage and communication; finance, insurance, real estate and business services; community, social and personal services.

- Producers of Government Services include the providers of public and social services such as public administration and defence, social security.

- Producers of Private Non-profit Service to households include private institutions providing education, medical, religious, or cultural services to households.

- Domestic Services of Households Account are services provided by a household for other households.

Relative importance of the Service sector and the recent production trend

In 1998, the Service sector comprised 41.1% of the National Accounts, and the Producers of Government Services and Producers of Private Non-profit Service to Households accounted for 10.6%.

- The GDP in 1998 decreased 5.8% compared to the previous year, due to the rapid reduction of consumption, investment and domestic demand, as well as the slowdown in exports. All these factors were effects of the Korean economic recession. In industrial detail, manufacturing decreased 7.2%, construction 9.0%, and the service sector decreased 5.4% compared to the previous year.

The present state of Service Statistics

Macro Indicators

The representative indicator to measure the service sector in Korea is National Accounts. National wealth statistics, Gross regional domestic product(GRDP) are also among those indicators.

Service Statistics in Korea

Indicators	Agencies	Measurement cycle
National Accounts	The bank of Korea	Quarterly
Input-Output Table	The bank of Korea	Quinquenial, Middle year
Flow of Funds Table	The bank of Korea	Yearly (Sample business) Quarterly (Others)
Balance of Payment	The bank of Korea	Monthly
National Wealth Statistics	National Statistical Office	Every ten years
Regional Income Statistics	National Statistical Office	Yearly (by sixteen regions)

Statistics by Industry

In addition to survey statistics conducted by the NSO, administrative statistics by various executive agencies are produced. For example, there are Transport, Storage and Communication statistics by the Ministry of Transportation and Construction, Financial Intermediation statistics by the Bank of Korea, Health and Social Work statistics by the Ministry of Health and Welfare, and statistics about other community, social and personal service activities by the Ministry of Environment.

In addition, the NSO is developing monthly and/or quarterly indices to measure the short-term movement of service sectors such as H (Hotels and Restaurants), I (Transport, Storage and Communication), J (Finance and Insurance), K (Real estate, Renting and Business services), M (Education), N (Health and Social work), O (Other Community, Social and Personal services).

Service Statistics produced by the NSO

Statistics	Scope (Under KSIC)	Cycle	Remarks
Current wholesale and Retail sales	G.Wholesale & Retail trade	Monthly	Indices
Family Income and Expenditure Survey	-	Quarterly	Family income and expenditure
Wholesale and Retail trade Survey	G.Wholesale & Retail trade H.Hotels and Restaurants	Yearly	Sample survey
Service Industry Survey	K.Real estate, renting and business services O.Other Community, Social and Personal services	Yearly	Sample survey

Transportaion Survey	I .Transport, Storage and Communication	Yearly	
Information and Telecommunication Survey	-	Yearly	Manufacturing, Distribution, Service
Census on Wholesale and Retail trade	G.Wholesale & Retail trade H.Hotels and Restaurants K.Real estate, renting and business services M. Education N.Health and Social work O.Other Community, Social and Personal services	Every five years	Census

Estimation method and data usage

Estimation method and data usage for Macro Indicators

Macro Indicators estimate Value added and Intermediate consumption by industry through their output. The method of estimation and data used differ by industry category.

- The service sectors such as hotels and restaurants; computer, legal and accounting services, market surveys, business and management consultants; architectural and engineering services; sewage and refuse disposal; motion picture production and distribution; sporting and other recreational services are estimated using tax basis or turnover measured by National Tax Service.

- Commercialization rate and markup rate of wholesale and retail shops, annual receipts per hotel room, average receipts per establishment, average receipts per sickbed, non-profit child welfare institutions and facilities for aged people are sample surveyed by the Bank of Korea to utilize as subsidiary indicators.

- Government agencies and national and public institutions are estimated using the current gross expenses of the budget and closing accounts.

- Survey results of government agencies such as the Annual Report on the Consumer Price Index, Annual Report on the Family Income and Expenditure of the NSO, Annual report of the Ministry of Health and Welfare, etc. and other data from related associations such as Korea Tourism Association, Subway Corporation, Korea Stock Exchange, etc., are also used.

G. Wholesale, retail trade and repair of motor vehicles, motorcycles and personal and household goods.

- Commercialization rate and markup rate of the wholesale and retail shops by commodities multiplied by gross supply (=domestic product + import + scrap) are used in the estimation.

$$* \text{ Commercialization rate} = \frac{\text{the amount transacted}}{\text{the domestic product or import}}$$

$$\text{* Markup rate} = \frac{\text{Sales-Purchases}}{\text{Purchases}}$$

- Commercialization rate and markup rate are measured by the sample survey, and the gross supply is given by the Input-Output table.

H. Hotels and Restaurants

- For tourist hotels, tax basis multiplied by annual earning rate of hotel rooms is used. For general hotels, the annual receipts per room multiplied by the total number of rooms is used.

* The receipts from other activities such as sales of food, rent, recreation, etc are classified into each related category.

- For restaurants, tax basis multiplied by the service rate is used.

* Service rate (=operation revenue - cost of ingredients) is measured through sample survey by types of restaurants.

I. Transport, Storage and Communication

- Transport Revenue and other revenue surveyed by government agencies, public enterprise and private enterprise, and other fundamental survey results produced by the NSO, are used.

- For Transport services, transport revenue collected by the Korean National Railroad, Seoul·Pusan·Taegu Metropolitan Subway Corporation, Seoul Metropolitan Rapid Transit Corporation, etc. is considered as output.

- For post and courier activities, the output is measured by the business receipts on the statement of profits and losses in special records kept by the Ministry of Information and Communication.

- For telecommunication activities, the output is measured by the operating receipts of telecommunication companies.

J. Finance and Insurance

- The output of Banking institutions and Non-bank financial institutions such as Development institutions, Savings institutions, Investment institutions and Insurance institutions is their returned service fees and commissions, and that of pawnshops is estimated through a sample survey.

- The output of general life insurance and postoffice insurance is fee+net premium minus (insurance plus net increase of the reserve fund) plus interest from the reserve fund.

- The output of the Pension for government officials and military men is the management expenses on the final accounts

- The output of the non-life insurance is net premium minus net insurance.

- Commissions plus returned service fees for security institutions, fees for stock exchanges and exchange commissions for money exchangers, operating expenses for financial settlement agencies, and data from the National Tax Service for insurance related services are all used for estimation.

K. Real Estate, Rent and Business services

- The sum of the rents on owned houses and rents on other real estate activities, the sum of the gross sales plus sales and general management expenses for the rental of real estate and various taxes and appraisal commissions for real estate activities on a fee or contract basis are used to estimate the output.

- For the renting of machinery and equipment, operating lease income of lease and general financial firms, and other data collected from membership organizations and business are used to estimate output.

- The tax basis is used for estimating computer service output.

- For National and public research institutes, the gross expenses on the balancing accounts are used.

- For non-profit research institute, average expenses per year multiplied by the number of organizations is used.

- The output of the legal and accounting services is estimated by comparing tax basis and the amount of average income per establishment, collected from sample survey, multiplied by the number of establishments given from related organizations.

- The output of market and opinion survey services, business consultants, architecture and engineering services is estimated with the tax basis.

- For broadcasting advertising service, advertising agent commission of the Korea Broadcasting Advertising corp. is used.

- For the newspaper and magazine advertising, advertising revenue by media multiplied by the advertising agent rate is used.

- For Advertising preparation service, data from advertising yearbook is used.

- For other advertising service, tax basis is used.

- For other business services, the output is estimated with the tax basis.

L. Public administration and Defence compulsory social security

- The estimated output is the current gross expense, which is total annual expenditures minus capital expenditure and transferring expenditure.

M. Education

- For national and public educational institutions and vocational training centers, the current expense and other data are used for the output estimation.

- For training institute, current expense is used.

- For other education institutions, and tax basis is used,

N. Health and Social work

- For national·public·non-profit medical and heath service, gross current expense is used.

- For hospitals, average income per sickbed measured by sample survey multiplied by the total number of sickbed is used.

- And the tax basis is used for other medical and dental practice activities.

- For public medical insurance, business expenses and management expenses are used.

- For national pension service, the management expenses and the current gross expenses are used.

- For the workmen's accident compensation insurance, the gross current expenditure is used.

- For the non-profit welfare facilities for children and aged people, average current expense measured by sample survey multiplied by the total number of people accommodated is used.

- For social welfare organizations and others, the current gross expense is used.

O. Other community, Social and Personal service activities

- Current gross expenses plus business expenses and general administrative expenses are used for the output estimation of the National and public sanitation service.

- Average production cost multiplied by number of cultural films produced per year plus the turnover as on the tax basis is used to estimate the output for the motion picture production service.

- The output of motion picture distribution services is also estimated by the turnover as on the tax basis.

- To estimate the output of the motion picture projection service, total ticket sales are used.

- Radio and television activities are divided into two parts for estimating. The non-profit part uses the current gross expense, and the commercial part uses broadcasting revenue, advertising revenue, radio wave fees, receiving fees, etc.

- For national and public recreational and cultural activities, current gross expenses are used.

- For other recreational and cultural activities, the tax basis and average admission fee multiplied by the total number of visitors are used.

- For news agency activities, communication fees are used.

- For branch office of a newspaper, tax basis is used for the estimation.

- For sporting and game related service, current gross expense, tax basis and lottery operating income, etc. are used.

- For laundry and dyeing services, family income and expenditure survey result is used.

- For barber shops and beauty shops, it is necessary to use increase rate of fee× increase rate of number of shops × increase rate of tax basis.

- For other personal services, tax basis is mainly used and related membership organizations and sample business are also used.

- For household services, the average monthly wage of urban families and total number of urban families are used.

Fundamental Statistics

Fundamental statistics are mainly produced by the surveys of establishments conducted by the NSO through its branch offices. There is a quinquennial census serving as a sample frame for the Wholesale and Retail trade survey, Service Industry survey and other related surveys. There are annual surveys to examine the structure of the service industry according to establishments' reports on final accounts. The wholesale and retail sales index is composed every month to analyse short-term production trends. In addition, the NSO staff is currently developing the composite service sales index covering all service sectors as well as wholesale and retail trade.

Some quarterly statistics and administrative data are also produced by the Ministry of Transportation and Construction, the Bank of Korea, the Korea Financial Supervisory Service, and other organizations.