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Comments from the viewpoint of JSIC on the ISIC structure paper proposed by United Nations

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Introduction

International Standard Industrial Classification of All Economic Activities (ISIC) Rev 3.1 is under the revision work by the United Nations International Economic and Social Classification Expert Group and its Technical Sub Group for 2007 revision.

Meanwhile, the 11th revision of Standard Industrial Classification for Japan (JSIC) was made in March 2002. The revision was made in order to conform to the rapid changes in the structure of industry, owing to highly -developed information and communication technology (ICT), diversification in the service industries, declining fertility and an aging population. In the 11th revision of JSIC, five new divisions (top level categories) were established, namely, 1) Information and Communications, 2) Eating and Drinking Places, Accommodations, 3) Medical, Health Care and Welfare, 4) Education, Learning Support, 5) Compound Services. (for a correspondence table of Divisions between the 10th and the 11th versions of JSIC, see annex 1.)

In this paper, I will present some comments from the viewpoint of JSIC and Japanese situation on the ISIC structure paper proposed by United Nations, which was sent to national statistical offices for comments last May as a part of the questionnaire on ISIC and CPC revision. Comments will be made mainly for service sectors.

1. On the top-level categories proposed as newly established ones

In the structure paper, reorganization of Sections (top-level categories) of ISIC Rev 3.1 is made and establishing the following six new Sections are proposed (for a correspondence table of Sections between ISIC Rev 3.1 and the structure paper, see annex 2.)

Section 4 - Repair and Maintenance

Section10 - Information and Communication

Section13 - Professional, Scientific and Technical Services

Section14 - Administration and Support Services

Section16 - Water Supply; Sewage, Waste Treatment and Remediation

Section19 - Arts, Entertainment and Recreation

Determination of introducing these Sections should be made on the basis of observing whether the scale of industries of these Sections is much enough to be introduced as top-level categories in countries and whether definitions of these Sections can be clearly distinguished from those of other Sections and data for these Sections are available in countries, except Information and Communication, industries of which have been emerging significantly all over the world. Particularly, introducing Professional, Scientific and Technical Services and Administration and Support Services needs a deep deliberation based on making sure of whether clear definitions of these services can be established in developing countries since these services are specific for developed countries in which service industries are dominant and

outsourcing within industries is highly developed.

1) Repair and Maintenance (Section 4)

Introduction of Repair and Maintenance Section by separating industries only engaged in these activities from manufacturing, wholesale or retail industries is appreciated since it enables to grasp clearly repair and maintenance industries which may have a certain scale in national economies and to ensure conceptual consistency by discriminating these different kind of activities.

Treatment of repair and maintenance industries in JSIC is as follows and it is similar to the above proposal in the structure paper in treating industries engaged only in repair and maintenance activities as an independent statistical group.

- Industries only engaged in repair activities are classified in Major Groups (2 digits categories) of 86 - Automobile Maintenance Services or 87 - Machine, etc. Repair Services, except Otherwise Classified in the Division (top-level category) Q - Services, N. E. C.
- Industries engaged in manufacturing or selling the same kind of goods as those of repair services are classified in the Division F - Manufacturing or the Division J - Wholesale and Retail Trade.
- Industries engaged in ship repairs, the repair or remodeling of the rolling stock (excluding those for railway's own use), and the overhaul of aircraft and its engines are classified in the Division F - Manufacturing even if they have not been engaged in any manufacturing activities during the past year. In cases where machinery repair factories are fitted with machine tools or metal working machinery and conduct manufacturing, processing and repairing of various types of machinery and components, these will be classified in the Division F - Manufacturing. They are classified in Manufacturing as an exception because, in view of the large-scale facilities present at the factories, these activities are not feasible in the absence of a manufacturing capability.

However, the scale (the ratio of the number of establishments and employees to those of all industries) of industries of the above Major Groups 86 and 87, which are corresponding to industries of Repair and Maintenance in the structure paper, is 1.57 % and 0.95 % respectively as shown in the table 1. The scale of these industries is not much enough to be introduced as a top-level category. Thus, on the basis of Japanese situation, it is preferable to introduce Repair and Maintenance industries as a 2 digits category in, for example, the section 20 - Other Services of the revised ISIC.

Table 1 The scale of automobile maintenance services and machine, etc. repair services industries

Industries	Establishments		Employees	
	Number	Ratio to all industries	Number	Ratio to all industries
86 Automobile maintenance services	67,309	1.06%	319,141	0.53%
87 Machine, etc. repair services	32,259	0.51%	251,785	0.42%
Total	99,568	1.57%	570,926	0.95%

Source : Establishment and Enterprise Census 2001

For the treatment of establishments engaged in both repair and manufacturing (or trade), it is appropriate to treat them as follows.

- For establishments which repair goods and at the same time manufacture or sell the same kind of goods, they are classified in Manufacturing or Trade, regardless of which value added is high, since repair activities are considered incidental services to manufacturing, wholesale or retail activities.
- For establishments which repair goods and at the same time manufacture or sell the different kind of goods, they are classified in any of Repair and Maintenance, Manufacturing and Trade, depending on the value added, since they are considered to be engaged in two different activities.

2) Information and Communication (Section 10)

Proposal in the structure paper concerning the introduction of the Information and Communication Section as a new top-level category is highly appreciated since it enables to grasp comprehensively information and communication industries which have been emerging rapidly all over the world.

However, for computer services, particularly data processing services and software supply services, which are proposed to be included in the section 13 Professional, Scientific and Technical Services, they are closely related to activities of producing, storing and communicating of information. So, it is appropriate to place them in the framework of information and communication and move them to the Information and Communication Section. It seems incongruous that in classifying software-producing services the top-level category varies depending on whether the software is ready-made or order-made.

Meanwhile, definition of establishments included in the Division H Information and Communications in JSIC is as follows.

“Establishments engaged in information transmission, services such as processing

and providing information, Internet based services, or processing information for the purpose of its transmission.”

1-3 digits level structure of the Division H Information and Communications is as follows and both of custom software services and data processing services are included in 39 Information Services.

1-3 digits level structure of the Division H in JSIC

H Information and Communications

37 Communications

371 Transmission of correspondence

372 Fixed Telecommunications

373 Mobile Telecommunications

374 Services Incidental to Telecommunications

38 Broadcasting

381 Public Broadcasting, except Cablecasting

382 Private-Sector Broadcasting, except Cablecasting

383 Cablecasting

39 Information Services

391 Computer Programming and Other Software Services

392 Data Processing and Information Services

40 Internet Based Services

401 Internet based services

41 Video Picture, Sound Information, Character Information Production and Distribution

411 Video Picture Information Production and Distribution

412 Sound Information Production

413 Newspaper publishers

414 Publishers, except newspapers

415 Services Incidental to Video Picture, Sound Information, Character Information Production and Distribution

3) Water Supply; Sewage, Waste Treatment and Remediation (Section 16)

The newly proposed Section 16 Water Supply; Sewage, Waste Treatment and Remediation consists of some environment related industries which are placed across several Sections in ISIC 3.1 such as D Manufacturing, E Electricity, Gas and Water Supply and O Other Community, Social and Personal Service. So, this Section is the compound of different nature of activities, that is, 1) collection, transportation and disposal services of waste (not for recycling), 2) new commodities production activities by using recycled waste as materials, and 3) supplying services of water which is consumed by households and business.

This treatment is not compatible with the classification principle of grouping economic activities with homogeneity.

In addition, the scale of industries in Japan corresponding to the Section 16 is very small as shown in the table 2. (the ratio of number of establishments and employees to those of all industries is 0.57% and 0.77% respectively.). And further, in Japan water supply are provided as public utilities (which has function of providing indispensable commodities in daily life by network facilities) by local government organizations such as cities, towns or villages. So, on the basis of Japanese situation, it is preferable to include these services in the Section 5 Utilities together with electricity and gas supply services as before.

Table 2 The scale of water supply, sewage, recycling and waste disposal industries

Industries	Establishments		Employees	
	Number	Ratio to all Industries	Number	Ratio to all industries
36 Collection, Purification and Distribution of Water, and Sewage Collection, Processing and Disposal	7,442	0.12%	119,985	0.2 %
524 Wholesale Trade of Recycled Material	11,530	0.18%	68,785	0.11 %
85 Waste Disposal Business	17,519	0.27%	275,927	0.46%
Total	36,491	0.57%	464,810	0.77%

Notes 1. Source : Establishment and Enterprise Census 2001

2. Recycling related manufacturing industries are included in some 4 digits level industries in the Division F Manufacturing. So, data on them are not available.

4) Arts, Entertainment and Recreation (Section 19)

In newly introducing the Section 19, it is necessary to consider closely whether the definition of the Section can be clearly identified being distinguished from that of other Sections, bearing in mind that the scope of arts, entertainment and recreation tends to be different across countries due to difference of their historical and cultural backgrounds.

As for Japan, the scale of industries corresponding to the Section 19 is shown in the table 3. The scale, that is, the ratio of number of establishments and employees to those of all industries is 1.16% and 1.67% respectively. It is not much enough to introduce them as a top level category. Thus, on the basis of Japanese situation, it is preferable to introduce Arts, Entertainment and Recreation industries as a 2 digits category in, for example, the Section 20 - Other Services of the revised ISIC.

Meanwhile, for museums and botanical and zoological gardens in the Division 19.2 in the ISIC draft, they are classified in the Division (top-level) O Education, Learning Support in JSIC and for cinemas which are classified in 10.2 of the Section 10 Information and Communication in the ISIC draft, they are classified in the Major Group (2 digits level) 84

Services for Amusement and Hobbies of the Division Q Services, N. E. C. in JSIC.

Table 3 The scale of arts, entertainment and recreation industries

Establishments		Employees	
Number	Ratio to all industries	Number	Ratio to all Industries
73,938	1.16 %	1,002,866	1.67%

Source : Establishment and Enterprise Census 2001 (total of the Major Group 84 Services for Amusement (except cinemas) and museums, botanical and zoological gardens and aquariums from the Group 771 Social Education)

2. On the existing top-level categories

Some issues are raised for the existing top-level categories in the structure paper. The following is comments on some of the existing top-level categories.

1) Transportation and Storage (Section 9)

For the issue of whether transportation should be subdivided by mode of transportation (land, water, air) or by another criterion (e.g. passenger/freight), it should be decided on the information of statistical survey systems and related law systems in countries. In Japan both statistical survey systems and transportation related laws are organized according to the mode of transportation and each mode of transportation are divided by transportation for passenger and that for freight.

For the newly proposed Division 9.4 Scenic Transportation, I think that there are some problems in introducing it in the revised ISIC. First, the definition of it is rather obscure. Second, it is difficult to statistically capture it separately from ordinary transport services. Third, coexistence of classification by transportation mode and that of transportation purpose in the same 2 digits category is conceptually inconsistent.

In JSIC, charter boat fishing is classified in 8493 Recreational Fishing Guide Business of the Major Group 84 Services for Amusement and Hobbies of the Division Q Services, N. E. C. and dinner cruises are probably classified in the Division M Eating and Drinking Places, Accommodations. In Japan, data on chartered buses for recreation and regular buses for sight- seeing places, which are regarded as scenic transportation, cannot be statistically captured separately from ordinary transportation by buses

2) Real Estate, Rental and Leasing Activities (Section 12)

The proposal of separating rental and leasing activities from this Section and moving them to the Section 14 Administrative and Support Services is appropriate since there is little relationship between real estate and rental and leasing activities and rental and leasing activities are thought to be one of support services.

Also in JSIC, real estate and rental and leasing activities are placed different Divisions

(top-level categories) as follows. Real estate is itself the Division L Real Estate. Rental and leasing activities are classified in the Major Group 88 Goods rental and leasing of the Division Q Services, N. E. C.

3) Public Administration and Defence; Compulsory Social Security (Section 15)

Regarding the scope of public administration, the structure paper proposes that only essential government activities such as the enactment and judicial interpretation of laws and regulations and the administration of programmes based on them be classified in public administration and that operating units (with output other than administration, policy, legislative, executive, etc.) be classified in corresponding Sections. This proposal follows the concept of ISIC 3.1 on the scope of public administration.

The Section 15 in the structure paper corresponds to the Division R Government, N. E. C. in JSIC. Definition of the Division R of JSIC is as follows.

This Division comprises, out of the state and local public organs, the Diet, court, central government offices and their local branch offices and bureaus, prefectural government offices, municipal and ward offices, town and village offices, etc., all of which are the government and public agencies that are essentially engaged in legislative, judicial and administrative affairs.

The government and public agencies solely engaged in non-authoritative operations, which the state or local public organs themselves manage directly for the sole interest of the public, are included in each relevant classification according to the type of operations, in the same manner as in the cases of general industries.

This definition basically conforms to that of ISIC except that JSIC limits operating activities which are classified in relevant industries other than public administration to non-authoritative activities. For authoritative operating activities, they should be classified in public administration. For example, collection of tax, which is mentioned as boundary issues in the structure paper, is obviously an authoritative activity. Therefore, it should be classified in public administration.

Annex 3 enumerates the government and public organs solely engaged in non-authoritative operations. They are classified in relevant industries other than public administration according to the type of operations they conduct.

4) Education (Section 17)

The structure paper proposes that the Division 17.1 Education be disaggregated by educational level such as primary education, secondary education, etc. with various educational activities included in each educational level. This approach is in line with ISCED and adopted in the existing ISIC 3.1. In ISIC 3.1, for example, Class 8010 Primary

Education includes pre-primary education, primary education, special education for handicapped students at this level, and provision of literacy programmes for adults. It seems incongruous that these different kinds of activities are included in the same group of Primary Education. In order to make use of statistics disaggregated by educational activities, it is appropriate to establish the structure of the Division 17.1 by educational activities, then by educational levels.

The structure of the Division (top-level) O Education, Learning Support in JSIC is as follows.

The Division O Education, Learning Support

- 76 School Education
 - 761 Elementary Schools
 - 762 Lower Secondary Schools
 - 763 Upper Secondary Schools, Secondary Schools
 - 764 Institution of Higher Education
 - 765 Special Education Schools
 - 766 Kindergartens
 - 767 Specialized Training Colleges and Miscellaneous Schools
- 77 Miscellaneous Education, Learning Support
 - 771 Social Education
 - 772 Vocational and Educational Support Facilities
 - 773 Supplementary Tutorial Schools
 - 774 Instruction Services for Arts, Culture and Technical Skills
 - 779 Educational and Learning Support Services, N. E. C.

In this structure, for example, in the Group 761 Elementary Schools only elementary schools as a regular education are classified and schools for the special education for handicapped students at elementary school level are classified in the Group 765 Special Education Schools.

In addition, for the treatment of educational TV, another issue raised in the structure paper, if it is not interactive, it is classified in the Division H Information and Communications in JSIC.

One of definitions of education should be that it is interactive. So, correspondence courses which are interactive should be classified in education.

Annex 1

Correspondence Table of Divisions between JSIC Rev. 10 and Rev. 11

< JSIC Rev. 10 (October 1993) >

A Agriculture
B Forestry
C Fisheries
D Mining
E Construction
F Manufacturing
G Electricity, Gas, Heat Supply and Water

H Transport and Communication

I Wholesale and Retail Trade, Eating and
Drinking Places
J Financing and Insurance
K Real Estate

L Services
M Government (not elsewhere classified)
N Establishments not adequately described

< JSIC Rev. 11 (March 2002) >

A Agriculture
B Forestry
C Fisheries
D Mining
E Construction
F Manufacturing
G Electricity, Gas, Heat Supply and
Water
H Information and Communications
I Transport
J Wholesale and Retail Trade
K Finance and Insurance
L Real Estate
M Eating and Drinking Places,
Accommodations
N Medical, Health Care and Welfare
O Education, Learning Support
P Compound Services
Q Services, N.E.C
R Government, N.E.C
S Industries Unable to Classify

Annex 2

Correspondence Table of Sections between ISIC Rev 3.1 and ISIC Rev 4 draft in the Structure Paper

< ISIC Rev. 3.1 (March 2002) >	< ISIC Rev. 4 draft in the structure paper >
A Agriculture, Hunting and Forestry	1 Agriculture, Hunting, Forestry and Fishing
B Fishing	
C Mining and Quarrying	2 Mining and Quarrying
D Manufacturing	3 Manufacturing
	4 <u>Repair and Maintenance</u>
E Electricity, Gas and Water Supply	5 Utilities
F Construction	6 Construction
G Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	7 Trade
H Hotels and Restaurants	8 Accommodation and Food Services
I Transport, Storage and Communications	9 Transportation and Storage
	10 <u>Information and Communication</u>
J Financial Intermediation	11 Financial and Insurance Services
K Real Estate, Renting and Business Activities	12 Real Estate, Rental and Leasing Activities
	13 <u>Professional, Scientific and Technical Services</u>
	14 <u>Administrative and Support Services</u>
L Public Administration and Defence; Compulsory Social Security	15 Public Administration and Defence; Compulsory Social Security
	16 <u>Water Supply; Sewage, Waste Management and Remediation</u>
M Education	17 Education
N Health and Social Work	18 Health and Social Services
O Other Community, Social and Personal Service Activities	19 <u>Arts, Entertainment and Recreation</u>
	20 Other Services
P Activities of Private Households as Employers and Undifferentiated Production Activities of Private Households	21 Households
Q Extra-Territorial Organizations and Bodies	22 Extra-Territorial Organizations

Annex 3

The government and public organs solely engaged in non-authoritative operations which are classified in relevant industries other than public administration according to the type of operations they conduct.

- (1) Establishments engaged in the production and distribution of agricultural products (including mulberry, cocoon, and livestock),
- (2) Establishments engaged in the direct control and management of national and public forests and fields,
- (3) Establishments engaged in fish and shellfish aquaculture, and the production and distribution of seeds,
- (4) Establishments engaged in quarrying rocks and stones, gravels and sands,
- (5) Establishments in which the state and local public organs conduct, administer or directly manage construction work in the public interest; the construction work including roads, bridges, rivers, erosion control, ports, reclamation, land reclamation, agricultural utilization of water, etc.,
- (6) Establishments engaged in manufacturing printed matter, products made of clay and stones, currency, medals, badges, and other alloy or metallic artifacts, fertilizers,
- (7) Establishments engaged in the supplying electricity, gas and water,
- (8) Establishments engaged in the operation of transport such as railway, tramways, roads, and shipping; in the management of structures that are necessary for marine, air and land transport involving airports, lighthouses, and wharves; and in other services incidental to transportation
- (9) Establishments engaged in the purchase and sales of foods and other products,
- (10) Establishments engaged in savings, money orders, giro services and postal life insurance,
- (11) Establishments engaged in the management of public housing, and leasing other real estate,
- (12) Establishments engaged in providing medical and health care such as hospitals, clinics, health consultation offices, etc.,
- (13) Social welfare facilities such as social welfare offices, child welfare facilities, welfare facilities for the aged, rehabilitation facilities for handicapped persons, and home care help establishment,
- (14) The school education facilities such as kindergartens, elementary schools, lower secondary schools, higher secondary schools, universities and training centers for certified nurses; the education facilities such as agricultural universities; and the facilities for fostering and training staff,
- (15) Social education facilities such as libraries, museums, art museums, zoos, botanical gardens, aquariums, public halls, etc.,

- (16) Establishments engaged in postal services,
- (17) Testing and research facilities on natural science, and humanities and social sciences,
- (18) Establishments engaged in providing services to citizens regarding crematories, graveyards, public bathhouses, lodgings, wedding ceremony halls, etc.,
- (19) Establishments engaged in operations of bicycle racing, horse racing and others of a similar type,
- (20) Establishments engaged in repairing machinery and equipment,
- (21) Facilities of slaughterhouses, waste disposal, waste treatment, dead domestic animal disposal, etc.,
- (22) Establishments engaged in the test and certification of various products and livestock, consultations and guidance on business management and skills, and providing services focusing on business management concerning the introduction of local products and their displays.