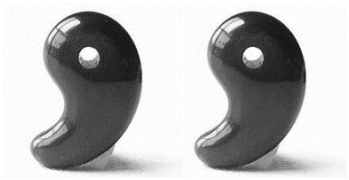
2018 Cultural Administration Research Survey

A Quantitative Evaluation:

The Economic and Social Effects of Culture (2)



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Foreword

For nearly 70 years, the SNA (System of National Accounts) has been led by the United Nations Statistics Bureau, worldwide, and countries around the world have been measuring GDP etc. based on it. In other words, countries around the world use national accounts as a basic framework for quantitatively testing the effectiveness of various economic policies.

The basic framework of SNA is an input-output table. The Input-Output Table is a framework created by Russian researcher Dr Leonchev in the United States during the 1930s and 1940s. The major industries at that time were, unlike now, agriculture and mining, and their relative proportions were high. However, as long as countries around the world have agreed on this framework and have adhered to it, even if the subsequent economic structure changes and the size of the industry increases, it will respond to new growth industries that have not been incorporated into the original framework. Therefore, if the framework of SNA is changed, it will not be consistent with past data between countries around the world or their own countries. In order to avoid this, there is a history of adhering without changing the existing framework. In other words, they have tolerated the reality that new industries are hiding somewhere in the existing economic framework. In order to investigate and measure where these new industries are hiding, the image and concept of an object in the periphery, the flying satellite(s) orbiting the earth (SNA framework), has emerged. This "satellite account" concept is enabling more precise measurement.

The first and most successful satellite account has been the Tourism Satellite Account (TSA). In the 1990s, the Canadian Statistical Office led its draft, and in around 10 years various test measurements were published worldwide in Spain and the United States, leading to the measurement of tourism economic activity in around 70 countries, including Japan.

The Culture Satellite Account (abbreviated CSA) is a global standard measurement method for quantitatively measuring cultural economic activity led by the United Nations Statistics Office and the UNESCO Institute for Statistics. As of 2019, the CSA Technical Advisory Group is leading the discussion on CSA and is in the final stages of preparing drafts.

The idea that cultural activities should be measured as economic activities existed earlier than in the tourism field. This can be confirmed by searching for past related papers. On the other hand, the idea that culture was difficult to measure with economic value and method persisted, and CSA's efforts did not make significant headway. Therefore, the TSA advanced by the UNWTO (United Nations World Tourism Organization) led the way. At this same time, however, the need to develop a method for quantitatively measuring the economic activity of culture increased in countries around the world. The reason is that "subsidies to encourage other industrial sectors are determined by the economic evidence of return on investment". Therefore, the United Nations Statistics Bureau has taken measures to address this need.

Japan led the Agency for Cultural Affairs, and independently conducted trial measurements of cultural economic activities, but unfortunately, these results were only available in Japanese, and not made available in other languages. Because of this, they remained unknown outside this world.

On the other hand, at UNESCO, due to financial constraints, could not fund the first meeting of global CSA experts. This situation was communicated to the Japanese government, and thanks to the efforts of a member of the House of Representatives, Kozo Yamamoto, and with great cooperation from the private sector (Tokyu Corporation, Apamanshop Holdings Co., Ltd., Gourmet Navigator Incorporated, Cultural Tourism Research, Japan Tourism Association for Shrines and Temples), the Agency for Cultural Affairs, The UNESCO CSA Technical Advisory Group meeting was held in Kamakura and Tokyo, co-hosted by the Japan Tourism Agency, the Ministry of Foreign Affairs,

and the Ministry of Economy, Trade and Industry, where the Agency for Cultural Affairs was able to directly announce a proposal for measuring the economic activity of culture to the advisors in English. Prior to this, Asian nations had no international presence in the field of cultural statistics, but Japan quickly became a focus of advanced nations. Here, the Agency for Cultural Affairs presented the world with a measurement proposal that adopted not only European cultural standards but also Asian and Japanese perspectives, and generated a great response. This also had national strategic significance in that the intentions of the Agency for Cultural Affairs were in line with those of the international community. (http://uis.unesco.org/en/news/meeting-technical-advisory-group-culture-satellite-accounts)

The following strategic issues result from looking at the domestic situation in Japan, which has succeeded in attracting 31 million inbound customers annually and is now in its second stage as a tourism nation.

(1) How can we best encourage long-distance visitors other than those from neighboring Asian countries to travel to regions in Japan other than large cities?
(2) How can we ease the burden of Japan's high cost of living for tourists from overseas, encourage them to spend their tourism yen in rural areas, and to return to Japan?
(3) The key question is: how can we increase the inbound annual consumption of about 4.5 trillion yen, as of 2018, to 15 trillion and 20 trillion while seeing that spending is dispersed as widely as possible outside urban centers.

To promote regional revitalization through Japan's second stage development as a tourism nation, it is necessary to link a nation-wide cultural policy aimed at "acquiring foreign currency through cultural and tourism consumption" to local revitalization. A policy is needed to gain acceptance for and export the economic effects of tourism thereby lessening the effects of the aging population and changing the direction of the declining birthrate.

To put it another way, in the second stage of being a tourism nation, we need to more effectively promote the cultural aspects of our nation and communicate the potential tourism resources of each region to the world in English. Many regional resources are historical and cultural heritage sites that do not require new capital investments. These include historical, and archeological sites as well as shrines. This will require the development of a cultural framework and joint work with tourism to raise foreign currency.

In order to evaluate such policy effects, quantitative measurement of investment effects and economic activity is essential as evidence-based policy evaluation.

It is important to the promotion of Japan as a world leader in culture and tourism in the 21st century, that the Agency for Cultural Affairs promote this CSA work.

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Abbreviations

CPC	Central Product Classification
CSA	Culture Satellite Account
FCS	Framework for Cultural Statistics
GDP	Gross Domestic Product
ISIC	International Standard Industrial Classification
SNA	System of National Account
TSA	Tourism Satellite Account
VA	Value Added

Note 1: Those without source in figures and tables are CDI created.
Note 2: The figures in the table are rounded off, so the breakdowns and totals may differ.

Table of contents

Framework of this research

This report is the result of the "2018 Cultural Administration Research Survey---A Quantitative Evaluation: The Economic and Social Effects of Culture (2)". The research period is from August 6, 2018 to March 22, 2019, and the framework is as follows.

1. Purpose of the survey

i) To develop methods for quantitatively evaluating the economic and social impact of culture and cultural industries to enable evidence-based planning of national cultural policies. To achieve this, the existing statistical information should be organized, and deficiencies in statistical information should be examined and investigated.

ii) Clarify the economic impact of culture from various industries on life in general. In addition, quantitative evaluation of the economic and social impacts of culture (including international comparisons) will be conducted to consider measures to be taken in the future. In addition, clarification of information deficits in statistical information on cultural relations in Japan, and examination of methods and frameworks that are highly feasible for quantification will be conducted.

2. Survey specifics

i) Estimation of the economic and social impact of new cultural measures by the Agency for Cultural Affairs (Culture satellite account)

Note 1: Estimations employed cultural areas based on the UNESCO model: (A. culture/natural heritage, B. performance/celebration, C. visual arts/crafts, D. books/press, E. audiovisual/interactive media, F. Design/creative services).

Note 2: The specifically estimated domains are:

Domain A. culture/natural heritage: i) museum (includes virtual ones)

Domain B. performance/celebration: i) Performing arts ii) music

Domain C. visual arts/crafts: i) some aspects of fine arts ii) photography iii) crafts

Domain D. books/press: i) books ii) newspapers, magazines iii) other printed matter iv) libraries (includes virtual ones)

Domain E. audiovisual/interactive media: i) film/video ii) TV and radio iii) internet podcasting iv) video games

Domain F. design/creative services: i) fashion design ii) graphic design iii) interior design iv) landscape design v) architectural services vi) advertising services

ii) Research on new cultural GDP

Research the improvement of GDP statistics in Japan and study how it is reflected in the new and cultural GDP estimation.

iii) Suggestions for new cultural measures

Proposals on the direction of new cultural measures to be addressed by the Agency for Cultural Affairs, focusing on economic and social impacts.

iv) Participation in the UNESCO Cultural Satellite Account Technical Advisory Group and the Trans-Pacific Association of Input-Output Analysis Conference (international conference)

Participated in international conferences on cultural satellite accounts and international conferences of academic associations on input-output tables, reported on the current status of cultural satellite accounts in Japan, participated in discussions, etc., and grasped the progress of international efforts.

In carrying out the survey, a study group was set up by the following experts to promote the survey.

< Study group members*>

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*(Occupational titles are as of 2018)

Chapter 1

Cultural GDP and Cultural Satellite Account

1.1 What is the Cultural GDP

GDP (Gross Domestic Product) is "the total amount of added value produced in a country within a certain period of time". It is a central indicator of the SNA (System of National Accounts), which is a comprehensive statistical measure of the economy, and is used as an indicator of the economic scale of a country (or one region).

The calculation method of GDP complies with the accounting standards of the national economy set by the United Nations, and has the characteristic of making it possible to use a common measure to evaluate the economic scale of each country.[1]

Although this occurred around 50 years ago, in 1971, a major newspaper company published a book called "Kick out GNP-The Inside Facts of High Economic Growth" and it became a topic of discussion (at that time nationality was more important than national borders, and GNP (Gross National Product) was in common use). The content is an opposition to measuring a country's economic power with the economic indicator of value added. However, although the first practical version of SNA was published in 1968, the concept has been revised since then. The basic concept of GDP was not “kicked out” for 50 years because of the convenience of being able to evaluate the economic size of each country with a common measure.

There are two types of GDP: nominal GDP, in which value added is represented by the nominal value of each year, and real GDP, in which value added is estimated by fixing the price evaluation point to remove the effects of price fluctuations. Economic growth rate is the growth rate of real GDP. In addition, although GDP is the sum of added value, in principle only the added value related to the production of goods and services traded in the official market is recorded.[2]

By the way, “added value” is the value created by subtracting the costs of raw materials and fuels required for production from the total production value, and newly created by production activities. Cultural GDP is the added value created by cultural activities. The value created as a result of cultural activities is diverse, including non-monetary and non-market types. However, the only economic added value that is captured in the framework of GDP is cultural GDP. More specifically, cultural GDP is an amount included within the existing GDP framework. This is equivalent to the “function-oriented satellite account” described later. Therefore, it must be noted that cultural GDP does not seek to add new value to cultural activities and cultural creative activities.

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[1] The SNA has several versions. The prototype was launched in 1953, the substantial first version in 1968, the revised version in 1993, and the revised version in 2008. Regarding the evaluation of value added, the evaluation method has been modified to match the real economy.

[2] Activities that are not traded in the market, with some exceptions, are not included in GDP. For this reason, domestic work and volunteer activities that are not part of the work of registered as non-profit organizations are not included in GDP. The exceptions are farmer's self-consumption (which assumes that they took produce to market and bought it back again) and the rent of an owner's house (the resident who pays rent to a landlord who is him/herself, the tenant). Markets are official markets, and value added in illegal markets such as those of drugs and gambling are not included in GDP. Only production activities create added value. For example, if there is a gain in land transactions, only the real estate brokerage fee is recorded in GDP. In connection with this, the increase in value due to the rise in land prices is not included in added value, and the asset value is recorded as an increase. The same is true for the trading of antiques, paintings, or stock or gold financial assets.

1.2 The Cultural Satellite Account

1.2.1 Concept of the Cultural Satellite Account

The SNA system is based on existing industry classifications. The industry classification is based on the criteria of producing similar products (by similar production methods). On the other hand, in cultural activities, the industries that produce them are not necessarily classified as a single field. Rather, in many cases they overlap across multiple industries or are part of an industry. Therefore, in order to estimate cultural GDP, it is necessary to extract the added value (cultural GDP) of cultural activities that are part of GDP in various industrial sectors and recount them. As an example, consider the production and consumption of sake as Japanese culture. In this case, in addition to the added value of sake production a part of the added value of the ceremonial occasion and restaurant business is also added to the “Sake culture GDP”.

A system for estimating such cultural GDP is the Cultural Satellite Accounts (CSA). CSA is a system reconfigured by rearranging the existing SNA.

1.2.2 Guidelines of the Cultural Satellite Account

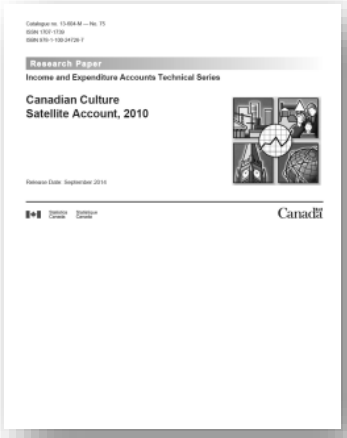
The purpose of cultural GDP estimation is to grasp the size and growth rate of the cultural industry in one's country, compare it with other domestic industries and make international comparisons. In order for cultural GDP to be internationally comparable, it must be estimated in the same way as existing GDP calculations based on international standards. In this regard, in 2009 UNESCO (UNESCO, the United Nations Educational, Scientific and Cultural Organization) published the 2009 UNESCO Framework for Cultural Statistics (2009FCS), which was used as a guideline for CSA, a system for estimating cultural GDP. Since then, CSA has been created in countries such as Canada, Australia, and South America, and cultural GDP has been estimated.

The estimation of cultural GDP in this study is based on this system (the so-called “UNESCO model”[3]), which is recommended by UNESCO and has become a global trend.

[3] The area of culture is set as the area of UNESCO's 2009 FCS, and the fields that make up each area are based on the 2017 CSA.

Figure 1-1 UNESCO Guidelines and Cultural Satellite Account Reports of Canada and South America

2009 UNESCO Framework for Cultural Statistics



Canadian Cultural Satellite Account, 2010

Guía Metodológica para la Implementación de las Cuentas Satélite de Cultura en Iberoamérica

Column 1: Two types of satellite account

There are two types of satellite account:

Type 1: Function oriented satellite accounts

According to 93SNA, this type "includes the rearrangement of the central classification and the introduction of supplementary elements different from the central concept system without largely deviating from the concepts underlying the core system (of SNA)". And this type is suitable for satellite accounts in fields such as culture, education, health and medical care, social protection, travel, environmental protection, research and development (R & D), development assistance, transportation, data processing, housing, and communications.

Type 2: Extension oriented satellite accounts

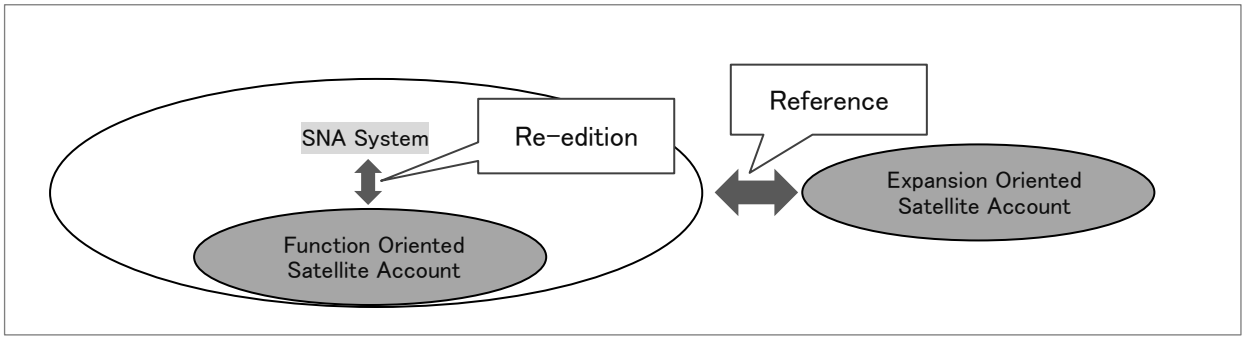
As stated in 93SNA: This type is obviously more problematic than a function-oriented satellite account, but it is important. It goes beyond what is included in the central system of SNA and therefore provides an opportunity to expand national economic operations. In addition, it tests new concepts and methodologies with much more freedom than the current national accounts work. The research work has the potential to influence the development of the system of central national accounting itself.

One example, an environmental account (not "environmental protection"), has the following characteristics: This account introduces different production boundaries or the concept of expanded consumption and capital formation, or extends the range of assets. This changes the boundaries between economic and natural phenomena that the central system deals with. As a result, the link between income and wealth is placed in the context of the broader concept of wealth, including natural assets.

As described above, the “function oriented satellite account” is re-edited in the SNA system, and the estimated value is the “inner number” of GDP. On the other hand, the “expansion oriented satellite account” is estimated with reference to the SNA system, but since it is originally intended for those not included in the SNA system, the estimated number is the “outer number”.

The Cultural Satellite Account (CSA) is a “function oriented satellite account”.

Figure 1-2 Two Types of Satellite Account



Column 2: History of cultural GDP estimation

Here is a look back at the history of National Accounts (SNA). After World War II, there was a growing momentum to develop national income statistics based on internationally common standards, with the primary objective of accurately determining the size of a country's economy. The prototype is "53SNA" published in 1953. The 53SNA was subsequently refined by the United Nations Statistics Commission, led by Richard Stone of Cambridge University, and a revised edition was published in 1968 as the new SNA (68SNA). 68SNA grasps the national economy from the aspects of goods and money, and flows and stocks, and connects it to five economic indicators: an input-output table, a national income account, a fund circulation account, a balance of payments table, and a national balance sheet. 68SNA is a revolutionary system that records the national economy systematically. Richard Stone was honored for this achievement and received the Nobel Prize in Economics in 1984.

As times change, naturally, the way of thinking of SNA will also change. In 1993, "68SNA" was revised and "93SNA" was published, with two major revisions. The first revision is that the purchase of computer software, which used to be treated as "intermediate consumption", became regarded as gross fixed capital formation (so-called investment), and its stock is classified as "intangible fixed assets". The second revision is that the depletion of fixed capital of government-owned social capital is regarded as social capital services and is added to government final consumption expenditure. The revision will add new value to some intangible goods and services, and will increase gross domestic product (GDP). The response to "93SNA" was extremely cold, as the media was focused solely on increasing GDP. "The government is trying to make GDP look bigger by manipulating statistics," they said. I had hoped the press would report that the move to add value to intangibles was a global trend.

SNA was subsequently revised in 2008.The biggest revision at that time was the expansion of the scope of non-financial assets. As a result of the increasing importance of intellectual stock in production activities, "research and development expenditure", which was previously treated as intermediate input, became regarded as total fixed capital formation, and the accumulation of knowledge stock became treated as a fixed asset.

Efforts to estimate cultural GDP have also been aligned with global trends to add value to intangible goods. The current estimation of "Cultural GDP" by the Agency for Cultural Affairs is to extract production activities related to culture from the GDP estimated based on current standards. However, the estimation of "cultural GDP" is also related to the fundamental question: "what is cultural activity?" For this reason, there are areas that conventional GDP targeting market transactions cannot handle. In the future, the concept of GDP will need to be expanded. In addition, in the compilation of SNA, flows and stocks are consistently accounted for. Regarding cultural GDP, future tasks will be to evaluate the value of cultural stock and to organize the relationship between the flow of cultural assets and stock. Japan is one of the few countries that presents measured values of cultural GDP. It is hoped that Japan will address these issues and make further contributions in the field of cultural GDP.

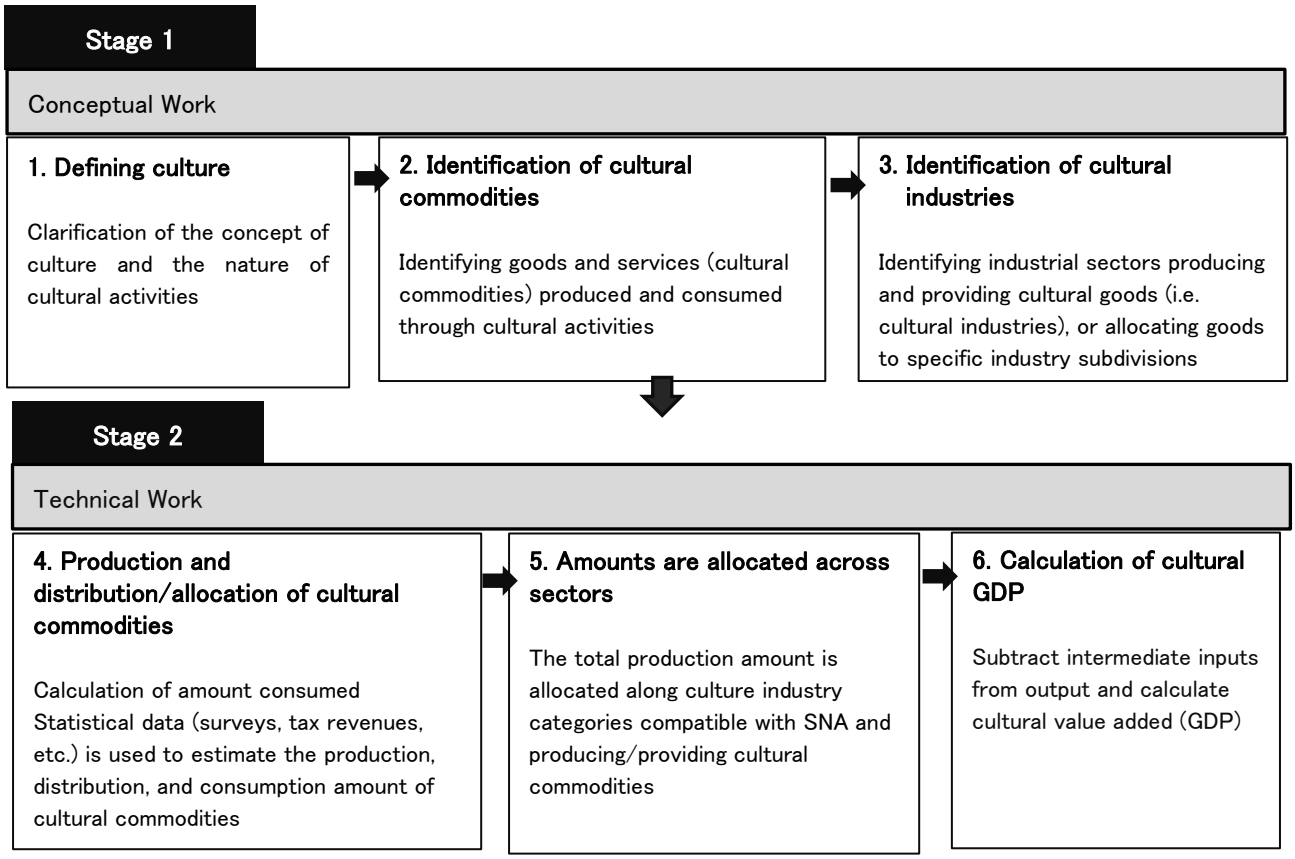
Kiyoshi Fujikawa
Professor, Nagoya University Organization for Asian Creative Education: Economic Statistics

1.2.3 UNESCO model and specific developments in this survey

The procedure for estimating cultural GDP consists of two major steps: conceptual work and technical work. At the conceptual work stage, identify the cultural content (cultural area[4]) for which GDP is to be estimated. At that time, the status of development of statistical data for the target "cultural field" is also taken into consideration. Next, cultural products related to the cultural area are extracted. Then, the “cultural industry” of the cultural area is specified by associating it with the industrial sector producing the cultural product.

At the technical work stage, first, the production value of cultural products included in each industrial sector is estimated. However, for products for which only the consumption value can be obtained, processing, such as estimating the production value by subtracting the import value from the consumption value, is performed. Finally, we estimate the value added (cultural GDP) by multiplying the value of production by the value added rate of the industry.[5]

Figure 1-3 The Basic Procedure for Estimating Cultural GDP Figure 1-2 Two Types of Satellite Account



Source: Prepared by CDI

[4] The word "domain" is used in UNESCO and other countries already working on CSA.

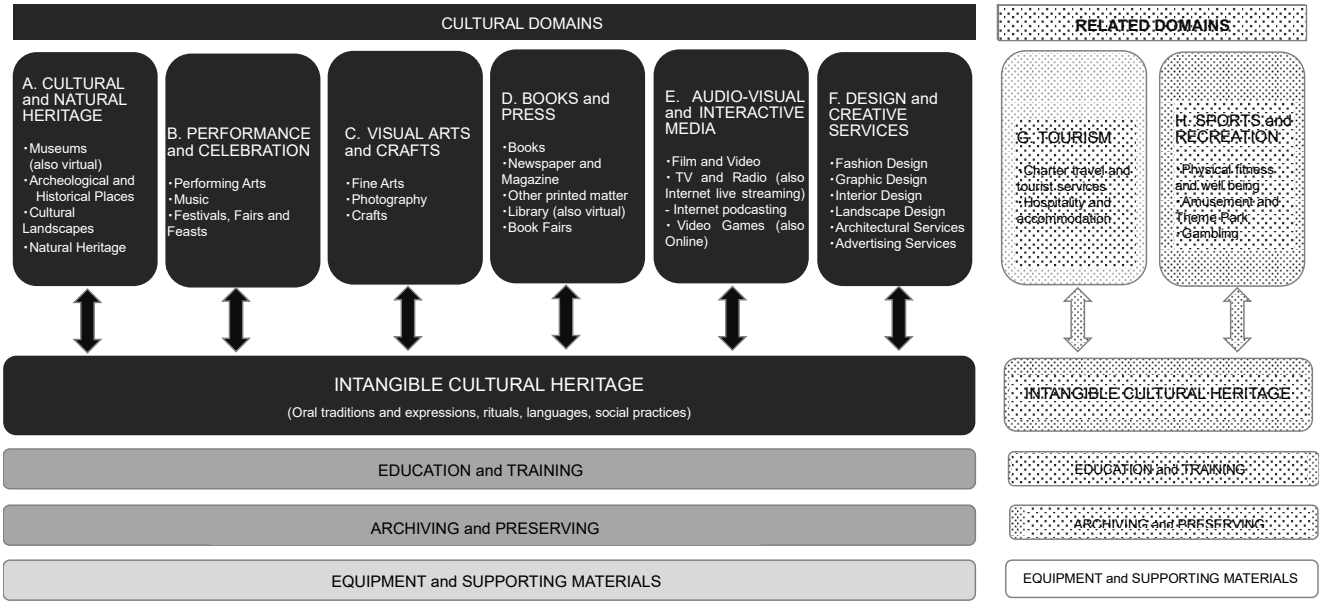
[5] The estimation of cultural GDP in this study considers that the gross value added produced in that area is equivalent to cultural GDP, and the calculation method of multiplying the value of production by the value added rate is the basic calculation method of cultural GDP estimation. The input-output table is used to grasp the added value, and the gross value added rate is based on the input-output table. Non-household consumption expenditures are consumption expenditures paid by companies, such as entertainment expenses and entertainment expenses. In SNA, this is part of intermediate inputs and is not included in gross value added. Since CSA conforms to SNA, the value added rate was calculated using a value added rate that does not include non-household consumption. In other words, the cultural GDP (gross value added) shown in this report does not include non-household consumption expenditure.

1.2.4 Definition and scope of culture

The scope of the culture covered by the CSA follows the UNESCO model. UNESCO's 2009 model consists of six core cultural domains, two related domains and four cross-sectional domains, as shown below.[6]

This report covers six core cultural areas, as detailed in Chapter 2. However, in the "Cultural Heritage / Natural Heritage" domain, only the museum is targeted, and in the "Visual Arts / Crafts" domain, there are some areas that have not been estimated, such as targeted parts of art, photography, and crafts.

Figure 1-4 The definition and scope of culture according to the UNESCO model



Source: UNESCO FC2009

1.2.5 Scope of cultural products

Regarding the setting of the range of cultural products, the UNESCO model emphasizes the concept of "culture-specific products"[7]. According to the concept of the UNESCO model, the industry that produces "culture-specific products" is a "cultural industry", and industries and products are strongly related. In other words, it is not considered a cultural industry unless it is an industry that produces "culture-specific products".

Furthermore, in production activities (activity that creates value added), it is also emphasized that these are goods and services that are linked to "cultural creation" activities.

For example, when it comes to the construction and operation of a museum, architectural design is considered a creative

[6] With regard to discussions on CSA at UNESCO, those on setting the boundaries of culture are ongoing. For example, in the 2017 model under consideration, the "education and training" area, which is a cross-sectional area of the 2009 model, and the "cultural management (public and private)" area, which is a completely new area, are core culture area candidates. As described above, the setting of the range of culture has the property of changing according to the way of thinking and the situation. This is the same as changes in the industrial structure and the emergence of new industries. In any case, it should be noted that the definitions of the concept and scope of culture are diverse and change in a certain way, as reflected in the UNESCO debate. It should also be noted that cultural scoping is not an ideal definition, but a pragmatic concept that can be replaced by economic activity.

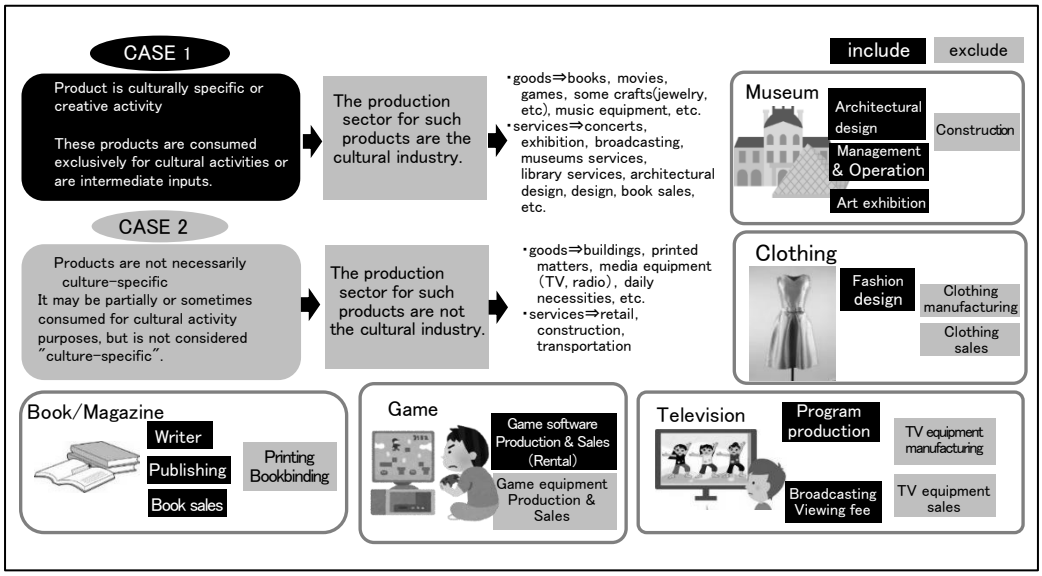
[7] In UNESCO guidelines, it is described as "characteristic cultural product".

service as is the production of culturally unique products. However, the construction of a museum is not included in cultural production. The reason for this is that the construction of an art museum is a production activity of an industry called the "construction industry", but the "construction industry" produces office buildings that are not culturally unique products, as well as ordinary houses and shops. Therefore, the construction industry is not considered to be a production sector for culturally unique products exclusively. However, the operation of museums and art exhibitions is considered a cultural industry.

For example, when it comes to the construction and operation of a museum, architectural design is considered a creative service as is the production of culturally unique products. However, the construction of a museum is not included in cultural production. The reason for this is that the construction of an art museum is a production activity of an industry called the "construction industry", but the "construction industry" produces office buildings that are not culturally unique products, as well as ordinary houses and shops. Therefore, the construction industry is not considered to be a production sector for culturally unique products only. However, the operation of museums and art exhibitions are considered cultural industries. This sector is considered to be producing only culturally specific products as production activities.

There are other examples. The fashion design service is a cultural industry, but the manufacturing of clothing, itself, produced as a related service, is not considered a cultural industry. The television broadcasting industry is a cultural industry, but the manufacture of television equipment is not. Other examples include game software and equipment, publishing and printing. It is also necessary to pay attention to the setting of such cultural (specific) products.

Figure 1-5 Concept of "culture-specific products"



Source: Prepared by CDI

1.2.6 Identification of cultural industries

As mentioned above, an industry that produces culture-specific products is regarded as a cultural industry. In order to associate a product with an industry, the product is linked to the industry based on the section classification portion of the input-output table.

1.2.7 Technical work

The estimation of the production value of cultural products and the estimation of the value added rate of each product are described in detail in Chapter 2.

Chapter 2

Japanese Cultural GDP

2.1 Scope of estimation

This year's estimation of Japanese cultural GDP aims to be based on the UNESCO model and to respond to the cultural situation in Japan. However, at the same time, the scope of this year's prediction is lacking due to the absence of an estimation method. The estimates are unified with 2016 figures.

From the above, it can be seen that the estimation results for this year do not completely correspond to the UNESCO model. However, for the most part, they succeed in capturing the entire scale and proportions of Japanese cultural GDP. The tables below shows the exceptions, which areas were not estimated, and why.

Figure 2-1 Scope of estimation of Japanese cultural GDP

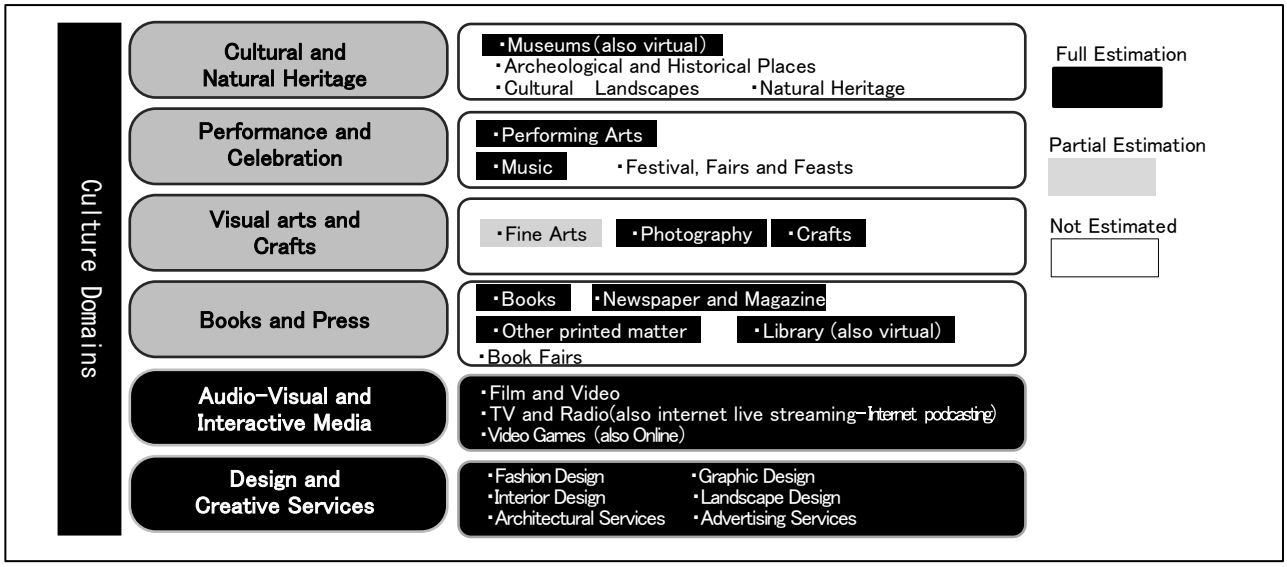


Table 2-1 Non-estimated areas of Japanese cultural GDP and reasons for their omission

Cultural area	Status	Reason
Archeological and Historical Places	Not estimated	(1)Uncertainty of area definition (2)Uncertainty of estimation method (3)Lack of relevant data
Cultural Landscapes		Same as above
Natural Heritage		Same as above
Festival, Fairs and Feasts		Same as above（Especially Uncertainty of area definition）
Book Fairs		Same as above（Especially Uncertainty of area definition）
Fine Arts	Partial estimation	(1)Lack of data on the art market (2)Uncertainty of estimation method （Due to the special character of art as a product）

2.2 Results

The total amount of Japanese cultural GDP is 9,234 million USD. This is equivalent to about 1.9% of Japan's total GDP. By comparing cultural GDP with the GDP ratio of agriculture, forestry and fisheries (1.2%), accommodation and food (2.4%), electricity, gas and water (2.7 %), financial and insurance (4.2%), and transportation (5.0%), its scale can be understood.

The highest share of cultural GDP is the design and creative services domain, at 38.0%, or 3,509 million USD. This is followed by the books and publishing area (26.6%, 2,458 million USD) and the audiovisual and interactive media area (26.4%, 2,440 million USD). These three domains account for 92.0% of the total.

Table 2-2 Japanese Cultural GDP and its Composition

Domain	Cultural GDP (M USD)	Ratio（%）	Note
A. Cultural and Natural Heritage	109	1.2%	・Only museums, except archeological and historical places, cultural landscape and natural heritage.
B. Performance and Celebration	468	5.1%	・A total of performing arts and music, excluding festivals, fairs and feasts
C. Visual Arts and Crafts	250	2.7%	・Excluding some types of fine art, photography and craft.
D. Books and Press	2,458	26.6%	・Excluding book fairs.
E. Audio-Visual and Interactive Media	2,440	26.4%	・Total of 4 domains of UNESCO's framework.
F. Design and Creative Services	3,509	38.0%	・Total of 8 domains of UNESCO's framework.
① Total of Cultural GDP	9,234	100.0%	
② Total of Japanese GDP	495,007		2016, nominal
③ Ratio of Cultural GDP to GDP （①／②）		1.9%	

(Note) Numbers are rounded.

2.3 Cultural GDP by Domain

2.3.1 Museum

In the "culture and natural heritage" area, only the museum area was estimated. The reason is that only this area has valid data.

As the museum is a non-profit organization, the project cost of each was regarded as its total production value. The facility activity costs included in the project cost are assumed as intermediate inputs, and other expenditures (personnel costs, tax and public dues, etc.) are estimated as cultural GDP (gross value added).

Museums can be classified into three types: national museums, public museums, and private museums. The estimation results are as follows, and the total gross value added in this area is 109 million USD.

Table 2-3 Cultural GDP of Museums

(Unit: M USD)

	Total production value	Intermediate input	VA
(1) National Museums	2.0	1.1	0.9
(2) Public Museums	15.8	9.9	5.9
(3) Private Museums	8.1	4.0	4.1
Total	25.9	15.0	10.9

The National Museum covered 13 facilities including the Tokyo National Museum. The financial statements of each facility in FY2015 and FY2016 are used as data, and the annual accounts are reset to the calendar year of 2016 to estimate the gross value added in 2016.

There are many public museums. Therefore, in the first stage, the number of target museums was determined. In the second stage, the financial structure per facility of the public museum was determined, the number of museums was multiplied to extract the overall financial structure, and the VA was estimated.

Private museums, like public museums, determined numbers in the first stage, and in the second stage determined the financial structure and estimated the VA.

2.3.2 Performance and celebration

In the “performance and celebration” domain, there are subdomains such as “performing arts (including music concerts)”, “musical instrument production”, “music software production”, “concert hall etc.”.

In this domain, first, total sales, total production value, market size, etc. are extracted using various economic statistics of each sector. After that, the VA was estimated using the VA rate of each corresponding department based on the extended input-output table (integrated table).

The estimation in the concert hall etc. uses the same method as in the "museum" domain. The operating cost of the service provider (music hall, etc.) is regarded as the total production value, of which the facility activity costs are considered intermediate inputs, and other expenditures (personnel costs, tax and public dues, etc.) are regarded as the VA .

The estimation results are as follows, and the total VA of this domain is 46 .8 million USD.

Table 2-4 Cultural GDP of “Performance and Celebration” Domain

（Unit: M USD）

	Production Value	Intermediate Inputs	VA
(1) Entertainment facilities（except movie theater）・Troupe	49.5	20.5	29.0
(2) Manufacture of musical instruments	8.2	4.6	3.6
(3) Music soft-ware (CD etc.) (Production value)	16.3	9.6	6.7
(4) Paid music distribution	4.9	3.6	1.3
(5) Music software production (excluding CD and other sales revenue)	6.6	3.9	2.7
(6) Music CD rental	2.8	1.0	1.8
(7) National theater (6 theaters)	1.2	0.9	0.3
(8) Public theater, music hall etc.	8.5	7.3	1.3
Total	98.0	51.2	46.8

2.3.3 Visual Arts and Crafts

The estimates for the "Visual Arts and Crafts" domain are not complete, and only include direct purchases from artists. In addition, arts include crafts and calligraphy because they cannot be separated statistically. In Japan, there is not enough data on the sale and purchase of artworks by art dealers and galleries, or on the artwork market. Also, the artworks have properties that do not match the "Products (commodities)" definition of SNA.
Data for "photos" and "crafts" are taken from the "Service Industry Trend Survey" (Ministry of Internal Affairs and Communications) and "Industrial Statistics Survey" (Ministry of Economy, Trade and Industry).

As an estimation method, total sales, total production value, market size are extracted using economic statistics for each section. Then, based on the extended input-output table (integrated table), the VA ratio of each corresponding section was used. Cloisonné

Table 2-5 Cultural GDP of "Visual arts and Crafts " Domain

(Unit: M USD)

	Production Value	Intermediate Inputs	VA
(1) Purchased from artists (art・craft・calligraphy)	1.9	0.6	1.4
(2) Purchased from artists (photo)	0.1	0.0	0.0
(3) Photography	26.8	8.5	18.3
(4) Handmade Japanese paper	0.2	0.1	0.0
(5) Ceramic ornament	0.5	0.3	0.2
(6) Painted pottery	0.1	0.1	0.1
(7) Cloisonné products	0.0	0.0	0.0
(8) Artificial jewelry (including synthetic jewelry, imitation jewelry, artificial pearls, artificial quartz)	0.4	0.2	0.2
(9) Metal sculpture	0.6	0.3	0.2
(10) Jewelry made of precious metal (including jewelry, ivory, and tortoiseshell)	10.7	7.2	3.5
(11) Natural and cultured pearl jewelry (by purchased pearl)	1.7	1.2	0.6
(12) Art goods (posters, etc.)	0.8	0.4	0.4
(13) Art goods (goods)	0.3	0.2	0.1
Total	44.1	19.2	25.0

2.3.4 Books and Press

This domain is roughly divided into three subdomains: book, magazine publishing and newspaper business, related fields, and libraries. Publishing and newspapers have distinct areas of industry. Therefore, they are well linked to economic statistics, and the figures are relatively clear and easy to estimate.

On the other hand, libraries are public services, so we used the same methods as for museums and public theaters and concert halls.

The VA of this domain estimated by these two methods is 245.8 million USD.

Table 2-6 Cultural GDP of "Books and Press" Domain

(Unit: M USD)

	Production Value	Intermediate Inputs	VA
(1) Books	70.1	47.5	22.6
(2) Magazines	82.6	55.9	26.7
(3) Book and magazine retailing (excluding used books)	107.3	39.1	68.2
(4) Newspaper	109.9	69.5	40.5
(5) Newspaper retail	121.4	44.2	77.2
(6) News agency service	2.2	1.3	0.9
Total	493.6	257.5	236.1

	Production Value	Intermediate Inputs	VA
(7) National Diet Library	1.6	0.8	0.9
(8) Public Library	21.0	12.2	8.8
Total	22.7	13.0	9.7

Total of "Books and Press" Domain	Production Value	Intermediate Inputs	VA
Total	516.3	270.5	245.8

2.3.5 Audiovisual and Interactive Media

This field is characterized by the fact that although the data is relatively complete, the industrial fields are not as detailed as those in the manufacturing industry. Instead, they are united in the service industry. The more detailed division of the service industry is currently a major issue in the study of SNA. In addition, the service industry and its structure are also fields that are rich in change. For example, for movies, the share of online distribution is also increasing. Broadcasting is also diversifying from terrestrial broadcasting to satellite broadcasting and internet broadcasting. Services of online video distribution are also increasing rapidly. The same applies to the game field. From the mode of enjoying game cassettes (software) on game devices and the mode of enjoying games at a game center, services on the internet and enjoying them have become mainstream. At present, statistical data have not kept up with these changes.

Although there are various issues and problems, the estimation was made by comparing Japan's statistical data with the UNESCO model. The estimated value of VA in this area is 244.0 million USD.

Table 2-7 Cultural GDP of Audiovisual and Interactive Media" Domain

(Unit: M USD)

	Production Value	Intermediate Inputs	VA
(1) Movie production and distribution	24.3	14.3	10.0
(2) Movie box office revenue	21.6	15.1	6.5
(3) Movie box shop revenue	5.4	2.0	3.4
(4) Movie box service (Advertising 50%)	0.2	0.2	0.1
(5) Movie box service (Food service 50%)	0.2	0.1	0.1
Sub-total	51.8	31.7	20.1
(6) NHK Viewing fee income	62.2	32.2	30.0
(7) Commercial terrestrial TV broadcasting	180.7	122.6	58.0
(8) Satellite broadcaster revenue	30.5	20.7	9.8
(9) Cable TV broadcaster revenue	46.2	22.2	23.9
(10) Radio broadcasting revenue	11.8	8.0	3.8
(11) Community broadcasting revenue	1.2	0.8	0.4
(12) Satellite general broadcasting audio broadcasting	2.2	1.5	0.7
(13) TV program production and distribution	65.9	38.9	27.1
(14) Radio program production revenue	1.0	0.6	0.4
Sub-total	401.7	247.5	154.2
(15) Video (DVD) production・sales	18.8	11.1	7.7
(16) Motion picture distribution revenue	15.0	11.0	4.0
(17) Post-production	4.4	2.6	1.8
Sub-total	38.2	24.7	13.5
(18) Game software sales	18.0	7.1	10.9
(19) Online game operation sales	115.6	84.9	30.7
(20) Distribution sales for feature phone	1.3	1.0	0.3
(21) Arcade, TV and music game	8.4	3.3	5.1
Sub-total	143.4	96.3	47.0
(22) Video (DVD・BR rental)	14.1	4.9	9.1
Total	649.1	405.1	244.0

2.3.6 Design and Creative Services

This domain consists of two groups of subdomains. These are "fashion design", "graphic design", "interior design", and "landscape design" in design, and "building service" and "advertising service" in creative service.
Both groups cover only creative and intellectual process service activities. Therefore, for example, clothing itself produced by the activity of fashion design is not included in the estimation.

The handling of such industrial fields is one of UNESCO's policies. Manufactured goods are not considered cultural goods unless they are characteristic to cultural activities. (On the other hand, musical instruments and jewelry products are characteristic to culture.)

In the design field, industrial design is not included. It seems appropriate to add fields such as "package design" and "display design", which are regarded as "design industry" in Japanese economic statistics.

This domain is an area where discussions continue at UNESCO. It is expected that the category of "intellectual property" including copyright issues and copyright processing services will be discussed in the future.

In this estimation, the following changes are applied to the UNESCO framework.

Table 2-8 Compatible with the UNESCO model in "Design and Creative Services" domain

Design and Creative Services	
UNESCO	This survey
1. Fashion design	Textile design, Fashion design
2. Graphic design	Graphic design
3. Interior design	Interior design
4. Landscape design	Included in Architectural design
5. Architectural design	Architectural design
6. Advertising services	Advertising services

The estimated VA of this domain is 350.9 million USD.

Table 2-9 Cultural GDP of "Design and Creative Services" domain (Unit: M USD)

	Production Value	Intermediate inputs	VA
(1) Textile design, Fashion design	1.5	0.5	1.1
(2) Graphic design	24.4	7.1	17.2
(3) Interior design	1.7	0.5	1.2
(4) Architectural design (also Landscape design)	231.7	72.5	159.2
(5) Advertising services	578.0	405.8	172.2
Total	837.3	486.4	350.9

Chapter 3

Approaches to amateur cultural activities

3.1 Positioning and development of amateur cultural activities

3.1.1 Position in the UNESCO model

As mentioned in Chapters 1 and 2, this estimation of Japan's cultural GDP is based on the UNESCO system. However, there are some problems with using it. In the UNESCO system, only activities with direct market value are included in the category of cultural activities. In other words, it covers only professional cultural activities. However, amateur cultural activities such as club music activities and traditional performing arts by volunteers can also be considered cultural activities. Thus, UNESCO's current system does not clearly include amateur cultural activities. However, if we try to capture cultural activities socially and practically, we cannot ignore these cultural activities by amateurs.

UNESCO also recognizes this as one of the issues of the Cultural Satellite Account (CSA), and is currently discussing how to position amateur cultural activities, participation activities, and volunteer activities in the cultural field within the CSA. Based on the awareness of these issues, this year's survey attempted to estimate cultural GDP through amateur cultural activities in the fields of arts and crafts and music.

3.1.2 Estimation method

The estimation method estimates cultural demand from the consumption of amateur cultural activities. This is an approach from the consumer side, not the approach from the production side adopted in the UNESCO model CSA.

The idea and procedure of the estimation are as follows.

(1) Artifacts created by amateur cultural activities are not actually traded on the market. Therefore, the product is not marketable and not a commodity. In other words, the amount of output from amateur cultural activities cannot be calculated.[8]

(2) However, amateur cultural activities consume goods and services necessary for their activities. That is, there is demand. We focus on what is produced in response to this demand. In other words, focus on intermediate inputs, not on products. Examples of intermediate inputs are dance costumes, musical instruments and tools, membership fees, and texts.

(3) Since these intermediate inputs are essential for cultural activities, they are regarded as “cultural products”.

(4) The estimated added value of these “cultural products” is regarded as cultural GDP.

[8] There is also a method to estimate the added value of non-market activities such as volunteer activities. However, in this method, the added value of amateur cultural activities becomes an "expansion-oriented satellite account", which is outside the SNA system. This case seeks to estimate the cultural GDP included in SNA.

3.2 Hobby and creative amateur cultural activities and cultural GDP

In the “Leisure White Paper 2017” (Japan Productivity Center), a sample survey (valid collections: 3,328) was conducted online for men and women aged 15 to 79 years old (every year). The main survey contents are the activity content, the activity frequency, and the amount of consumption accompanying the activity. Using the input-output table and this data, make the following estimations.

3.2.1 Amateur activities of performing arts and music

Calculate the active population based on the activity participation rate in the “Leisure White Paper 2017”.

Table 3-1 Number of participants in hobby and creative amateur cultural activities

Domain	Activity	Number of participants (thousand people)
Performing Arts	Dance（Japanese style）	700
	Dance (Western style)	1,200
Music	Chorus	2,200
	Playing western instruments	7,000
	Japanese music and folk songs	2,100

Source: CDI based on "Leisure White Paper 2017" (Japan Productivity Center)

Estimate annual consumption by multiplying the per capita consumption by the number of activists.

Table 3-2 Estimating annual consumption of hobby and creative amateur cultural activities

	Equipment cost per person (annual average) (thousand JPY)	Membership fee per person (annual average) (thousand JPY)	Total annual consumption per person (thousand JPY)	Equipment cost (total) (B JPY)	Membership fee (total) (B JPY)	Annual total (B JPY)
Dance （Japanese style）	44.8	51.7	96.5	31,360	36,190	67,550
Dance (Western style)	22.3	33.8	56.1	26,760	40,560	67,320
Chorus	8.3	12.7	21.0	18,260	27,940	46,200
Playing western instruments	27.1	16.3	43.5	189,700	114,100	304,500
Japanese music and folk songs	16.3	26.9	43.2	34,230	56,490	90,720

Source: CDI based on "Leisure White Paper 2017" (Japan Productivity Center)

The content of consumption is divided into membership fees and equipment costs. The latter vary depending on the field. The details cannot be grasped from this data. In the music domain, the portion counted in the musical instrument manufacturing industry is double counted. This estimate covers only items such as membership fees.
In the next step, VA is estimated using the VA rate of "individual teaching work" in the extended input-output table (integrated table). VA is estimated at 1,991 million USD.

Table 3-3 Estimating cultural GDP of hobby and creative amateur cultural activities （Unit: m USD）

	Production Value	Intermediate Inputs	VA
Dance（Japanese style）	333	71	262
Dance (Western style)	373	79	293
Chorus	256	55	202
Playing western instruments	1,049	223	825
Japanese music and folk songs	519	110	408
Total	2,530	540	1,991

3.2.2 Amateur activities of art and craft

The method and procedure are the same as those for performing arts and music amateur activities. First, determine the active population.

Table 3-4 Number of participants in amateur activities of art and craft

Domain	Activity	Number of participants (thousand people)
Art	Drawing and sculpture	65,00
Craft	Pottery	14,00
	Braid, paper craft, leatherwork, etc.	48,00
	Knitting, weaving, handicraft	11,500
Photography	Photo production	14,300

Source: CDI based on "Leisure White Paper 2017" (Japan Productivity Center)

Estimate annual consumption by multiplying the per capita consumption by the number of activists.

Table 3-5 Estimating annual consumption of creative amateur of art and craft

	Equipment cost per person (annual average) (thousand JPY)	Membership fee per person (annual average) (thousand JPY)	Total annual consumption per person (thousand JPY)	Equipment cost (total) (B JPY)	Membership fee (total) (B JPY)	Annual total (B JPY)
Drawing and sculpture	8.9	5.7	14.6	57,850	37,050	94,900
Pottery	13.6	5.8	19.4	19,040	8,120	27,160
Braid, paper craft, leatherwork, etc.	10.8	5.4	16.2	51,840	25,920	77,760
Knitting, weaving, handicraft	7.8	3.1	10.9	89,700	35,650	125,350
Photo production	17.1	2.6	19.7	244,530	37,180	281,710

Source: CDI based on "Leisure White Paper 2017" (Japan Productivity Center)

Only the consumption amount, such as membership fees, is estimated. The VA is estimated using the VA rate of "individual teaching work" in the extended input-output table (integrated table).

The VA is estimated at 1,041 million USD.

Table 3-6 Estimating cultural GDP of creative amateur of art and craft (Unit: m USD)

	Production Value	Intermediate Inputs	VA
Drawing and sculpture	341	73	268
Pottery	74	16	59
Braid, paper craft, leatherwork, etc.	238	51	188
Knitting, weaving, handicraft	328	70	258
Photo production	342	73	269
Total	1,323	282	1,041

Chapter 4 Issues to address, and proposals for estimating cultural GDP

4.1 Significance of cultural GDP estimation

Estimating cultural GDP involves numerically measuring the impact of culture on the economy. Because cultural GDP is estimated within the National Accounts (SNA) system, it can be compared to other industries that are also within the SNA system. Since SNA is an international system, international comparisons are also possible.

By comparing cultural and economic figures within the SNA system, it is possible to numerically understand the economic and economic position (properties, scale, structure, linkage, etc.) of an aspect of culture.

Since GDP is an economic indicator that is the axis of economic growth, if we can grasp the economic position of culture from the viewpoint of GDP, we can express the contribution of culture to GDP (economic growth) in concrete figures.

The following developments can be expected as a result of using specific cultural GDP figures as evidence.

① Confirmation of the importance of culture in economic activities
② Strengthening cooperation between economic and cultural activities
③ Strengthening economic support for culture

From the cultural side, the objective quantitative measure of culture broadens the perspective on the effects and results of cultural policies. Based on this, the following developments in cultural policy can be expected.

① Quick numerical measurement of the effects of cultural policies and the addition and modification of cultural policies based on them
② Cooperation between cultural and economic policies
③ Emphasis on the contribution of culture to economic and industrial development

Cooperation between culture and the economy will clarify the social composition of sustainable mutual revitalization, and will enable rapid development of effective cultural policies in this regard.

Of course, the position of the international culture of Japan can be grasped numerically. It can also strengthen the relationship between culture and economy in regional development.

4.2 Issues of concern when estimating cultural GDP

4.2.1 Issues related to cultural concepts

Since the estimation of cultural GDP is based on the reconstructed cultural satellite account (CSA) of SNA, we count cultural activities as economic activities. To do so, the concept (scope) of culture must correspond to SNA and economic statistics. For this reason, there is a gap between the cultural concept when approached from an economical perspective and the cultural concept when approached from the cultural side.

Regarding this discrepancy, when trying to estimate cultural GDP from the cultural side (such as is undertaken by UNESCO), the range setting for estimates is strict in order to be statistically reliable.

However, being strict in order to gain credibility has in turn led to criticism that "it only deals with a limited part of the culture". This leads to the persistent idea that "(the value of) culture cannot be quantitatively assessed".
Both positions are plausible. Neither position is positive. Nevertheless, it is necessary to promote discussions on setting a cultural concept (scope) that is effective from both the economic and cultural perspective.

4.2.2 Participation in international discussions

It is necessary to further the discussion of "what is culture" in line with the actual situation of Japan's cultural activities, but this discussion must also be adapted to international standards regarding CSA. Therefore, we should take part in international discussions on CSA. These should be compatible with domestic discussions.
Setting the concept of culture is a common issue in countries seeking CSA development. Discussions are also underway at UNESCO, and issues such as how to understand the concept of culture and how to deal with national differences are being addressed.

When participating in such international discussions, it is desirable that Japan has and can demonstrate a clear and concrete policy. Following these discussions, feedback to domestic discussions will enable this measurement tool to become more precise and yield additional results.

4.2.3 Furthering cultural theory

The setting of a cultural concept (scope) needs to be aligned with international standards, but at the same time, setting a cultural concept (scope) is meaningless unless it reflects the actual state of culture of each country as much as possible. International examination for establishing international standards for international comparison (globalization), must occur at the same time as efforts are made to adapt to the cultural realities of each country (localization). It is necessary to balance and adjust these two directions over time.

We need to participate in international discussions on these issues and learn from the practical solutions of countries with more experience in this area. It is also necessary to identify and develop new ways that are meaningful to the measurement of culture specific to Japan and other Asian nations, while discovering new perspectives together.

4.2.4 Enhancement of overall cultural statistics

The current debate on the concept (scope) modification of culture in UNESCO has a strong tendency to pursue the uniqueness of cultural products to make the cultural sphere a cultural one. This is, in a sense, a matter of course in the discussion of international standards.

However, narrowing the concept (scope) of the culture targeted by the CSA may result in the CSA moving away from the cultural reality.

In order for CSA to be developed and utilized as one of the social and cultural intellectual infrastructures, it is not desirable for CSA to deviate from cultural reality. Therefore, the cultural and economic statistics, which are the premise of CSA, must accurately capture our living and social situations and adapt to our cultural situation. In addition, if there is abundant and reliable data on the actual state of culture other than CSA, various statistical data complement each other and grasp the overall actual state of culture including economic aspects. be able to. Therefore, it is necessary to make overall cultural statistics more comprehensive and accurate.

4.3 Response to national GDP statistical improvements

CSA is a secondary statistic that is estimated using various primary statistics. For this purpose, CSA estimates require available primary cultural and economic statistics. In Japan, efforts are currently being made to improve the basic statistics used in estimating GDP, to improve the processing and estimation methods of GDP statistics, and to shift the input-output tables to supply and use tables (SUT). It is necessary to recognize such national improvements in statistics.

4.3.1 Enhancing statistics that connect culture and the economy

Japan's cultural statistics available for CSA are not sufficient at present. There are activity surveys and attitude surveys related to culture, but all are qualitative surveys which cannot be used for CSA. There are quantitative surveys of activities and cultural consumption, but these surveys have a small sample size and are not regularly or continuously conducted.

To advance CSA, it is essential to develop reliable cultural statistics that can be used to quantify culture and are linked to the economy and economic statistics. In this development, it is necessary to first thoroughly and accurately comprehend cultural statistics and to conduct a strategic survey which identifies aspects that may have been overlooked. Alternatively, a new general-purpose survey on cultural activities and consumption which connects to the CSA framework could be conducted. In doing that, however, it is necessary to establish a method of approaching cultural GDP from consumption, as attempted in “Hobbies and creative activities” (Chapter 3) of this survey.

4.3.2 Cooperation with economic statistics improvement

Regarding statistical data, there are issues in economic statistics as well as cultural statistics. Current economic statistics, especially those related to SNA-related input-output tables, naturally have priority to industry. One characteristic of production activities associated with cultural activities is that the target is mainly services, not goods. For this reason, cultural statistics and economic statistics are not easily linked.

Also, with the emergence of various media, such as audio-visual/interactive media, and the transformation of business models, the reality of services has become difficult to grasp. In addition, fusion between elements is often seen. If the target is a tangible good, it is relatively easy to classify, but categorization of intangible services is problematic.

The Japanese government is also studying the measurement of economic activity in new fields such as “sharing economy” free or cost-shared services on the internet, such as distribution of video, music, and other content. “Sharing services” that rent out, deliver and regularly renew art work in homes and businesses have emerged, for example. It is necessary to capture and somehow quantify these new economic activities from a cultural perspective.

Further, in UNESCO's future discussions on CSA, it is expected that the concept of adding intellectual property such as copyrights to "cultural products" will be strengthened in the future, and that specialized services such as copyright processing will be added to the cultural industry. This factor is an issue of the current SNA, as well. In this regard, the Japanese government is considering the inclusion of “Original Entertainment, Literature and Artwork” in the total fixed capital formation at the next revision of the SNA standards (by FY2020). It is necessary to understand both the underlying statistics for this and exactly how to measure it. In economic statistics, for example, when an

automobile design is designed by an in-house design department of the automobile manufacturing industry, the VA is that of the automobile manufacturing industry. Similarly, in the construction industry (for example, in the case of Japan, the so-called “general contractors”), if the in-house design department designs building, it becomes the VA of the construction industry as well as of the automobile manufacturing industry. In either case, the VA is clearly considered to result from cultural creative activities, but is not included in cultural GDP.

This is also an SNA issue which is being covered in discussions on SNA improvement. With data from improved SNA, it will be possible to estimate CSA and cultural GDP more accurately with respect to culture and economy. The CSA side needs to pay close attention to the direction of SNA improvement in this regard.

4.4 What must happen before CSA Application (Cultural GDP) can occur?

4.4.1 Further expand the range of economic measurement of culture

In order to make the results of quantification of culture, such as cultural GDP, more effective, it is necessary to enrich the economic perspective on culture.

For example, in addition to estimating cultural GDP, it is desirable to measure the production-inducing effect of culture (so-called economic ripple effect). The production inducement effect of culture can be estimated at the same time as estimating the amount of inducement, and by grasping the inducing field, it is possible to know the economic industries relationship in that cultural area. This is also to know the economic origin of culture (ecosystem).

This will help us understand where and how the investment in culture will appear. We can also learn where it is effective to apply cultural policies and policies that link culture and economy.

4.4.2 Localization

SNA has been further broken down from the national level, and the prefectural economic accounts have been prepared. This can be used to estimate prefectural-level cultural GDP. If several prefectures are combined, cultural GDP can be estimated at a regional level. Then, it can be used as numerical evidence of cultural policy at the prefectural level or at the regional level.

For example, the economic structure of cultures in metropolitan areas and non-metropolitan areas seems to be different, but this difference can also be grasped. Then, the way of regional cultural policy differs between metropolitan areas and non-metropolitan areas. In metropolitan areas, there is a need for a direction that links industrial and cultural policies more strongly. In non-metropolitan areas, regional promotion and regional industrial promotion measures that utilize regional cultural resources are pursued. These directions can be considered based on more specific numerical evidence.

However, in the latter case, there is a problem of how to use the stock of historical and cultural resources. There is also the problem of how to quantify tangible and intangible, including local traditional events and performing arts, or local cultural resources as stock. These are the major challenges for CSA in the future.

This issue is not only an issue in localization, but also how to deal with tangible and intangible cultural heritage (such as UNESCO-modeled "remains and historic sites", "festivals, fairs, and festivals"). .

Column 3: What is needed to measure ″Cultural Ecosystems″?

The importance of culture in society is considered obvious to many. However, there are various debates about the relationship between economy and culture. In the twentieth century, in an efficiency-oriented economy, culture was seen as a way to enjoy leisure for those who could afford it, and little attention was paid to the impact of culture on the economy.

In the 21st century, the economy has matured and consumption has shifted from tangible commodity consumption to intangible service consumption. Consumers are spending more on touching experiences, and experience value has gained an important place in value creation. Culture has not only been recognized as playing an important role in creating this experience value, but also attempts have been made to integrate science and engineering technology and art in corporate R & D activities. Culture and art are attracting attention as a source of corporate competitiveness.

For these reasons, the importance of measuring the economic value created by culture has been strongly recognized. The main purpose of this study is to evaluate the economic and social impact of culture (Culture Satellite Account). By numerically assessing the economic and social impacts of culture, it is possible to predict the social and economic impacts of cultural administration, and to clarify the direction of policy with higher accuracy.

In this study, we added a new perspective, "Understanding Cultural Ecosystems," which has not been sufficiently discussed. We also tried to elucidate the mechanism of value creation brought about by the spread of cultural activities. In the future, it is necessary to examine the measurement method so that the numerical evaluation more accurately reflects the essence of the economic value created by culture. And the research for that needs to be further developed.

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Appendix[9]

A.1 Production ripple effect of ″movies″

A.1.1 Production value of movies

The final demand for the “movie” industry is estimated as follows. The material is from the “Leisure White Paper 2017”.

From the participation rate of the questionnaire survey (sample size: 3,328), we estimate the number of people who participate in “watching movies (excluding television)”[10] and multiply this by the annual cost per capita to estimate total consumption. The total consumption is 2,487 million USD.

Number of participants 35,600 thousand × Annual cost per capita 69.9 USD

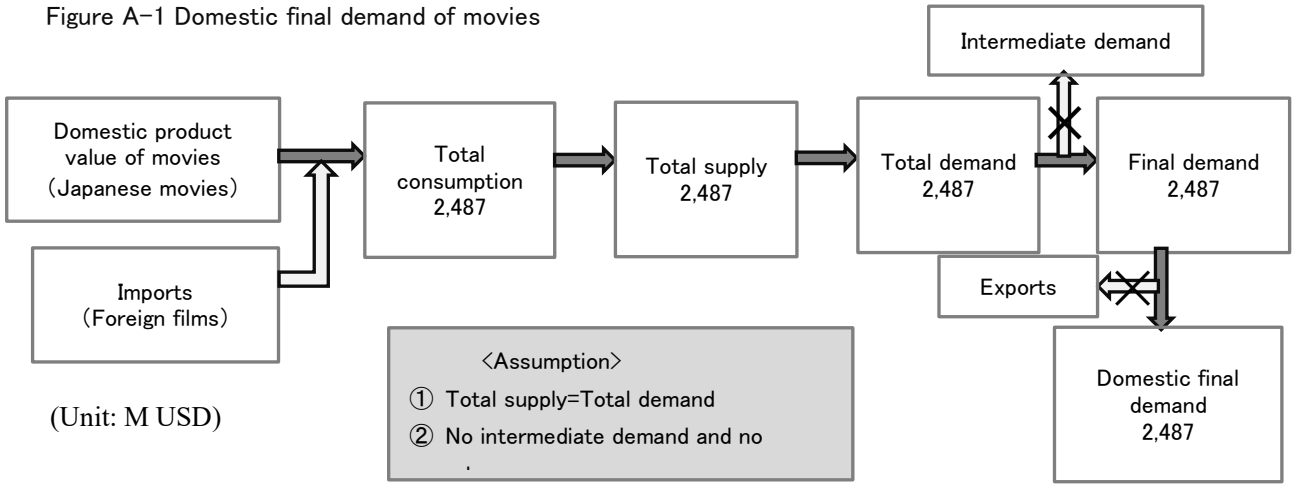
＝Total consumption（Final demand）2,487 million USD

A.1.2 Estimating production-induced effects

The following relationships are established in this industrial field. These amounts are 2,487 million USD.

"Total consumption = Total supply = Total demand = Final demand = Domestic final demand"

Figure A-1 Domestic final demand of movies



(Unit: M USD)

[9] The publication date of the materials used is 2017, etc., but the figures are all for 2016, the same year as the estimation of cultural GDP.

[10] This is the demand (consumption) for watching a movie in a movie theater. Video consumption/appreciation is not included.

The direct effect of the production-induced value is equal to the final demand, which is about 2,487 million USD. The direct effect spreads to various industrial fields, and the first indirect effect is about 2,876 million USD. This will add approximately 1,135 million USD to the second indirect effect of consumption by employee income. A total of about 6,498 million USD will be produced.

The total effect of the direct effect of the production induced value is 2.61 times. Similarly, the VA, including indirect effects, is approximately 269 million USD (excluding non-household consumption expenditures), and the total effect of direct effects is 3.61 times.

Employment inducement effect by the induced production of 6,498 million USD is about 45,000 employments.

TableA-1 Production ripple effect of "movies" (Unit:M USD)

	Production induced value	VA	Compensation of employees	Employment inducement effect In (thousands)
Direct effect	2,487	747	405	23
The first indirect effect	2,876	1,324	650	14
The second indirect effect	1,135	623	263	8
Total effect	6,498	2,694	1,317	45
Effect magnification	2.61	3.61	3.25	

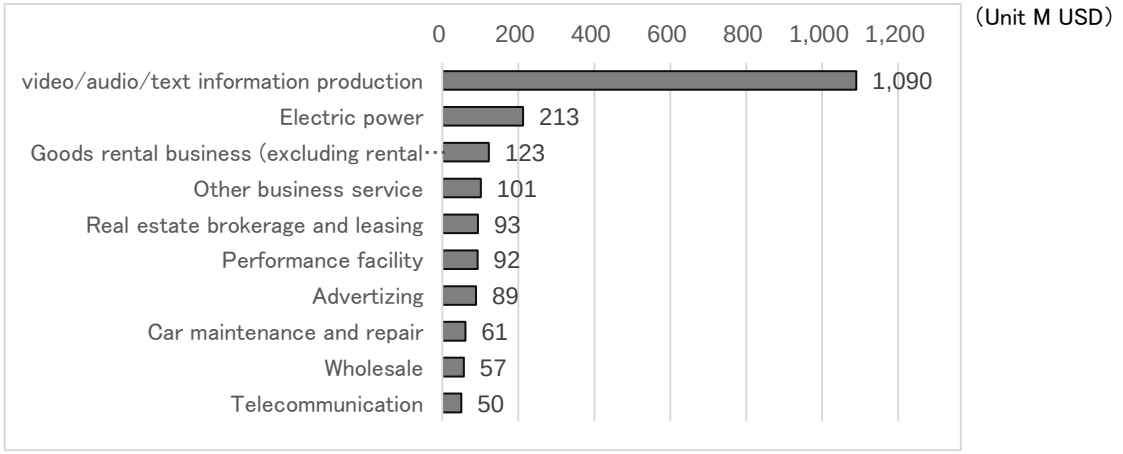
A.1.3 Production-induced structure of movie

The spread of the production-inducing effect of "movie" is wide-ranging. Above all, it has a deep connection with "video/audio/text information production ", which has induced production of 1,090 million USD. This accounts for 37.9% of the production inducement of the first indirect effect.

The production and distribution of a movie is put in the middle of a performance at a movie theater. Without it, it is impossible to perform a movie theater, so that is reflected.

Conversely, it indicates that the major customer for movie production and distribution (here, "video/audio/text information work") is a movie theater, which has spread to that area.

Figure A-2 Production inducement effect of "movies" (first indirect) (Top 10 industries)



A.2 Production ripple effect of ″newspapers″

A.2.1 Production value of newspapers

Extract the average household spending for newspaper subscriptions from the “2016 Household Survey Annual Report”. Multiply that by the number of households to estimate the final demand for newspapers.

The final demand in Japan is 14,327 million USD.

Table A-2 Newspaper out of spending by item (total household)

Item	Average spending amount (USD)	Number of households (1, Jan. 2018)	Newspaper purchase amount (M USD)
Newspapers	254	57,477,037	14,590

Source: “2016 Household Survey Annual Report”

（Note 1） Limited to daily newspapers.

（Note 2） English newspapers and sports newspapers are included, but industrial newspapers and student newspapers are not included. They are classified as "other printed matter".

This final demand of 14,590 million USD is the purchaser price. This includes newsstands (retail) and transportation costs. The buyer price (final demand) is allocated to these areas and multiplied by the self-sufficiency rate to estimate the producer price. The producer price is assumed to be 14,574 million USD.

Table A-3 Estimation of production value of newspapers （Unit: M USD）

Sector	Final demand	Self-sufficiency rate	Production value
Newspapers	8,160	0.99799	8,144
Retail	5,903	1.00000	5,903
Road freight transportation	502	0.99927	501
Cargo transportation	25	1.00000	24.8
Rail freight transportation	0.8	1.00000	0.8
Air transportation	0.6	0.69000	0.4
Total	14,590		14,574

A.2.2 Production ripple effect of ″newspapers″

The direct effect of the production-induced value is equal to the production value, which is 14,574 million USD. This direct effect will spread to various industrial fields, and the first indirect effect will be 11,973 million. The second indirect effect of consumption by employee income is 8,388 million USD. In total, 34,934 million USD of production will be induced.

The total effect of the production effect on the direct effect is 2.40 times. Similarly, VA, including indirect effects, is 17,075 million USD (excluding non-household consumption expenditures), and the total effect of direct effects is 2.40 times.

The employment inducing effect from the induced production of 334,934 million USD is 271,000 jobs.

TableA-4 Production ripple effect of ″newspapers″

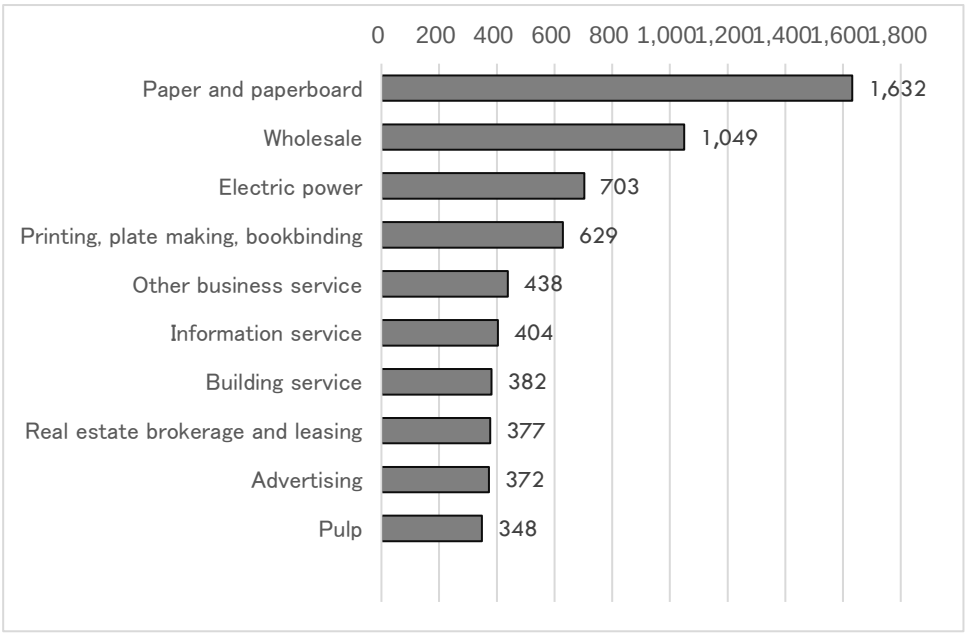
(Unit: B USD)

	Production induced value	VA	Compensation of employees	Employment inducement effect (in thousands)
Direct effect	14,574	7,117	5,097	147
The first indirect effect	11,973	5,354	2,697	66
The second indirect effect	8,387	4,603	1,939	58
Total effect	34,934	17,075	9,734	271
Effect magnification	2.40	2.40	1.91	

A.1.3 Production-induced structure of newspapers

The spread of the production-inducing effect of "newspapers" is wide-ranging. It can be seen that it spreads to various fields such as "printing, plate making, and bookbinding" in addition to basic raw materials (intermediate input) such as "paper and paperboard," “vegetable and non-vegetable inks” etc.

Figure A-3 Production-inducement effect of ″newspapers″ (first indirect) (Top 10 industries)



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