

Tentative Translation

Japan Fair Trade Commission
Competition Policy Research Center

Report of Study Group on Data and Competition Policy

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Study Group on Data and Competition Policy

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[As arranged according to the Japanese syllabary, with titles omitted; Official positions are as of May 26, 2017]

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Note: This report summarizes the discussion of six meetings of the Study Group on Data on Competition Policy, which was established within the Japan Fair Trade Commission (JFTC)'s Competition Policy Research Center. Its objective is to serve as a reference for future policy making and legal enforcement by the JFTC.

The study process involved opinions from experts and relevant enterprises, and also took into account the views of the JFTC General Secretariat. This report only expresses the views of the Study Group, and therefore does not represent the official view of the JFTC.

Chapter 1: Background

- In recent years, it is expected that knowledge derived from “Big Data¹” analysis will inspire further innovation across the existing industrial boundaries in the context of the spread of Internet of Things² (IoT) and the advancement of artificial intelligence³ (AI) technology. This will increase industrial productivity, and has been described as constituting a “fourth industrial revolution⁴” that will solve social problems that our country is faced with. Under these circumstances, the transitions from the traditional business model based on the mass production of homogenous goods to services that are optimized for each customer are happening. As part of this, we are seeing enterprises in manufacturing industry who sells not only products themselves, but also services such as solutions by utilizing data (see Note) relating to goods and their operating status as inputs.

Note: In this report, “data” refers to objective facts expressed in the form of figures, graphs, images, voice recordings, etc. Data is generally regarded as being possible for machines to process.

- While data and its utilization in business activities are more and more important, it has become essential to consider the competition policy issues in order to promote

¹ The term, Big Data, can be used to describe data characterized by being in a quantity that human beings cannot process (volume), having a diverse range of types (variety), and being processed rapidly (velocity – generally in real time) is sometimes referred as “big data” ((OECD (2016), “BIG DATA: BRINGING COMPETITION POLICY TO THE DIGITAL ERA,” November 2016, p. 5). Until recently only data organized from a particular perspective (structured data) has been heavily utilized, but amid the environmental changes described in Chapter 2-3 of this report, the fact that it is becoming possible to collect and utilize unstructured data, which supposedly accounts for 80 percent of the information on the Internet, has been pointed to as a significant change in the environment given that structuring data requires considerable effort.

² The term Internet of Things or IoT refers to the progress of digitalization of the information related to things and of automation based that, which lead to creation of new value, under the situation wherein everything including automobiles, home electrical appliance, robots, establishments, etc. is connected to the Internet and information thereon is exchanged over the Internet (definition from the 2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 430).

³ There is currently no established definition of artificial intelligence (AI). According to an opinion paper concerning the establishment of the Japanese Society for Artificial Intelligence, AI is defined as being “aimed at accurately drawing sophisticated inferences from vast quantities of knowledge-comprising data”.

⁴ The utilization of technological breakthrough in the fields of IoT, Big Data, AI, and robot sensor (Japan Revitalization Strategy 2016 - Toward a Fourth Industrial Revolution, p. 2, adopted by the Cabinet on June 2, 2016).

data utilization⁵. In other words, the likelihood that new innovation will generate improves through will generate new innovations through the collection, accumulation, and analysis of various types of data by various enterprises, regardless of sector or size, including new entrants and startups, in a competitive environment. It will therefore be crucial to avoid a situation in which valuable data is unreasonably collected from third parties or access to data is unreasonably restricted.

- This report therefore attempts to sort out the issues concerning the application of the Antimonopoly Act and competition policy in the future, with a particular focus on the utilization of personal data⁶ obtained from the Internet, IoT, etc. and industrial data⁷ (see Note) as an input for business activities, taking characteristics of data into account. This report is aimed promoting competition in data-related markets (markets for products and services (hereinafter referred to collectively as “products”), data trading markets, and markets for related technologies). It also takes into account the current economic situation concerning data, technology trends, and the operations of the JFTC in relation to competition policy and the Antimonopoly Act until now.

Note: Besides these, there are various other data-related competition policy issues including screening of bidding that is suspected of bid rigging based on bidding data (e.g. initiatives described in JFTC’s Competition Policy Research Center’s “A study of Screening Approach as a Tool to Detect Violations of the Antimonopoly Law” (June 24, 2016) and using data to figure out enterprises’ compliance status.

⁵ The Organisation for Economic Co-operation and Development (OECD) and French and German competition authorities have recently issued reports on the impact that the accumulation of vast quantities of data will have on consumers and markets and on competitive concerns in conjunction with the recent growth of digital markets, the possession and use of data, and mergers etc. in digital markets.

[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf) (OECD)

<http://www.autoritedelaconurrence.fr/doc/reportcompetitionlawanddatafinal.pdf> (joint report from the French and German competition authorities)

⁶ In this report, the term “personal data” is used to refer to various types of information relating to individuals. Its meaning is not limited to “personal information” as defined in the Personal Information Protection Act as information that can be used to identify individuals.

⁷ In this report, the term “industrial data” is used to refer to data concerning actual “tangibles” such as devices, human bodies, and soil that is collected using sensors.

Chapter 2: Changes in the environment surrounding data and current situation concerning utilization

1. Traditional forms of data collection and utilization

- For many years, various types of data such as customer lists, customer complaints/inquiries, knowhow, and clinical trial data (data used as an input in business activities, the same hereinafter) have been used in business activities. For example, while pieces of information have been converted into data (e.g. recording numerical results of experiments on paper), such data has rarely been used without change. On the contrary, in most cases the data has been organized, processed, and accumulated by human beings based on some sort of idea in order to provide new knowledge, and this data has contributed to development of new products and making existing production, sales, and marketing methods more efficient (see Note). Because of this the accumulation and utilization of data has been uncertain as it has involved repeated trial and error by human beings.

Note: With regard to some knowledge, if it meets certain criteria for intellectual property such as creativity, use of it by third parties may be prohibited, because rights such as patents are established.

2. Basic characteristics of data

- Due partly to recent changes in the environment surrounding data (see section 3), some data, like that relating to knowhow within an enterprise, is kept confidential as commercial secrets, making it difficult to obtain similar data via the alternative route. Generally, however, the same or similar data can be obtained via the same route, or there is an alternative route via which it can be obtained.

Furthermore, even if a pioneer obtains certain data, it is technically easy to copy it, so persons that can possess and use the data are not necessarily limited to the pioneer (see Note 1). This is because unlike physical items, data cannot be considered to have exclusive ownership. Moreover, except in the cases where

protected by patents or copyrights, it cannot be used exclusively (see Notes 2 and 3).

Put another way, except for data that is kept confidential within the enterprise such as knowhow, even if data possessed only by a specific person, another person tends to be easy to obtain and use it through obtaining the same or similar data via the same or an alternative route, or copying it from the specific person. For example, if an enterprise gathers information on potential customers for a certain product to prepare a list of those customers, that does not prevent another enterprise from collecting similar data separately.

Note 1: Exceptionally, with regard to some raw data, the channel of acquisition is limited. If such raw data is essential for business activities and substitutable information cannot be obtained, it is possible that the enterprise possessing the raw data would have market power. (See Chapter 3.4)

Note 2: While data cannot be considered to have exclusive ownership, it is possible for the owner to manage its data. The owner can keep it secret or to disclose it to specified or unspecified persons. Such transaction is normally carried out in the form of disclosure of data by the owner to the buyer.

Note 3: It has been pointed out that after an owner of data has disclosed it to a third party, it becomes difficult to prevent unreasonable use of the data. It has also been pointed out that this situation discourages data owners from disclosing data to third parties.

- On the other hand, the combination and use of various different types of data can give rise to additional new knowledge, and expand the uses of the data (see Note 1). Furthermore, in the case of the accumulation of data of the same type, it is sometimes only possible to obtain significant knowledge when a certain quantity of data has been acquired (see Note 2). However, if a large amount of data has already been obtained, it is sometimes the case that obtaining even more data becomes less effective.

Note 1: In general, the combination of different types of data results in various synergies, such as increasing the authenticity of the data. (For example, by adding location information to information on the tastes and preferences of individuals, it becomes possible to show consumers advertisements for actual stores near their location.)

Note 2: Even if data is of the same type, there will be differences between it in terms of whether it was inferred from other data or whether it is up to date, and this can lead to differences in its usage value depending on the purpose it is to be used for. (For example, information on individual's tastes and preferences for the purpose of targeting advertisements)

- There are also other characteristics of data that should be noted as follows:
 - Even data of the same type can have big differences in usage value depending on the degree of the authenticity and how much time has passed since it was obtained. An example of this is the use of data on individuals' tastes and preferences in advertising.
 - Furthermore, sometimes data is highly circumstance dependent, in the sense that it only has usage value to certain persons. For example, real-time data on the operation of machinery would be useful only for the owners of the machinery. On the other hand, the accumulation and analysis of large volumes of such data would also give it usage value to other companies.
 - However, not only data which has been accumulated and processed, but also real-time data can embody the knowhow of the enterprise concerning such as product manufacturing methods (e.g. heating time, temperature at each process).
- Furthermore, data is sometimes subject to few physical restrictions such as the forms it can take, and the uses of such data is not limited to specific purposes. Its potential uses are often wide ranging. For example, data on pulse rates, levels of exertion, etc. in human bodies is sometimes collected from, for example, a wristband with measurement capabilities, and used to provide health-related services, but such data could also find uses in such fields as life insurance and medical diagnostics.
- Data normally only offers usage value once it has been accumulated and analyzed, but accumulation and analysis is often contingent on the use of a certain elemental technology, hardware, etc. (see Note).

Note: As stated in section 4 below, for accumulation and analysis it is sometimes important to use IDs to

organize data from a specific perspective, such as to identify individuals who possess multiple devices.

3. Recent environmental changes

- In recent years, devices, household appliances, factories, etc. are becoming increasingly connected via the Internet as a result of the development of low-cost sensors, improvement in communications technology, and the proliferation of cloud services⁸. This has led to various types of data that were not used or even collected in the past, such as the locations of persons or devices, their activities, etc., being collected in vast quantities in real time, accumulated, and used.

Sometimes, this sort of data is not actually accumulated and analyzed by human beings. Instead, it is processed mechanically from raw data, used to maintain devices, including remotely (e.g. for the early detection of engine problems), and used for other services (e.g. as mentioned earlier, pulse data from people collected for the purposes of providing health-related services can be used in fields such as life insurance). In other words, there are situations where data is used as an input (see Note) for other products like raw materials in manufacturing industry etc. an input.

This sort of data functions as an input, and is sometimes only used in one type of product and sometimes used in various products (mainly services). Furthermore, it is sometimes used directly to provide services and sometimes used for R&D activities such as AI development.

Note: Includes cases where an API (application programming interface)⁹ is used to connect with data collected by another enterprise as an input for an application (sometimes information on money in

⁸ Cloud services provide computer resources accumulated in data centers that are remotely provided as services to third parties (users) using the Internet and other broadband connections.

Note that sometimes it is impossible for users to know where the computer resources provided to them as services are located (2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 433).

⁹ API is a connection protocol required for the exchange of information between applications. It functions as an intermediary between applications, and if the application vendor makes the API public, smooth connections with other services become possible (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 142).

accounts customers has at financial institutions is used as an input in the customer's household budgeting software).

- Furthermore, due to factors such as improvements in the performance of computer resources such as CPUs¹⁰ and memory and the development of the Internet, AI-related technologies (see Note 1) including machine learning¹¹ are evolving rapidly (see Note 2). That technology allows the automatic identification of correlations between subjects by using data without human's programming, provided that a certain analytical perspective is defined. For example, machine learning covering vast quantities of text data that could not be handled by human beings (see Annex 1), enables to organize/classify information and to identify correlations mechanically, which can be automatically reflected in the performance of the good defined by algorithm. Under such circumstances, with limited human involvement required, it is becoming possible to achieve more precise matching than previously. Search engines and recommendation functions used in e-commerce are examples of ways that such technology is already being used commercially, and there are numerous products available that are proving useful for customers (see Note 3).

Among them, with regard to data obtained from using products derived from

¹⁰ CPU stands for "central processing unit." The core component of a microprocessor (MPU) or microcontroller (MCU), the CPU reads commands from the program memory (ROM) and executes them by transmitting data, performing calculations, carrying out logical operations, and so on in accordance with them.

The CPU comprises a register for the storage of data, commands, and statuses, dedicated registers for program counters and stack pointers, a command decoder, an ALU for executing operations, an accumulator, and so on (from a semiconductor glossary on the website of the Japan Electronics and Information Technology Industries Association, http://semicon.jeita.or.jp/word/word.html#key_C).

¹¹ Technology whereby a computer acquires rules and knowledge from datasets, thereby improving its ability to perform tasks (2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 433).

network effects¹², such as digital platforms¹³, more and more customers will be using these products as a result of enhancements in their performance. As a consequence, it is possible that the following mechanism could emerge:

data accumulation → improved product functionality → further data accumulation → further improvement in functionality

At the same time, organizations such as the OECD have pointed out that this process could lead to the oligopolization of markets.

Note 1: Performance that can be modified mechanically without human involvement based on the results of analysis using data is performance that is determined by algorithms or software used to mechanically process it. Hence, hardware performance is normally unable to be modified mechanically.

Note 2: An example of the success of machine learning in practice has been the increase from around 5% to around 90% in the proportion of credit card transactions suspected of being fraudulent that are actually fraudulent. This has been achieved as a result of the employment of deep learning¹⁴. Moreover, there is a case where by using machine learning to add a function for automatically sorting inappropriate SNS¹⁵ posts (e.g. defamatory), the number of inappropriate posts on SNSs which actually need to be confirmed by human was reduced to less than one percent of the conventional level.

Note 3: It is also concerned about the prospect of so-called "digital cartels." These involve several enterprises sharing AI technology that is able to determine the price that will maximize profits, resulting in the convergence of prices charged by different enterprises.

Reference: Material submitted to the OECD Competition Committee Secretariat

¹² When a person is added to a network, not only does the utility enjoyed by that person increase, but the other members of the network also experience increased utility, a phenomenon referred to as a "network effect." Network effects comprise two separate effects, direct network effects and indirect network effects. Direct network effects are where the more members of a network there are, the greater the utility among the members. Indirect network effects, meanwhile, occur when a good (e.g. a hardware device) is closely related to complementary goods that are used in conjunction with it (e.g. software). In such cases, as use of the initial good increases, large numbers of various complementary goods are supplied, which further increases use of the initial good.

(Jeffrey Rohlfs (1974). "A theory of interdependent demand for a communications service." *The Bell Journal of Economics and Management Science*, Vol. 5, No. 1 (Spring, 1974), pp. 16-37.)

¹³ Online platforms. A platform is defined as a place or system that serves as an intermediary for transactions in a broad sense (Competition Policy Research Center, "Platform Competitions and Vertical Restraints—Based on an Analysis of the Sony Computer Entertainment Case—," p. 4).

¹⁴ Deep learning is a type of machine learning technology that employs neural networks. It is capable of automatically learning from vast amounts of data characteristic quantities that suit the desired prediction (2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 434).

¹⁵ SNS stands for "social networking service/site." It allows people to make friends on the Internet and help individuals interact with each other. With some of them, anyone can participate, but with others an introduction from a friend is required. Members can make their personal profiles, diaries, relationships with acquaintances, friends, etc. visible to anyone, visible to all other members, or only visible to members of specific groups, communities, etc. They can also view diaries, posts, etc. from acquaintances, friends, etc., post comments, and send private messages. Through the use of technology such as plugins, some sites also promote information sharing and personal interaction, while others have made their APIs public to allow related applications to be developed (2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 431).

(October 2016)

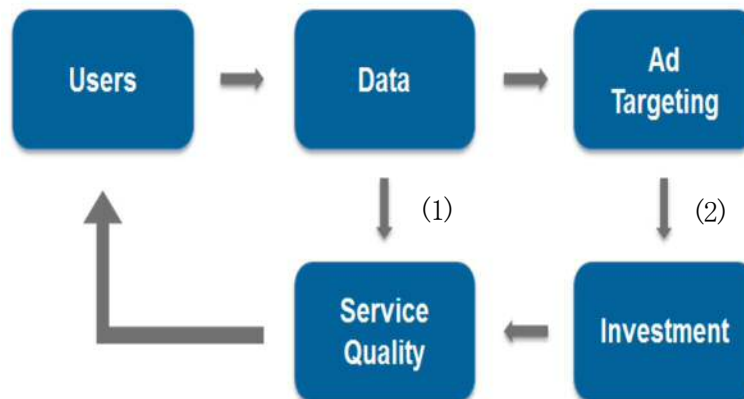
Recent business models involving the use of data are characterized by “data-driven network effects,” which in turn comprise the following feedback loops:

(1) User feedback loop

Collection of data from users → improvements in service quality (improvement of algorithms etc.)
→ acquiring new users

(2) Profitability feedback loop

Collection of data from users → improvements in precision of targeted advertising (profitable service)
→ investment to improve the service → acquiring new users



- Furthermore, in connection with machine learning, the development of deep learning is also garnering attention. By preparing large quantities of high-quality data for learning and by employing deep learning technology to learn such data, it is becoming possible for image and voice data to be identified and analyzed mechanically and at a high level of precision, and used to enhance the performance of products that require such identification. Unlike the past machine learning, a characteristic of this deep learning is that there is no need for human beings to define viewpoints/characteristics for categorization and organization (features).

Put another way, the range of products the performance of which can be enhanced through machine learning was limited to products provided over the Internet (see Note 1), which were not premised on matters such as the identification of things. However, it has been pointed out that in the future, the range may expand to encompass real-world products premised on the

identification of things or sound, such as tasks requiring image analysis or language recognition (e.g. agriculture (harvesting etc.), healthcare (diagnostics), call centers), and in particular tasks for which high-precision identification is required (see Note 2).

In such a case, based on current technology, learned models¹⁶ obtained from deep learning using large volumes of data will determine performance of products in relation to senses of "sight" and "hearing," such as precision in identifying illnesses. It has also been argued that this performance will be improved through the learning of "high-quality" data that is in greater quantities and tagged with greater precision, and that the impact of deep learning and machine learning technology itself will be small.

This learned model will be a key factor for delivering high-performance harvesting, diagnostics, etc., and in some ways constitutes a factor of production. Moreover, learned models are "black boxes," making it difficult, at the present time, for third parties to imitate them.

Note 1: Because the quality of products provided over the Internet depends greatly on the algorithms employed to provide them, performance enhancements of such products through data analysis are probably relatively easier to achieve than improvements in hardware performance.

Note 2: An example of this would be a used-car dealer having a machine-learning library learn from a large quantity of photographs of vehicles that have been traded at auctions to develop a system for automatically classifying car photographs based on the part of the car in order to enhance the efficiency of registering used cars on auction sites.

- An overview of this series of environmental changes indicates that because of the IoT etc., it has become technically and economically easier to generate, collect, and accumulate large volumes of data, and that subsequent rapid advances in AI-related technologies have enhanced the certainty for the use of data in business

¹⁶ Learned models are emerging for which the parameters required to implement specific functions are defined through entering data for learning into an AI program (i.e. causing the program to learn. Generally, learned models, are regarded as mathematical functions expressed as "combinations of AI programs and parameters (Verification, Evaluation, and Planning Committee, Intellectual Property Strategy Headquarters, "Report from the Study Group on New Information Assets, March 2017, p. 25).

and expanded the scope of this usage. In other words, two major technological shifts have occurred. Furthermore, major transformations in business models, such as the “service-ization of manufacturing,” are occurring in various industries. Given these circumstances, it has been argued that a situation that could be described as a “battle for data” is arising in some circumstances.

On the other hand, though, the basic characteristics of data are regarded as invariable.

- Among the different types of data, the use in Internet services of personal data has already reached a huge scale in terms of collection and utilization, while the collection and utilization of industrial data is expected to increase furthermore in the future. In section 4 below, the information on the collection and utilization of data obtained from presentations made by enterprises to the Study Group, interviews conducted by the Secretariat, and so on is presented. The competition concerns related to these types of data are also presented.

4. Use of personal data in Internet services

- Data that can be collected over the Internet, such as personal data on individuals’ search histories, website browsing histories, is being collected on a large scale by Internet advertising enterprises (see Note 1) for the purpose of effectively delivering behavioral targeted advertisements¹⁷ that reflect each customer’s hobbies and interests (see Notes 2, 3, and 4). Not only that, but data such as Internet browsing histories (see Note 5) is also being traded after being converted

¹⁷ A method of targeting that uses information on behavior histories on the Internet to distribute advertisements. Behavior histories are website browsing histories, search histories, advertisement response histories, and purchasing histories on e-commerce sites, which are obtained using cookies and smart device advertisement IDs. Cookies are a system used by website administrators to save simple data temporarily on a visitor’s computer via their browser. They are used to identify and verify visitors and record the number of times they have visited the site (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 153). Note that the enablement of Cookies is reliant on browser (including apps) settings.

into a form that makes it difficult to identify specific individuals (see Notes 6-8).

Note 1: There are a wide variety of Internet advertising¹⁸ enterprises. Some possess media and operate DMP¹⁹ and DSP²⁰ businesses (data collection and targeting), while others do not possess media and only conduct the latter operations²¹.

Note 2: A DSP that has contracts with the administrators of various webpages (frequently visited websites such as portal sites, blogs, and newspaper publishers' websites) places tags²² in exchange for fees, which enables the DSP to find out what sort of webpages visitors to the webpage visited after leaving the page. Some large DSPs have set third-party Cookies²³ in hundreds of millions of PCs, tablets, smartphones, and other devices (strictly speaking, in their browsers). The technology to "track" consumers across multiple devices is also being developed.

Note 3: In recent years, there are some cases where the scope of data subject to collection is further expanded, for example, to encompass off-Internet purchasing histories (e.g. electronic money payment services).

Note 4: There is an overseas free email service provider analyzing the content of the emails that pass through their systems and using this information in the marketing of Internet advertising businesses. However, such conduct is not permitted in this country as it breaks the principle of "the confidentiality of communications" enshrined in the Telecommunications Business Act. As a result, "internal-external discrimination" has arisen due to the different levels of regulation that enterprises are subject to, and it has been pointed out that this may be making the competitive environment unfavorable.

Note 5: Using the aforementioned third-party Cookies, DSP enterprises²⁴ collect vast quantities of information on the anonymized website browsing histories of individuals, but it has been pointed out that they are only guessing genders, ages, hobbies, etc. based on information such as browsing histories (at large DSP enterprises, gender-match rates are around 90% and age-range-match rates

¹⁸ Internet advertising is used to refer to advertisements distributed by advertisers to consumers etc. over the Internet. They not only include banner advertisements run on websites, applications, etc. operated by media companies, but also text advertisements, video advertisements, and advertisements embedded in emails issued by media companies (as defined in "(3) Definition of Internet Advertising" in *Guideline Standards for the Presentation of Internet Advertisements*, established in 2000 and revised in 2015, Japanese Interactive Advertising Association).

¹⁹ DMP, which stands for "data management platform," is a platform for the centralized management of various types of internal and external data. Accumulated data is analyzed and used for such purposes as optimizing advertisement distribution (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 143). A DMP enterprise is an enterprise that operates these businesses.

²⁰ A DSP is a system that enables advertisers and advertising agencies to post advertisements. Advertising space (advertising inventory) that matches criteria such as the size, price, and target audience of the advertisement is purchased automatically and the advertisements are distributed. Advertising inventory on multiple connected SSPs (see Footnote 22) or ad exchanges are bid for in real time (real-time bidding, RTB), enabling the centralized management and coordination of advertisement distribution (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 144). A DSP enterprise is an enterprise that operates these businesses.

²¹ Besides those enterprises, there are also enterprises that operate SSPs (supply side platforms) for enabling media companies to sell advertising space more efficiently and maximize their earnings (Basic Glossary for Internet Advertising, 2016 Edition, p. 147).

²² A JavaScript program comprising a few lines of code that is used for such purposes as site analysis and advertisement distribution. It is included in the webpage and causes the page to behave in a specific way when it is loaded (as defined in the glossary provided on the website of Cyber Communications Inc., http://www.cci.co.jp/words/tag_js.html).

²³ Cookies set by enterprises other than the administrators of the websites or services visited/used by visitors (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 155).

²⁴ Some DSP enterprises also operate DMP businesses.

are 80-90%).

Note 6: It has been pointed out that data relating to individuals, such as purchasing histories at bricks-and-mortar stores, addresses, names, and credit card application information, is frequently collected offline through schemes such as loyalty cards and traded among enterprises. While most of this sort of data is used in marketing, it is rarely employed to improve the performance of specific products compared with data collected from the Internet.

On the other hand, this sort of data is beginning to be used for a variety of purposes. For example, it is being linked with personal data gathered for each customer through the Internet, allowing to measure the advertising effectiveness accurately by tracking whether customers who viewed a particular product advertisement on the Internet actually bought the product in a bricks-and-mortar store, and it is also being used to deliver Internet advertising based on purchase histories in bricks-and-mortar stores.

Note 7: Compared with those in the U.S., data trading markets in Japan are underdeveloped, and in the background to this are several differences between Japan and the U.S, the most important of which are as follows:

- Data trading in relation to offline markets (i.e. concerning transactions performed not online or not on the Internet, but in bricks-and-mortar stores etc.) are relatively underdeveloped compared with Internet-based trading.
- There is no online-offline "linkage" for each customer.
- Many people may feel uneasy about the utilization of personal information (e.g. the 2013 case concerning the handling of information on the use of railway IC cards). In particular, it has been pointed out that enterprises are tending to exercise self-restraint in the use of financial-related information due to reputational-risk concerns about igniting scandals.

DSP enterprises in the U.S., however, are regarded as working with partners in a range of sectors, including financial institutions, credit card issuers, and supermarkets to analyze, on a global scale, consumer preferences in more than several hundred categories including their annual incomes, family compositions, types of car they drive, television programs they watch, airlines they fly with, and tourist destinations they are interested in, as well as sports, beauty, and fashion brands they like.

Note 8: It has been pointed out that utilization of such data has a weakness in the sense that cross-device tracking (PCs, smartphones, etc.) is carried out not by definite means such as membership numbers or account information, but by presumption.

- Among these enterprises, those that provide "free" services to consumers such as SNSs and search engines while also separately distributing Internet advertisements for which they have received orders from advertisers (see Note 1) sometimes employ these "free" services and networks as a lure for collecting large volumes of "high-quality" (see Note 2) personal data, which through machine learning, they use to improve targeting and recommendation functions to match

the interests of individual consumers and also to enhance the “free” services themselves. It has been pointed out that the Internet advertising market is becoming increasingly oligopolistic, even in our country, and these advanced capabilities in the collection and utilization of personal data are probably one of the reasons for this (see Note 3).

Note that in the case of these “free” services, no payment needs to be made for use, so competition is based not on price but on quality alone.

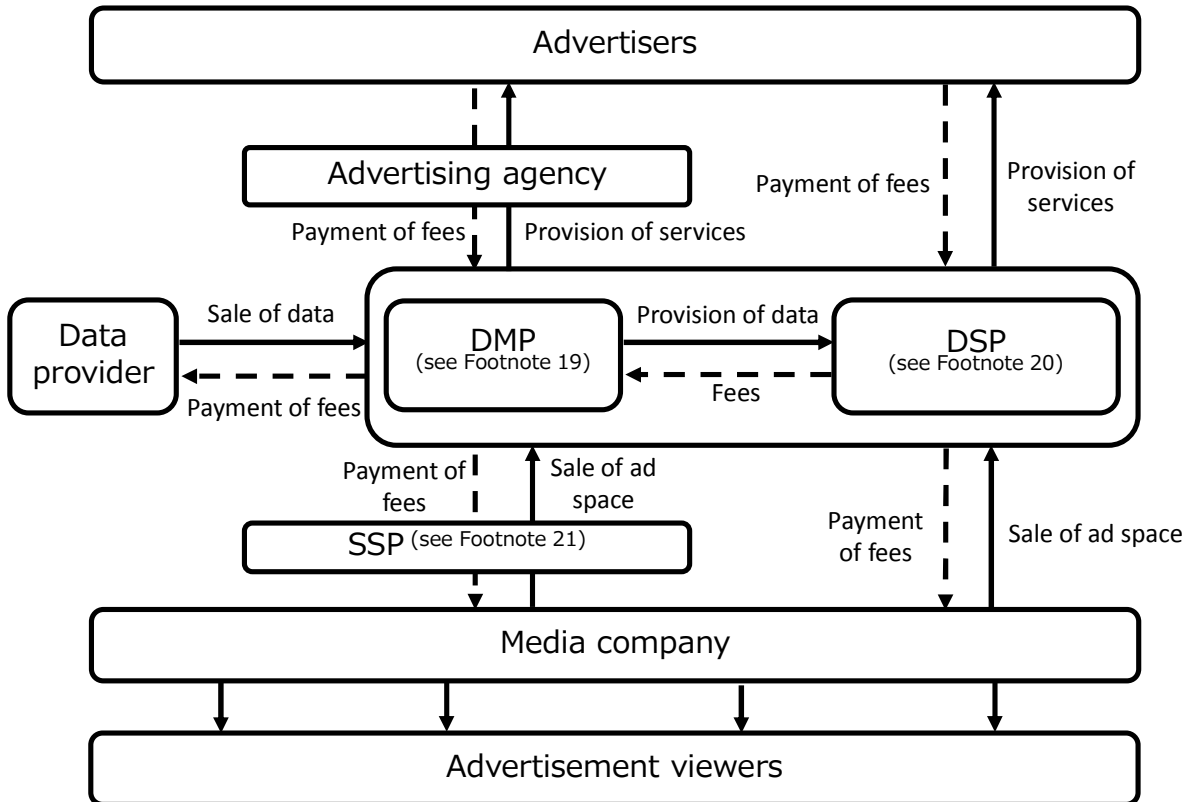
Note 1: With regard to the identifying and tracking of customers, in the case of PCs, the PC’s IP address is used, while in the case of smartphones, the advertising ID assigned by the producer of the OS for each smartphone is used²⁵.

Note 2: Preferred characteristics given the purpose of use of the data, which is to perform targeted advertising. For example, the targeting capabilities of an Internet advertising enterprises (DMP) are affected mainly by the attributes of the targets (location, gender, annual income, family composition, etc. With the greater the scope of the attributes of the targets, the greater the targeting capability), the timeliness and accuracy of information concerning hobbies, tastes, and activities (i.e. whether fact or inference and the degree of inference), the ability of cross-device tracking, and so on. It has been pointed out that digital platforms that leverage the benefits of “free” services and networks to attract customers possess overwhelmingly strong capability to collect data both “broadly” and “deeply,” and that through machine learning, they are able to translate this data into improved targeting capabilities.

Note 3: The collection of data through “free” services encompasses not only BtoC but also BtoB transactions.

²⁵ An ID for identifying devices for advertising purposes that is used by smartphone or tablet device apps. In Apple’s iOS it is known as an “Advertising Identifier (IDFA,” while in Google’s Android OS it is referred to as a “Google Advertising ID (AAID).” Unlike device IDs (e.g. Apple’s “UDID” and Google’s “Android ID”), users are provided with simple means of changing settings. For example, they can reset their ID and opt out of advertising. IDFAs and AAIDs are common to all apps, but they cannot be used for purposes other than advertising (as defined in the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association, p. 154).

Reference: Overview of the Internet advertising business



Source: Prepared by the Secretariat based on the Basic Glossary for Internet Advertising provided in *Basic Practices for Internet Advertising*, 2016 Edition, Japanese Interactive Advertising Association.

- During discussions by the Study Group, interviews conducted by its Secretariat, and so on, the following concerns have been raised about competition concerning the collection and use of personal data:
 - Digital platform enterprises are collecting and accumulating vast amounts of personal data as result of offering “free” services or networks, and while it would not be technically impossible for new entrants to collect similar data, doing so would be economically unrealistic for new entrants under the present circumstances.
 - Regardless of whether it is free or paid for, where a service provided by digital platform enterprises has the market power and it is difficult for users to switch

to other similar services (i.e. a “lock-in²⁶” effect), users will find it hard to stop using the service even if the terms of use of the service are changed in a way that is disadvantageous to them, and they may find themselves just having to put up with the changes.

- In the case of services, such as SNSs, that have a lock-in effect, unless personal data portability²⁷ is ensured, it is easy for the service to maintain the market power.
- Some Internet advertising enterprises that are regarded as possessing a large share of the market not only conduct a DMP business but also possess media, and such enterprise may also provide a browser or a smartphone operating system that have a large market share. Such enterprises control a large proportion of the routes via which DMP enterprises that are their rivals in the area of Internet advertising use to obtain data (including functions required to obtain data such as Cookies or smartphone advertising IDs), so attention probably needs to be given from the standpoint of competition. For example, whether a DMP enterprise is able to use Cookies to collect Internet browsing histories of customers depends on the functions of the browser, so if the enterprise that supplies the browser alters rules on the use of Cookies, the DMP enterprise may have difficulty collecting data.

In fact, it has been pointed out that even though third-party Cookies, which are the primary means that DMP enterprises use to collect data, are no different from first-party Cookies²⁸ from website administrators in the sense that both

²⁶ Refers to a situation where due to prolonged use of the same good or service, switching costs increase, and it becomes difficult to switch to other goods or services (Arthur, W. Brian. "Competing technologies, increasing returns, and lock-in by historical events." *The economic journal* 99.394 (1989): 116-13).

²⁷ In this report, personal data portability is defined as the ability by users to transfer their personal data from one administrator to another of their own free will.

²⁸ Cookies installed by the enterprise that administers the website or service visited/used by users (media companies, enterprises on the advertiser side, etc.).

are used to collect web browsing histories, there are only moves to restrict the former on the pretense of “respecting privacy.”

- DSP enterprises are establishing a business model whereby they select appropriate media, and distribute advertising through it by targeting based on data they possess. On the other hand, some media owners (and the enterprises that manage advertising space under contracts with media owners) stop allowing targeting by DSP enterprises except for advertisement distribution that is bundled with targeting services that they themselves perform separately. Furthermore, with respect to media, some popular sites that were previously also open to the distribution of advertising by DSP enterprises, stopped allowing DSP enterprises to use their sites reflecting a media owner’s will.
- In the EU, as to personal data (which corresponds to personal information as defined in Japanese Personal Information Protection Act), Article 20 (which covers the right to data portability) of the General Data Protection Regulation (GDPR)²⁹ provides a person with the right to demand that the enterprise in possession of the personal data transfers it to another enterprise specified by the person concerned. Under Japanese Personal Information Protection Act, however, no such right is afforded, and this is one of differences in the legal situation between EU and Japan.

5. Utilization of device data (industrial data)

- An extremely wide variety of data concerning the condition of “tangibles,” i.e. devices, human bodies, soil, and other material things, is being collected by enterprises through the use of various kinds of sensor by real-time processing

²⁹ Came into force on May 24, 2018.

(immediate processing of data) or batch processing (process of data in chunks). There are cases where the results of this analysis are fed back to the enterprise and employed to enhance the efficiency of factory or store operation in the form of energy savings or increased yield rate improvement. There are also examples that analysis results are used to develop new products or improve existing products (see Notes 1 and 2) and for services that use the data as an input (e.g. device operation monitoring services) (see Note 3).

However, with regard to machine learning and deep learning technologies, while some enterprises are using these technologies, they are still in the process of gaining traction.

Note 1: Information concerning device malfunctions etc. has long been collected and used to improve functions. The speed at which product functions can be enhanced is regarded as being different depending on the degree of real-time property and scale of the data and improvement of analytical capabilities.

Note 2: See Annex 2 for some key examples of data collection and utilization (examples described by the relevant government ministries).

Note 3: There are some cases where business models based on product sales are transformed to those providing “services” in the sense that both product sales and after-sales service in an integrated fashion. As to certain devices, the sale of which have hitherto been conducted separately from providing after-sales service, it is expected that the business models where devices are combined with after-sales service will proliferate in the future.

- For example, industrial data often offers little usage value to those who do not have the fundamental data regarding the operation of the device, such as the dates and times of operation (i.e. it is highly situation-dependent). Furthermore, it is difficult to assign a monetary value to the data, and the owners of data often want to control it for themselves. For various reasons such as these, industrial data is not actively traded. As a result, it has been pointed out that reflecting the will of the parties concerned, data “hoarding” arises to a greater extent than necessary, and that little progress is therefore being made in the utilization of industrial data (see Note).

Note: This has given rise to the issue of “data ownership³⁰,” namely the question of who has the rights to use data on the operation of devices. This issue is being debated both domestically and internationally, and the relevant ministries in Japan are considering it.

- From reasons such that trading industrial data is not necessarily easy, the cases where multiple enterprises (which are sometimes competing with each other and sometimes are not) come together to jointly gather and use data that relates to a common foundation for their operations, such as maps of various kinds are increasing.
- Regarding the accumulation and utilization of data, technologies, such as cloud services, that involve the accumulation of large volumes of data, or data analysis technologies such as machine learning available on these cloud services, are being provided to customers. Furthermore, some enterprises are already providing deep learning functions such as image and voice recognition and natural language processing, as well as applications equipped with such functions (like operating system for PC) to the general public (either for a charge or free of charge), and there are examples of customers employing these functions in call center operations and medical services.

Utilization of such technology found in those examples is considered to promote competition as they allow customers to accumulate and analyze data efficiently at low cost, and even utilize cutting-edge AI-related technologies, without the need to develop AI-related technologies or purchase hardware themselves.

- In the U.S., services that combine industrial data on the operation of household appliances and online personal data, such smart home³¹ services, have begun to

³⁰ Generally used to refer to the right to use data, and in particular the rights that the owners of devices have (or should have).

³¹ A smart home is a dwelling that offers comfortable living by integrating the home with ICT to adjust energy supply and demand, save energy and reduce electricity usage, keep an eye on the interior of the home and ward off criminals using sensors, allow appliances to be controlled remotely, and so on (definition from the 2016 White Paper on Information and Communications from the Ministry of Internal Affairs and Communications, p. 25).

appear, and in Japan, too, it is expected that the linkage and fusion of online personal data with industrial data will lead the emergence of a myriad of new services.

- During discussions by the Study Group, interviews conducted by its Secretariat, and so on, the following concerns have been raised about competition in relation to this sort of industrial data:
 - Because industrial data is normally collected using sensors, the data collecting channels routes can be limited, and this can lead to the establishment of the market power. For example, the number of the sensors for collecting industrial data could be limited due to technical or economic reasons (e.g. sensors for measuring the pulses of human beings). Furthermore, it is not the case that anyone can install the sensors required to obtain data, an example of this being information on the passage of people through railway station wickets, and sometimes some sort of legal status might be required (see Note).

Note: Examples would be legal monopolies³² such as railways, electric power, and gas, to which entry is restricted or had been restricted in the past.

- It has been pointed out that the unreasonable collection of highly valuable data such as rare data that is required for deep learning by third parties can happen, and is actually already occurring. For example, it has been pointed out that in the case where a large enterprise enters into a business cooperation agreement with small and medium-sized enterprises, after launching a joint R&D project for the business cooperation with concluding a confidentiality agreement, sometimes large enterprise requires small and medium-sized enterprises to grant all rights to the data and technology obtained from the joint

³² In this report, the term “legal monopoly” refers to an entity or field (e.g. electric power, gas, railways, and mail) where a monopoly is permitted under laws and regulations and access to which is restricted or has been in the past.

R&D and the business cooperation as a condition for concluding the business cooperation agreement etc. Similarly, as a condition for future business cooperation, large companies sometimes demand that smaller ones hand over all their data, and the business cooperation does not occur even though the smaller company has accepted the request.

- With regard to services involving the collection of real-time data on device operation through sensors and then employing that data as an input, such as device maintenance services and health management services, other enterprises may be unable to collect similar data due to technical or economic reasons. In such a case, even if these other enterprises had been providing maintenance services for a device independently of its manufacturer, continuing to do so could become difficult, and there is a risk that this could result in the hoarding by using data and oligopolization.
- With respect to learned models which are optimized for performing operations such as those of individual factories belonging to the enterprise, call centers, and medical diagnosis through machine learning during the collection of data over a long period of time (hereinafter referred to as "AI"), it is necessary for an enterprise to make a considerable cost outlay to have an AI development enterprise perform machine learning using the enterprise's data. It also forces the enterprise to upgrade its own information systems and there is a difficulty in imitating the AI. From those reasons, it could be difficult to switch to another development enterprise's AI once an enterprise has started using the AI.
- When the owner of elemental technology such as analytical technology provides it to a customer company for a fee or for free, the customer company is able to accumulate and analyze data at low cost. This is not only pro-

competitive, but also the owner of the elemental technology is able to further improve their technology because it can collect the customer enterprise's data. There are also concerns that as a condition for an enterprise to provide the elemental technology, the enterprise might impose anti-competitive restrictions such as not allowing the customer to do business with other enterprise owning elemental technology.

6. Summary

- Even today, amid the environmental changes described in section 3 above, the basic characteristics of data (see section 2 above) such that other parties may be able to obtain the same or similar data easily and that a certain minimum quantity must be collected to utilize data, are unlikely to see fundamental change.

- However, given the recent environmental changes described in section 3 above and the current situation with regard to the collection, accumulation, and utilization of data described in sections 4 and 5 above, the following points need to be kept in mind when exploring issues relating to competition policy and the Antimonopoly Act in connection with the data utilization (collection, accumulation, and use).

<Data collection>

- The analysis of large volumes of unstructured data such as real-time data can provide significant knowledge, but the channels to obtain such data can be limited. On the other hand, those who does not own such data have an incentive to obtain that data, because they can expect that their product functions is improved by the collection and use of large quantities of data.

- Under such circumstances, it is reasonable to a certain extent for enterprises to collect and use data jointly in order to reduce the cost of obtaining it, and this will

probably contribute greatly to promoting competition. That being said, there are also a few points that need to be careful not to diminish competition in terms of product price and quality.

<Data accumulation and utilization>

- Channels for obtaining real-time data etc. are sometimes limited due to technical or economic reasons. In such cases, there is a risk of the owner of such data becoming able to prevent competitors, device owners, etc. from switching to competitors by refusing access to data or the channels for obtaining data.
- Even though having succeeded in obtaining data, the owners of data will need to have access to similar or different types of data, analytical technology, human resources, or means of using data such as media organizations that distribute Internet advertising so that they could extract useful knowledge from data and apply it actually to their business.

Chapter 3: Basic approach to consider competition policy and Antimonopoly Act

issues

1. Perspectives for the consideration

- Data has long been the source of efficiency, quality improvement, the development of new products, and so on. With regard to this sort of data, the environmental changes described in Chapter 2, section 3 are expanding the scope within which data can be utilized and increasing the potential for its use. Overall, the usage value of data is considered to be increasing in the context of business activities.

- On the other hand, one of the basic characteristics of data is that there are numerous channels where it can be collected. While this characteristic still shows no signs of changing, with regard to data collection and utilization, the current situation and competition concerns described in Chapter 2, sections 4 and 5 above are found.
- Through the exercise of ingenuity among enterprises, the collection, accumulation, and utilization of data will have the benefits of stimulating competition and generating innovation. In light of this, it is considered to be desirable to eliminate barriers to competition in order to better promote competition in the processes of collecting, accumulating, and utilizing data.
- Data, including real-time data, can embody the knowhow of the enterprise, but the collection of data itself and the processing of collected data for the purpose of enabling machine learning (e.g. the maintenance of data for learning) incurs costs to a certain extent. It needs to be borne in mind that if an enterprise that gathered and processed data is forced to disclose it to a third party and allow them to use it without taking such circumstances into account properly, the enterprise may be discouraged from incurring further costs and accumulating additional knowhow with further costs (see Note).

Note: Amendments to the Unfair Competition Prevention Act (Act No. 14 of 1934) are being considered. These amendments would prohibit the unauthorized acquisition of data provided that certain conditions are met (according to an interim report on reflecting the fourth industrial revolution in the Unfair Competition Prevention Act published in May 2017 the Subcommittee on the Protection and Utilization of Trade Secrets, Intellectual Property Committee, Industrial Structure Council).

- In view of the above, and taking into account the points mentioned in Chapter 2, section 6 above concerning the range of business activities relating to the accumulation and utilization of this sort of data, the Study Group will focus on the following matters, while also taking into account any important points that reflect

the basic characteristics of data:

- views on relevant markets in data-related businesses
- Conduct relating to data collection
 - Collection by individual enterprises (collection of data from partner enterprises (customers, suppliers, etc.), collection of data by enterprises that operate platforms)
 - Joint collection by multiple enterprises
- Access to collected data (refusal of access by an individual enterprise, refusal of access through concerted practice; hereinafter in this report, the expression “access to data” shall refer to the ability to use data in business activities (including the availability of API connections and other routes for obtaining data))

2. Basic assessment of the impact of the accumulation and utilization of data on competition

- As mentioned earlier, the accumulation and utilization of data itself serves to promote competition, and is therefore desirable from the standpoint of competition policy. There are also no problems with it from the perspective of the Antimonopoly Act.

However, unreasonable conduct aimed at eliminating competitors or business combinations including mergers would result in data being concentrated on specific enterprises and make it difficult for other enterprises to obtain it. As a result, competition in the product markets where such data plays an important role in ensuring efficiency could be restricted. Moreover, as a result of data utilization involving unreasonable methods from the perspective of competition, competition in data-related product markets could be restricted. If those cases happen, regulations under the Antimonopoly Act would be needed to maintain and restore competition (see Notes 1 and 2).

Note 1: The following has been pointed out: "In fields such as agriculture and crime prevention, through the use of AI-related technology, the enterprises that are first able to accumulate and use large quantities of data will succeed in enhancing the performance of products in a noncontiguous fashion over a short term and with a high degree of precision. If high performance actually leads to higher transaction volume, which in turn leads to accumulation of even more information, new entrants will find it more difficult than now to rival the high-performance product offerings from these enterprises, and an oligopolization may occur. On the other hand, there is a possibility that the current approaches to oligopoly and the enforcement of the Antimonopoly Act will not be able to cope this. As an issue over the medium term, a key task to promote innovation through new market entry will be to update Japanese regulations and enforcement practices on a continuous basis. As part of that process, it will probably be necessary to not only pay attention to trends in AI-related technology, but also to keep a closer eye than in the past on differences between Japanese Antimonopoly Act regulations/enforcement practices and regulation on Abuse of Dominant Position in the EU."

Note 2: If the criteria of regulation on Monopolic Situations (Article 8-4 of the Antimonopoly Act) such that a monopoly or oligopoly has resulted in a certain field of business, making it difficult for new entry to occur (Article 2(7) of the same act) as a result of data collection or utilization, the JFTC can issue an order to restore competition (competition restoration measures) in the handling of the data concerned.

- The Antimonopoly Act prohibits certain conduct that reduce (or might reduce) competition (see Note). Whether such conduct has the effect in reducing competition is normally judged based on the market definition and the positions etc. of each entity in that market.

However, if alleged conduct also has a pro-competitive effect, such as promoting the effective utilization of data, the effect also needs to be taken into account when assessing it from the perspective of the Antimonopoly Act.

Note: When assessing conduct from the perspective of unfair trade practices, consideration needs to be given not only to whether it is likely to reduce free competition, but also to whether it is an unreasonable mean of competition or whether it is likely to harm the foundations of free competition.

- Needless to say, when assessing conduct, even if there is no immediate violation of the Antimonopoly Act, there might be policy measures that would be favorable for promoting competition. In such cases, certain measures could be taken under other laws and regulations, such as the laws governing specific sectors. Examples of such measures that have been pointed out are presented below:

- Portability of personal data

For example, as was mentioned in Chapter 2, section 4 above, as for services including SNSs with which lock-ins can occur, the power to control the service market is likely to be maintained unless the portability of personal data with respect to a specific service is ensured. Therefore, taking some sort of policy measures is desirable.

- Industrial data

In cases where industrial data such as device operation data is only being collected by a party other than the owner of the data, and providing such data to the party is required to get after-sales service or elemental technology such as machine learning technology, as will be discussed in Chapter 4, section 2(1) later, nondisclosure by the owner of the data to competitors or device owners could violate the Antimonopoly Act as an exceptional case.

With regard to problems surrounding so-called “data ownership,” various initiatives are currently underway. These include the consideration of “contract guidelines” by the relevant ministries and agencies, as was described in Chapter 2, section 5 below. However, in addition to the establishment of clear rules that can contribute to the fair and free use of industrial data, it would also be desirable to perform further reviews from a competition policy or Antimonopoly Act standpoint.

- Public data etc.

With respect to data possessed by national or local public bodies, the stated goals are to aggressively promote open data while also safeguarding personal information (see Note 1), and this would also be favorable from the viewpoint of promoting competition through the use of data.

Also, it has been pointed out that in fields of business where entry is or has been restricted, such as legal monopolies, the utilization of data that is collected by using the enterprise's position (such as on transportation-related IC card usage) probably ought to be widely promoted, while also ensuring the protection of privacy (see Note 2), and that even enterprises other than the monopoly enterprise should probably be allowed to utilize data in a similar way to the monopoly enterprise. Additionally, it has also been pointed out that care may need to be taken to prevent tying to other services. It is therefore hoped that further reviews will be performed in the future.

Note 1: Under the Basic Act on the Advancement of Utilizing Public and Private Sector Data, "The State and local public entities are to implement necessary measures to enable citizens to easily use Public and Private Sector Data held by themselves via the Internet or any other advanced information and telecommunications network while ensuring that the rights and interests of individuals and corporations, national security, etc. are not damaged." (Article 11)

Note 2: In some sectors such as electric power and gas, a certain measures are taken for this. For example, under the Article 23(1)-2 of the Electricity Business Act, prohibits General Electricity Utility from discriminately disclosing the information they possess.

- Conduct in relation to the accumulation of large volumes of data and data utilization is subject to the Antimonopoly Act if it affects Japanese markets, regardless of whether the enterprise concerned is based in Japan or overseas.

3. Approach to relevant markets

(1) Basic approach to market definition

- When assessing, whether certain conduct reduces competition from an standpoint of the Antimonopoly Act, an review is carried out concerning trade affected by the alleged conduct to determine whether competition is (or could be) reduced in the relevant markets.
- When carrying out such Antimonopoly Act reviews, relevant markets about the scope of products subject to trade, and the scope of the region in which trade

take place (hereinafter referred as “geographical scope”) are defined in order to determine whether competition is being restricted. Such relevant markets (i.e. “particular field of trade”) are basically defined from the standpoint of substitutability for buyers, and if necessary, the standpoint of substitutability for suppliers.

- With regard to the basic approach to review the substitutability in merger review, Japan’s Merger Guidelines, mentions that the degree of substitutability for buyers can be judged by examining the degree of homogeneousness of product etc.) (product scope) and the behavior of buyers and suppliers or whether there are any problems concerning in the transportation of the products (geographical scope) (see Note 2) in many cases, while it also refers to the SSNIP test. According to the Guidelines, judgment can normally be made based on information that can be obtained from the enterprises and consumers involved. The Guidelines also state that the following matters should be taken into consideration when assessing the degree of homogeneousness of product etc. (Part 1-3 of the Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination)

<1> Are the products used (or could they be used) for the same purpose?

<2> Differences in price level, trends in terms of prices and volume

<3> Buyers’ knowledge and behavior

Note 1: The SSNIP (Small but Significant and Non-transitory Increase in Price) test is used to determine market scope when a small but significant and non-transitory increase in price has occurred. It takes into account the degree to which purchasers of the product have switched to alternative products or regions.

Note 2: However, digital platforms, which only provide services over the Internet, are regarded as not being subject to restrictions in terms of product transportation.

- (2) Approach to market definition in relation to trade involving the collection and utilization of data

- With regard to trade involving the collection and utilization of data, in addition to reviewing the effect on markets for products utilizing the data, it is sometimes also necessary to consider the effects on markets in which the data itself is traded, or markets in which technology to utilize the data is traded. However, the method used for defining relevant markets is not generally different from the method normally used for products. In other words, relevant markets of products (product scope and geographical scope) under investigation are basically defined from the standpoint of substitutability for buyers, and if necessary, from the standpoint of substitutability for suppliers. However, the following points need to be kept in mind when analyzing various types of conduct relating to the collection and utilization of data:

(a) Geographical scope

- The trading of data is generally subject to little (almost no) transportation-related restrictions, and it is possible to adapt data from existing uses to uses in other fields. Therefore, with regard to the data which is demanded not only domestically but also internationally and, whose content does not contain specific geographical characteristics or trends, the defined geographical market could be beyond national borders.

Similarly, with regard to technology that is not subject to geographical constraints in terms of language or behavior, such as image recognition and analysis, the geographical market could also be defined over a wide range.

(b) Effect on R&D activities

- One of the primary usages of data is in various products based on the analysis of the data. The development of technology for the collection, accumulation, and utilization of such data can be regarded as an R&D activity (or alternatively data can be regarded as a key input for R&D activities), and

in addition to markets for products that utilize data, there would probably be several technology markets for developing various data-related products (in some cases, it will be difficult to foresee the existence of such products at the time technology relating to collection, accumulation, and utilization is developed). Furthermore, such markets could exist already or merely be potential markets of the future (see Note).

Note: Besides horizontal mergers, which are aimed at integrating data, vertical mergers also occur. These vertical mergers involve a company that possesses a large quantity of data merging with one that possesses technology, and it has been pointed out that in such cases synergies between data and technology also need to be given attention.

- Although the possibility of defining markets for R&D activities themselves is also being discussed, in Japan, markets for such activities are not defined. Instead, the effect on R&D competition has been assessed in terms of the effect on competition in future technology markets or product markets that will arise as a result of R&D activities (see Note).

Note: Part 2-2(3) of the Guidelines for the Use of Intellectual Property under the Antimonopoly Act (hereinafter referred to as the "Intellectual Property Guidelines") illustrates this approach. An example of a merger case in which this approach was applied was the transfer of business from GlaxoSmithKline K.K. to Novartis International AG (Major Business Combination Cases in Fiscal Year 2014: Case 4), while an example of anti-competitive conduct in which this approach was applied was the Cease and Desist Order against QUALCOMM Incorporated (September 30, 2009, under hearing procedure).

(c) Data trading markets

- With regard to products that are accompanied by the accumulation of data, data relating to matters such as usage is sometimes collected in the process of providing the product to buyers and used to make improvements etc. to the product itself or other products. Data collected in this way is sometimes traded separately from the product itself, and if certain conduct would adversely affect competition in this trade, the data trading market will also be subject to the Antimonopoly Act assessment (see Notes 1 and 2).

Even in cases where data is not traded by the companies at the time potentially problematic conduct (such as merger between the companies) is performed, there is a possibility that data trading by the companies will occur in the future, such as when there is a specific plan for one or both of the merging parties to trade data (see Note 3) in the future, or when other companies have already traded the similar data. In these cases, it might be appropriate to define the data trading market and carry out an Antimonopoly Act assessment on it.

Note 1: For concrete examples, see "Reference: Overview of the Internet advertising business" in Chapter 2, section 4 above.

Note 2: As will be discussed later, markets can be defined even with regard to trade that does not involve monetary payments.

Note 3: Including acquisitions for the purpose of obtaining data.

- In such a case, with regard to scope of market, as is the case with other products, homogeneousness of product etc. for buyers (e.g. utility for buyers) will be assessed, but the usage of traded data will also be taken into account in the assessment (Part 2-2 of the Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination).
- Furthermore, when assessing the effect in reducing competition (or risk thereof), the position of the corporate groups concerned is a factor taken into consideration, and the market share is usually considered an important element in assessing that position (see Note). However, it may be difficult to calculate the market share in terms of sales value or volume due to the nature of data. In such cases, it might be possible to assess the parties' positions based on sources of data acquisition reflecting the characteristics of the data (e.g. when assessing the acquisition of data on a specific industrial device, the number of such devices possessed or the number of sensors installed may be used).

Note: When assessing whether “competition in a particular field of trade is being substantially restrained,” from the standpoint of unilateral conduct on the part of the corporate groups involved in the merger, judgment is made comprehensively, taking into account the positions of the corporate groups involved, the situation with regard to competitors, competitive pressure from imports, entrants, and adjacent markets, competitive pressure from buyers, overall business competence, efficiency, and the financial situations of the companies involved. Furthermore, from the standpoint of coordinated behavior by the corporate groups involved and other enterprises, judgment is made comprehensively, taking into account the positions of the corporate groups involved, the situation with regard to competitors, competitive pressure from imports, entrants, and adjacent markets, competitive pressure from buyers, efficiency, and the financial situations of the companies involved (Part 4 of the Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination).

(d) Multi-Sided markets and free-of-charge markets

- So-called digital platform enterprises have been cited as enterprises that collect and utilize data in large quantities. The platforms operated by these enterprises constitute so-called multi-sided markets³³. In many cases, while “free” services (i.e. no money needs to be paid for them. For details, see Note) are provided to consumers etc. in one market including SNSs, monetary rewards are earned in other markets. Furthermore, in the case of “free” services, there is no monetary transactions between digital platform enterprises, and price competition is not observed. Instead, there is non-price competition in terms of quality (e.g. services provided to consumers by SNSs or online shopping malls³⁴).

Note: “Free” services are transactions whereby the users of digital platforms do not need to pay money to the digital platform enterprise for their use. On digital platforms that serve as places or systems for brokering transactions, money is paid from one user to another, but this does not constitute the payment of money to the digital platform enterprise.

- Competition is normally based not only on price, but also on product quality and quantity, the customers and sales channels involved in transactions, the

³³ In this paper, this term refers to a situation where there are several layers of buyers of different types.

³⁴ A virtual shopping mall comprising virtual stores on the Internet.

equipment used to supply goods, and various other competitive tools. The same is true for competition between digital platforms and competition between digital platforms and other enterprises. Even if the digital platform operated by an enterprise provides products free of charge, competition between digital platforms will take place based on factors such as product quality (e.g. product details and level of protection of personal information), as was discussed above (see Notes 1 and 2). Therefore, if there is a possibility that this competition is impeded, it is sometimes appropriate to regard the place of the competition as a “market.” In such cases, the places where “free” services that do not involve monetary payments are traded could be defined as a market comprising multi-sided markets, or put another way, as free-of-charge markets (see Note 3).

And in practice, there are some cases where the trade that is not expected to involve monetary-payment-related competition seems to be defined as a market (see Note 4).

Note 1: The following matters have been pointed out with regard to this point:

- Digital platforms comprising multi-sided markets normally attract consumers etc. by offering “free” services that do not involve monetary payments and earn profits from other markets (comprising multi-sided markets) through the data accumulation by the digital platforms.
- Until now, in some domestic and overseas cases where the application of competition law and antimonopoly law concerning multi-sided markets is considered, such “free-of-charge” market is regarded as a condition for competing in markets to earn profits (e.g. the European Commission’s Facebook/WhatsApp case (European Commission, October 2014, Case No COMP/M.7217-Facebook/WhatsApp, para.165-167)).
- If the amount of the data obtained through such “free” services is enough to affect competition in non-free markets that provide a source of earnings, this may be identified as a problem under the Antimonopoly Act as a restraint on competition in non-free markets.

Note 2: In practice, such as in the case of Yahoo’s acquisition of Ikyu’s shares (Major Business Combination Cases in Fiscal Year 2014: Case 8), in the online restaurant booking service business, “competition based on the number or quality of restaurants registered to earn profits from users,” in other words, non-monetary competition, is presumed.

Note 3: Such “free” services may be provided to users substantially conditional upon the provision of users’ private information that has monetary value, especially regarding SNSs. It has been argued that such transactions can be understood as non-free transactions. However, from the standpoint

of market definition, whether services are offered free or for a fee is considered to be a non-fundamental issue (it has been pointed out that “free” or “non-free” is simply a difference in business model). The minimum “private” information that must be provided varies according to the type of “free” service, and is sometimes no more than the user’s telephone number.

Note 4: For example, in the case of the joint share transfer by Kadokawa and Dwango (Major Business Combination Cases in Fiscal Year 2014: Case 8), (1) the service for content providers to access the platform and (2) the service for viewers to view the contents were defined as separate services, and the “free video distribution business”, whereby no charges for viewing are imposed, and the “non-free video distribution business” have been defined as separate markets, because there was no substitutability of demand between the two services (“Fair Trading”, Vol. 779, p. 5). Furthermore, in the case of Google’s provision of technology including search engines to Yahoo Japan (JFTC Press Release, December 2, 2010), the effect on the “online search engine and online search advertising markets” was examined.

- On defining such “free-of charge markets,” the SSNIP test is considered to be inapplicable to judge what sort of suppliers are competing and what sort of buyers the suppliers are competing for (see Notes 1 and 2), but it is considered possible to assess substitutability for buyers from the standpoint of (1)<1> and <3> above. In other words, by surveying consumers etc., to find out usage of the service under investigation, buyers’ knowledge and behavior concerning the service (e.g. which other services consumers consider as alternatives and what criteria they use to select services), it should often be possible to clarify the degree of substitutability for buyers objectively.

With regard to “free” services, it has been pointed out that while there is some difficulties in carrying out analysis, including the SSNDQ test, when reviewing business combinations, to carry out such analysis remains an important task in order to enhance rigor, persuasiveness, and transparency.

Note 1: Because the SSNIP test is used to determine market scope by taking into account the degree of buyers’ diversion of purchase in response to an increase in the price of a product, in the case of services where it is regarded as unrealistic to start charging for a “free” service due to the business model, the SSNIP test is unlikely to be effective.

Note 2: Some alternatives to the SSNIP test are suggested as shown below. Although they are expected to be refined in the future, at the present time they would probably be difficult to apply in practice in many situations.

- SSNDQ (Small but Significant and Non-transitory Decrease in Quality) test

- Instead of a change in price, a change in quality is assumed.
- In practice, problems such as how to define “quality” (consumers’ preference would differ from each other), and how to quantify it are likely to arise.

On the other hand, it has been pointed out that in free-of-charge markets, if transactions terms have the potential to deteriorate due, for example, to the introduction of subscription fees or shipping charges or an increase in the length of time required to ship products, these transaction terms might be able to be assessed in terms of monetary value.

- SSNIC (Small but Significant and Non-transitory Increase in Costs) test
 - Instead of a change in price, a change in the “costs” incurred by users is assumed.
 - “Costs” could indicate “interest (the user’s time)” or “privacy.”
 - In practice, problems such as how to quantify “interest” and “privacy” are likely to arise.
- In merger review, if the SSNIP test is applied to multi-sided markets, the issue of which product prices to use arises. This is because the SSNIP test is not designed to take account of the economic characteristics of multi-sided markets (see Note 1). With regard to this point, in the case of matching-type multi-sided markets (a type of multi-sided market in which two or more buyer segments (see Note 2) trade via a digital platform), some believe that the SSNIP test can be carried out by assuming a monopolist over intermediation that is able to optimize the pricing structure (brokerage commissions allocated to each market) so as to maximize its profits from brokerage commissions and by focusing on the profitability of the platform when the total of the product prices provided by the monopolist to each buyer group is increased (see Note 3).

Even taking this view into account, when turning a free-of-charge market comprising multi-sided markets into a non-free-of-charge market is deemed to be unrealistic given the business model, the aforementioned precondition to carry out the SSNIP test (i.e. the assumption that the monopolist can optimize the pricing structure) could not be satisfied. In such a case, it would probably be appropriate to, for example, define markets based on substitutability for each buyer group, and, then, if necessary, to consider the effect that competition in one market has on competition in another.

Note 1: For example, there are different product prices for different buyer segments. Furthermore, when multi-sided markets with indirect network effects is defined by the SSNIP test, the market may be defined too narrowly.

Note 2: For example, sellers and buyers or employers and employees.

Note 3: OECD (2016), "BIG DATA: BRINGING COMPETITION POLICY TO THE DIGITAL ERA" and Lapo Filistrucchi, Damien Geradin, Eric van Damme, Pauline Affeldt (2014), "Market Definition in Two-Sided Markets: Theory and Practice", Journal of Competition Law and Economics.

4. Methods of analyzing the effect in reducing competition

- Determining whether competition in a market is being (or could be) reduced with respect to the accumulation and utilization of data requires a comprehensive assessment as in other cases. This will involve looking at the nature and form of the alleged conduct, whether there is a competitive relationship between parties with respect to the conduct, the position that each party occupies in the market (share, rank order, etc.), conditions in the market as a whole (the number of competitors, the degree of market concentration, characteristics of the products traded, the degree of differentiation, distribution channels, difficulty in entering the market, etc.), whether there are reasonable grounds for restrictive practices, and the effect on the willingness to actively accumulate and utilize data (investment incentives).

Restrictive practices that are prohibited under the Antimonopoly Act include private monopoly and unreasonable restraint of trade (Article 3) and unfair trade practices (Article 19). In the case of private monopoly and unreasonable restraint of trade, it is necessary to prove that market power is established, maintained, and strengthened ("competition is substantially restrained in any particular field of trade"). In other words, there must be the effect in reducing competition. In the case of unfair trade practices, however, the requirement is not the specific effect in reducing competition, but just a tendency to have the effect ("tend to impede fair competition," hereinafter referred to as "tendency to impede fair competition")

(e.g. Part 3 main paragraph and Part 4-1(2) of the Guidelines for the Use of Intellectual Property under the Antimonopoly Act).

- In the case where digital platforms such as SNSs provide “free” services and the degree of privacy protection serves a powerful competition method, the degree of privacy protection could be regarded as a component of product quality, and the effect in reducing competition could perhaps be assessed based on the decline in the level of protection as a result of restrictive practices.
- When assessing the effect in reducing competition as a result of data accumulation, based on the characteristics of data described in Chapter 2, section 2 (i.e. the effect of being able to use different types of data in combination (see Note), the degree to which the usage value of the data would increase as a result of more of it being accumulated, and limits of the sources from which the data can be obtained), whether it would be technically or economically feasible for a new entrant to accumulate data with a similar usage value is considered.

Note: In the EU, there is an example of this effect not being recognized based on the premise that data possessed by one merging party (contents of communications through the Messenger app) would not be used in the other party’s services (advertisement targeting) even after the merger (Facebook/WhatsApp merger (European Commission, October 3, 2014)). However, in August 2016, after the merger had been approved, WhatsApp altered its terms of use and privacy policy to allow it to match its users’ telephone numbers with their Facebook IDs. In response, the European Commission determined that it was already technically feasible to automatically match IDs for both companies in 2014, and that Facebook had furnished inaccurate information at the time of the merger was being reviewed. As a result of this, in May 2017 the European Commission imposed a hefty fine on Facebook.

- As we will see below, if there is a possibility that a huge gap in the ability to collect raw data between competitors is caused, it needs to be kept in mind that the accumulation of data by a specific enterprise will make it difficult for other enterprises to enter or remain in the business, which could contribute (see Note

1) to the establishment, maintenance and strengthening of market power (see Note 2).

Note 1: The establishment of market power itself is not necessarily an issue under the Antimonopoly Act.

For example, there is no problem with an enterprise strengthening its competitiveness by independently translating its knowhow into the accumulation of data.

Note 2: Refers to a situation in which competition within the market declines, and a specific enterprise etc. is, at its own will and with a certain degree of freedom, to influence price, quality (in the case of "free services," mainly privacy protection and other forms of quality), etc. and thereby exert control over the market, or at the very least seem to have some degree of potential to exert such control.

<1> When data is essential for the provision of products, but due to restrictions on the installation of sensors or other circumstances, it is technically or economically difficult for enterprises other than a specific enterprise to obtain similar raw data by, for example, accessing channels for collecting similar raw data (see Note 1), and there is also no substitute data that could be used for the provision of the products.

Note that in such cases, it needs to be kept in mind that a vast quantity of data (see Note 2) may be required for machine learning at a level capable of practical use, but that depending on the nature of the data, such as medical images, channels for collecting such data may be limited (see Note 3).

Note 1: In the case of the merger of Thomson Corporation and Reuters Group (European Commission, February 2008), it was recognized that with regard to databases of financial information (including publicly available information), which had been pointed to as a competition concern, a competitor that wished to create a database on the same level as that of Thomson/Reuters (i.e. a level that customers would regard a database as an alternative option) would need to gather global data dating back several years, which would take a long time to do and require a massive investment. Because of this, the merger was approved on condition that remedies would be instituted, including the sale etc. of copies of the database to competitors.

Note 2: It has been pointed out that to perform deep learning to the extent that things contained in images can be correctly recognized, between 10,000 and 1,000,000 images are needed.

Note 3: To obtain data uniformly for each customer on purchasing activities performed inside and outside the Internet, i.e. purchases made by customers using various devices, a frequent pattern is for the administrator to link accounts (e.g. advertising IDs for mobile phones, and point cards) for each

customer to identify and monitor them. Then, based on the data compiled for each of the customers, another enterprise distributes advertisements in an effective fashion. It has been pointed out that if these accounts are essential for distributing the advertisements, the administrator can arbitrarily exclude rivals from channels for collecting data simply by restricting the use of the accounts by competitors, even without employing a direct method of doing so such as refusal to access to data,.

<2> Network effects serve to reinforce the cycle of improvement in product function through the collection of raw data.

Among such cases, where marginal costs of manufacturing would not increase such as digital content or software, where the nature of the product means that it would be difficult to differentiate it by, for example, focusing on a particular customer segment, or those where the product involves low transaction costs, such as a product that can be purchased over the Internet, it is relatively easy to expand the business, which could lead to the establishment of market power (see Note).

Note: It has been pointed out that as a result of network effects, once a digital platform exceeds a certain threshold, economies of scale lead to lower costs per unit and a dramatic increase in earnings, and this could result in the establishment of market power. There is also the potential to accelerate the cycle described above.

- In connection with this, attention also needs to be paid to the fact that in the case of certain products, because data accumulation on the usage histories of customers by the enterprise providing the product occurs, switching to other products by the customer can be difficult (i.e. the lock-in effect). (For example, it has been pointed out that from the point of view of customers, SNS posting histories function a lot like "diaries," which means that they would suffer inconvenience if they were to switch to another enterprise's platform or use it concurrently.)

In such cases, if data portability (see Note) (the ability of an individual to order data such as the content of their posts and their usage history to be handed over

to themselves or a another party that is appointed by them) is permitted, the lock-in effect may be eased, and the difficulty faced by new entrants or enterprises wishing to remain in the business may be relieved. However, even when data portability is officially ensured, if network effects are fully functioning, for example, the degree with which market power is actually reduced would probably be considerable variation depending on factors such as the scope of the data that can be transferred and flexibility in the file formats that can be produced.

Note: Some digital platforms have taken steps to make it difficult for their users to use similar services, and in such cases, there is potential for increased concern about the establishment of market power in the manner described above. On the other hand, in the case of a digital platform that allows multi-homing (i.e. users use multiple platforms), the difficulty faced by new entrants or enterprises wishing to remain in the business will probably be less than if only single-homing (i.e. users use only one platform) were permitted. In reality, though, it has been pointed out that even in the case of a multi-homing digital platform, it is sometimes difficult in practice for customers to switch digital platforms, such as where powerful network effects exist, and that the effect varies on case-by-case basis.

Chapter 4: Conduct relating to the collection and utilization of data

In this chapter, taking into account competition concerns as to data in Japan, the main issues of discussion raised by the Study Group concerning the collection and utilization of data regarded possibly to develop into problems in the future are considered, while paying a special attention to whether there exist circumstances specific to data.

1. Conduct relating to the collection of data

As was mentioned earlier, the collection by an enterprise of various sorts of data is not normally in itself a problem under the Antimonopoly Act. However, if it has an adverse impact on competition because, for example, it is collected by using unreasonable means (see Note) or because the collection of data encourages collusion among competitors, it can be a problem under the Antimonopoly Act as

an exceptional case.

The following parts I examine cases where a single enterprise collects data and in which multiple enterprises jointly collect data (hereinafter referred to as “joint collection of data”), and consider what sort of conduct could be an Antimonopoly Act problem with respect to each case.

In the followings, the examples from overseas that have been regarded as problematic based on foreign or regional competition laws (referred to as “overseas reference cases”). However, those examples are introduced for reference and those do not that it will not necessarily be a problem under the Antimonopoly Act in Japan.

Note: Amendments to the Unfair Competition Prevention Act are being considered. These amendments would prohibit the improper acquisition of data that satisfies certain conditions (according to an interim report on reflecting the fourth industrial revolution the Unfair Competition Prevention Act published in May 2017 the Subcommittee on the Protection and Utilization of Trade Secrets, Intellectual Property Committee, Industrial Structure Council).

(1) Collection by a single enterprise

(a) Collection of data from partner companies

- As was mentioned in Chapter 2, section 5, before entering into a business cooperation, for example, enterprises may launch a joint R&D project with concluding a confidentiality agreement. In such cases, one of the enterprises may require the other enterprise to grant all rights to the data and technology obtained from the joint R&D and the business cooperation after starting the joint R&D.
- In cases like this, where one party to a business cooperation forces the other to give it all the data and technology under some pretext, such conduct could serve to strengthen the position of one of the parties in the market concerned if the data is recognized as being scarce. Moreover, such conduct may

discourage the other party from pursuing R&D, which could impede the development of new technology. There is therefore the potential for competition to be reduced. If there is a tendency to impede fair competition, such conduct constitutes unfair trade practices (trading on restrictive terms) (see Note).

Note: Part 4-5(6) of the Intellectual Property Guidelines express the following view with respect to the licensing of intellectual property. Since the above conduct allows the use of the results of R&D by another party, it would probably be appropriate to assess data trading in the form of the above conduct using a similar approach used for technology trading, which is outlined below:

“(vi) Obligations of the non-assertion of rights

When a licensor imposes on licensees an obligation to refrain from exercising, in whole or in part, the rights owned or to be acquired by them against the licensor or any entrepreneurs designated by the licensor (Note 17), this obligation could result in enhancing the influential position of the licensor in a product or technology market or could impede the licensee’s incentive to engage in research and development, thereby impeding the development of new technologies by restricting the exercise of the licensee’s rights, etc. It therefore is an unfair trade practice if it tends to impede fair competition. (Paragraph (12) of the General Designation)

However, as with the obligation to grant non-exclusive licenses for improved technology as discussed in (9) below, it does not constitute an unfair trade practice in principle if the licensees are, in effect, merely obliged to grant a non-exclusive license for improved technology developed by them.

Note 17: This obligation includes an obligation to license the licensor or any entrepreneur designated by the licensor to use the patents and other rights owned or to be acquired by licensees in whole or in part.”

- Furthermore, with regard to unilaterally requiring the other party to provide data under some pretext, if one of the parties is recognized as having superior bargaining position over the other party (see Note 1), this could, depending on the situation, constitute the abuse of a superior bargaining position by way of unreasonably disadvantaging the other party (Article 2(9)(v)(c) of the Antimonopoly Act).

“Party A” is regarded as having a superior bargaining position over “Party B” is referred to as the in the cases where Party B would be unable to avoid accepting Party A’s request, even though such a request is substantially

disadvantageous for Party B, because the difficulty in continuing the transaction with Party A (see Note 2) would be substantially impede Party B's business management. In determining this, the degree of dependence by Party B on the transactions with Party A, position of Party A in the market, the possibility of Party B changing its business counterpart (see Note 3), and other concrete facts (see Note 4) indicating the need for Party B to carry out transactions with Party A are comprehensively considered (see Note 5).

Note 1: For example, when a large company is going to engage in a business partnership with smaller company, it may conclude a confidentiality agreement before commencing the business partnership, and then jointly performs the necessary R&D for the business cooperate. Then, in order to perform the R&D, the smaller company may invest a large amount of money in equipment to be used in the joint R&D and during the subsequent business partnership at the request of the large company (and it would be difficult to turn this equipment over to other uses). In this case, smaller company's business management would be substantially impeded unless the smaller company recoups its investment from the subsequent business cooperation.

Note 2: Restrictions on the abuse of superior bargaining position could be interpreted, from the wording of the law, as not applying unless there was already an ongoing business relationship at the time the abuse occurred. However, when deciding whether conduct constitutes the abuse of a superior bargaining position, according to the approach set forth in Part 2 of the Guidelines Concerning Abuse of Superior Bargaining Position under the Antimonopoly Act (hereinafter referred to as the "Superior Bargaining Position Abuse Guidelines"), consideration needs to be given to the fact that in the cases where new continuous business relations are being sought, there are no sales and no dependence on transactions, and therefore it is often easier to change business partners than in the case where continuous business relations already existed at that point in time.

Note 3: The possibility that Party B changes its business counterpart is considered based on the possibility that Party B starts transactions with or increases its transactions with the entrepreneur other than Party A and the amount of the investments made by Party B in association with the transactions with Party A. If it is difficult for Party B to start or increase transactions with the other entrepreneurs, or if Party B has made a large investment in association with the transactions with Party A, it would be highly necessary for Party B to carry out transactions with Party A. In such cases, the difficulty in continuing the transaction with Party A is likely to substantially impede Party B's business management (Article 2-2(3) of the Superior Bargaining Position Abuse Guidelines).

Note 4: The other concrete facts indicating the need for Party B to carry out transactions with Party A is determined by considering the amount of transactions with Party A, the future growth potential of Party A, the importance for Party B of handling the goods or services subject to the transactions, the securing of confidence in Party B through its transactions with Party A, and the difference in business size between Party A and Party B, etc. If the amount of transactions with Party A is high, if Party A's business size is expanding, if Party A's goods or services have a strong brand power, if

the confidence in the goods or services handled by Party B increases through the transactions with Party A, or if Party A's business size is substantially larger than that of Party B, it would be highly necessary for Party B to carry out transactions with Party A. In such cases, the difficulty in continuing the transaction with Party A is likely to substantially impede Party B's business management (Part 2-2(3) of the Superior Bargaining Position Abuse Guidelines).

Note 5: Part2-2 of the Superior Bargaining Position Abuse Guidelines.

(b) Collection of data by enterprises that operate platforms

- If an enterprise that operates a platform exercises market power over the services provided through the platform (both non-free services and free services), and it is difficult for users of the platform to switch to other similar services (see Note 1), there is a possibility that it will be difficult for users to cease use of the service even if the transaction terms concerning the collection of data are amended in a way that is disadvantageous to the users. It has been pointed out that as a result of this, an adverse impact on fair competition could arise, or that the operator of the platform could establish, maintain, or strengthen its market power by collecting and using data in this manner. It has also been pointed out that this could perhaps be subject to restrictions through the application of the Antimonopoly Act with respect to private monopolization, abuse of superior bargaining position, or other Antimonopoly Act provisions (see Notes 2 and 3).

Note 1: For example, network effects or lack of portability of posted data could become a factor.

Note 2: One of the requirements of private monopolization is that there is conduct that "excludes or controls the business activities of other enterprises" (Article 2(5) of the Antimonopoly Act). Hence, conduct toward consumers is considered to be not directly subject to the regulation (however, for example, if conduct toward consumers results in the exclusion of other enterprises, it could be subject to regulation). It needs to be kept in mind that The approach hitherto adopted by the JFTC to abuse of superior bargaining position is problematic in the sense that the recognition of a superior bargaining position over each party to the trade is required and only transactions between enterprises has been taken into consideration. Consideration also needs to be given to the fact that regulation concerning the abuse of superior bargain position is focused on the relationships between each party to the transactions and not on market power itself. Furthermore, the traditional approach of JFTC can be expressed as follows: "if a party who has superior bargaining position against the other transacting party makes use of such position to impose a disadvantage

on the transacting party, unjustly in light of normal business practices, such act would impede transactions based on the free and independently select of the said transacting party, and put the said transacting party in a disadvantageous competitive position against its competitors, while putting the party having superior bargaining position in an advantageous competitive position against its competitors.” (Part 1-1 of the Superior Bargaining Position Abuse Guidelines). With regard to this point, consideration also probably needs to be given to the fact that if the other transaction party is a consumer, it is difficult to imagine that this would “put the said transaction party in a disadvantageous competitive position against its competitors.”

Note 3: Overseas reference case: The German competition authorities have begun an investigation of Facebook on suspicion that its collection of users’ personal information in violation of data protection legislation has given it a controlling position over the social networking market. (The investigation was launched in March 2016.).

- If, for example, consumers were disadvantaged by conduct considered unreasonable, action would probably normally be taken under the Act on the Protection of Personal Information or consumer-related laws and regulations. However, if the conduct was at risk of adversely affecting competition, the Antimonopoly Act would probably also be applied.

(2) Joint collection by multiple enterprises

- In Japan, data such as map data and machine malfunction data is sometimes collected jointly with the aim of enhancing safety and convenience (At the same time, technology required for the use of the data is sometimes also developed jointly.) (see Note). Such initiatives serve to reduce costs and make data mutually complementary, which in turn promotes the creation of new value through improved safety and convenience. In general, therefore, it is regarded as serving to promote competition.

Furthermore, because the joint collection of data allows data to be collected in a wide scope, it can sometimes also be expected to promote competition by contributing to the proliferation of technology. This proliferation is achieved through the enhanced data compatibility and uniformity resulting from the development of new products, increases and improvements in the functions of

products, and improved safety.

Note: Map companies and automobile manufacturers have jointly established a company for the purpose of developing, verifying, and deploying dynamic maps (high-precision 3D maps that incorporate not only static information but also dynamic information), which are required for enabling automatic driving and making driving safer). The initial provision of the 3D common infrastructure data for expressways is scheduled for 2017-18 (example cited in "Direction for Establishment of a Data Infrastructure for Allowing Automatic Driving (Draft)," National Strategy Office of Information and Communications Technology, Cabinet Secretariat, March 9, 2017). Furthermore, several companies have combined their health-related data and established a consortium to share the results of their analysis of the effects to improve health (8th Meeting of the Health Investment Working Group, Next-Generation Healthcare Industry Conference, Ministry of Economy, Trade and Industry, October 29, 2015).

- Nevertheless, if the joint collection of data makes it possible for participants competing with each other, to find out details, prices, and quantities concerning products that are going to be launched in the future, and if this serves to promote collusion among competitors, it could become a problem under Article 3 of the Antimonopoly Act (see Note) (unreasonable restraint of trade).

Note: If the joint collection of data is performed not by multiple enterprises but by a trade association formed by them, this would probably be a problem under Article 8 of the Antimonopoly Act. If a joint venture is established, it would probably be a problem under Article 10 of the Antimonopoly Act.

- Furthermore, in markets where data is used as an important input, if most enterprises in a competitive relationship (see Note 1) collect data jointly even though they could do so independently, and this restricts data collection by individual participants, which substantially restrains competition in the market concerned, this could be a problem under the Antimonopoly Act (see Note 2).

In such a case, the following would be comprehensively taken into account: (1) the number of participants, market shares, etc., (2) the nature of the data collected (e.g. its importance for the R&D, or its importance as an input (see Note 3), (3) the necessity of joint collection, and (4) the scope, period, etc. The possibility that a joint collection becomes an Antimonopoly Act problem will probably be lower (1) the lower the number of participants, markets shares, etc.

of participants, (2) the lower the importance of the data, (3) the higher the degree of necessity, and (4) the narrower the scope or the shorter the period. (see Reference).

Note 1: The joint collection and use of data is regarded as one type of business partnership. Business partnerships between enterprises that are not in a competitive relationship do not reduce the number of competing entities in markets. Therefore, compared with business partnerships between competing enterprises, their impact on competition is not significant, and unless a problem concerning the substantial restraint of competition arises as a result of closed/exclusionary markets, collusive behavior, etc., it will not normally be an Antimonopoly Act problem.

Note 2: Since the joint collection and use of data be regarded as one type of business combination, with regard to the matters to be taken into account, refer to Part 1(2) of the Guidelines Concerning Joint Research and Development under the Antimonopoly Act (hereinafter referred to as the "Joint R&D Guidelines," which clarifies the views on R&D from the point of view of the Antimonopoly Act.

The same can probably also be said for joint R&D activities based on the data collected. If products employing technology developed as a result of joint data collection or joint R&D activities serve to enable competitors to predict the other's actions through the sharing of specific information on important competitive tools for present or future business activities, such as price and quantity, this will probably be an Antimonopoly Act problem.

Note 3: When investigating a business partnership from the point of view of the Antimonopoly Act, one factor that is normally taken into account is the ratio of the cost for the good or service in the business partnership to that required to supply the product in which the good or service is used. If this ratio is low, the degree of impact on competition in the market will probably be assessed as low (e.g. see Antimonopoly Act Consultation Casebook (Fiscal 2014): Case 4: Business Partnership in the Distribution Sector for Medical Pharmaceuticals and Antimonopoly Act Consultation Casebook (Fiscal 2001): Case 8: Mutual OEM Supply by Construction Materials Manufacturers).

Reference: It has been pointed out that the views on the restraint of competition in relation to joint information collection (and sharing/utilization) can be summarized as follows:

1) When information on important competition-related matters such as price and production volume is shared by competitors and this encourages collusion or the establishment of cartels

→ An investigation needs to be performed to ascertain whether the information exchange would promote the establishment of a common view or collusion concerning current or future prices or production volume.

When carrying out an investigation from this perspective, the following factors in particular will be taken into account:

- Are the competitors exchanging information jointly? Is the information exchange being carried out by parties in a trade relationship or parties with no competitive or trading relationship? (→ an adverse impact is less likely to occur in the latter case)
- Is the information exchange being carried out under circumstances in which collusion is likely to occur due to the structure of the market, e.g. the total market share of the participants is high or the degree

of concentration is high? (→ in markets in which collusion is less likely to occur due, for example, to a low degree of concentration, strong competitive pressure from new entrants etc., or frequent technological innovation, the joint collection of information would not normally impede competition)

- Does the exchanged information concern important competition-related matters or not? (information on price, production volume, etc.) (→ if it does not, an adverse impact is less likely to occur)
- Is the information useful for making future predictions? (→ e.g. if information concerning future behavior is not collected and shared frequently, but instead, for example, past statistics have been collected infrequently, an adverse impact is less likely to occur)
- Is the information useful for learning about the behavior of each enterprise? (→ e.g. if it does not include prices, quantities, etc. for each enterprise, but instead only includes figures for industry trends or averages and totals of prices, production volumes, etc., an adverse impact is less likely to occur)
- Are measures implemented to prevent disclosure of information between persons engaged in information collection and persons involved in sales? (→ if such measures are implemented, an adverse impact is less likely to occur)

Furthermore, when making judgments concerning the restraint of competition in accordance with the above criteria, it needs to be taken into account whether the information is being collected for a legitimate competitive purpose, such as in order to provide information to customers or promote technological innovation.

2) When the quality etc. of products utilizing the information becomes homogenous, and competition among the suppliers of the products is therefore being restrained

→ The issue is whether the joint collection of information is making competition less vigorous among the products utilizing the information.

When carrying out an investigation from this perspective, the following factors in particular will be taken into account:

- Is there a competitive relationship with regard to the provision of the products utilizing the information? (→ if there is no competitive relationship, an adverse impact will probably only occur rarely)
- What are the competitive status (e.g. competitive positions of the parties) in the market of the products utilizing the information? (→ if there are other enterprises besides the parties participating in the joint collection of information in the same market, and there is vigorous competition among them, an adverse impact on the market of the products will unlikely to occur)
- How important is the information collected for the products (→ if the degree of importance is low, e.g. when it only relates to a tiny portion of the products looked at as a whole, an adverse impact will probably only occur rarely)

2. Conduct relating to access to the collected data

- It has become technically feasible to use sensors and collect real-time data on things (including human body) such as device operation. This makes it possible to use such data as an input for providing services such as device maintenance and

inspection services and health management services, and there are already examples of actual commercial applications. This sort of data can also be useful for improving the performance of the devices. Channels for collecting real-time data, especially real-time data on the operation of certain devices, are considered to be limited in some cases. If the data is owned by an enterprise with market power in a device maintenance and inspection service market or health management service market, and this enterprise does not allow competitors to have access to it, the enterprise with market power will probably establish, maintain, and strengthen its control over the service market concerned. At the very least, it has been pointed out that if the enterprise does not disclose the data to device owners when they request it, this can be deemed as “hoarding” which cannot be said to be a proper means of competition.

- With regard to this point, enterprises are basically free to decide who to supply their products to and under what terms. As a general rule, therefore, the selection of product customers by an independent business entity is not an Antimonopoly Act issue. The same goes for the data accumulated, which does not normally result in a problem under the Antimonopoly Act, though it can be a problem under exceptional circumstances (see Note) (see (1) below).

Note: Overseas reference case (1): The French competition authorities expressed concerns that a range of conducts by SNCF (Société Nationale des Chemins de fer Français), France’s state-owned railway operator, and the other companies in its corporate group. These conducts related to railway ticket sales. Specifically, there were concerns that competition between travel agents and an SNCF subsidiary was being obstructed. With regard to the data required for ticket sales, SNCF was supplying both raw data and categorized/processed data, but charging a higher price for the former, which meant that for all intents and purposes it was ensuring that only the latter could be obtained. The French competition authorities argued that because of this the travel agents were being obstructed in developing and offering a ticket-sales system that could compete with the one operated by the SNCF subsidiary (commitment decision on October 2, 2014).

Overseas reference case (2): Cegedim developed a database containing useful information for pharmaceutical vendors, as well as management software, and supplied this database and management software to pharmaceutical laboratories. Euris, meanwhile, only developed and supplied management

software. Cegecim refused to sell its database to laboratories that were using or intended to use Euris's management software, which obstructed the use and development of Euris products. The French competition authorities determined that Cegecim held a dominant position in France's medical-related customer management software market, and that the conduct described above constituted the abuse of dominant position (fining decision on July 8, 2014).

- Furthermore, with regard to conduct by multiple enterprises, for example, there are cases where some enterprises are not allowed to participate in the joint collection of data, or where some enterprises are allowed to participate in the joint collection but are unable to access the accumulated data or data pool (see Note) and find it difficult to engage in business activities as a result. These cases could result in an Antimonopoly Act problem. (see (2) below)

Note: What is in mind here is a collection of data available that is accumulated in a certain corporate entity or organization by multiple enterprises who collect same type of data and is collectively licensed in the case where these enterprises are assessed as being in a competitive relationship in a data trading market, such as when the enterprises collecting the same type of data license the data independently to third parties.

(1) Refusal of access by a single enterprise

(a) Approach to access refusal as unilateral conduct that is problematic under the Antimonopoly Act (general view)

- As discussed earlier, as a general rule, the probability of violating the Antimonopoly Act is low when an enterprise accumulating data refuses access to this data to other enterprises. However, depending on the type of conduct, there is a possibility that it constitutes exclusionary private monopolization (Article 3 of the Antimonopoly Act) or refusal to trade (Article 19 of the Antimonopoly Act (Designation of Unfair Trade Practices, paragraph 2)). Furthermore, if such conduct obstructs trade between the other enterprises and competitors of the enterprise accumulating the data, there is a possibility that it constitutes interference with transactions (Article 19 of the Antimonopoly Act (Designation of Unfair Trade Practices, paragraph 14)).

Reference: General approach for each category

○ Exclusionary private monopolization

- Exclusionary private monopolization is a concept used for the regulation of the emergence of a situation in which an enterprise is to a certain extent able to freely manipulate the price, quality, etc. of a specific product ("substantial restraint on competition") by making it difficult for competitors and other enterprises to remain in business, for new entrants to launch businesses, etc. ("exclusionary conduct").
- Specific examples of exclusionary conduct are "exclusive dealing," "tying," "refusal to supply," and "discriminatory treatment" (The Guidelines for Exclusionary Private Monopolization under the Antimonopoly Act (hereinafter referred to as the "Exclusionary Private Monopolization Guidelines"), Part 2-1(1) and (2)).
- Regarding the distinction between exclusionary conduct and normal competitive methods, the judgement on NTT East (Supreme Court Judgement on December 17, 2010) held that with regard to whether the conduct constituted the "exclusion of business activities by other enterprises" in Article 2(5) of the Antimonopoly Act, whether "the aspect of this conduct as the independent and unilateral refusal to trade or low price sales constitutes an artificial deviation from the scope of normal competitive methods from the perspective of establishing, maintaining, or strengthening market power" is considered (see Note).

Note: In the same judgement, which expressed this normative standard, the following statement was made:

"Comprehensive consideration should be made, taking into account various factors, including the difficulty faced by competitors (refers to competitors in the FTTH service market, and includes potential competitors; the same hereinafter) in securing alternatives connection providers to the appellant of final appeal in the FTTH equipment connection market, the characteristics of the FTTH service, the type of conduct in the case, differences in position of and competition conditions faced by the appellant and competitors in the FTTH market, and the period during which the conduct continued in the case."

It was also stated that, "While the appellant has adopted a format of providing the New Family Type service separately, the service is actually provided directly from a central cable, and it has to be said that it effectively ignored various administrative regulations relating to subscriber charges etc. and administrative guidance aimed at preventing the above-described situation from arising."

This indicates that circumvention of administrative regulations is a factor in determining exclusionary conduct.

○ Direct refusal to trade by an individual enterprise as an unfair trade practice (Designation of Unfair Trade Practices, paragraph 2)

An individual enterprise is prohibited from unreasonably refusing to trade with a certain enterprise, limiting the products, quantities, and details when engaging in trade, and so on. Here, the Guidelines Concerning Distribution Systems and Business Practices (hereinafter referred to as the "Distribution and Business Practices Guidelines") state that in cases where an influential enterprise in a market engages in, as a means to achieve unjust purposes under the Antimonopoly Act (such as exclusion of its competitor from a market), and if such conduct tends to make it difficult for the refused competitor to carry on normal business activities, such conduct will be an Antimonopoly Act problem (see Note).

Note: For example, if an influential material manufacturer in a market, in an attempt to prevent a finished product manufacturer from manufacturing by itself some of materials supplied by the material manufacturer to it, stops its supply to the finished product manufacturer of main materials which have been being supplied by the material manufacturer to the finished product manufacturers, and if such

conduct tends to make it difficult for the refused competitor to carry on normal business activities, such conduct is illegal as unfair trade practices (Designation 2) (Distribution and Business Practice Guidelines, Part 1, 3-2)

(b) Antimonopoly Act considerations concerning data transactions

- The approach presented in (a) above probably can also apply to data transactions. In other words, enterprises are basically free to decide whether to disclose data collected and accumulated by itself, and the scope of disclosure if they decide to disclose it (see Note).

Note: Depending on the nature of the data, this will also be subject to restrictions provided for in other laws and regulations such as the Act on the Protection of Personal Information.

- However, if a specific company which has control over a certain market collects data essential in that market or other markets through its business activities, and it is difficult technically or economically to obtain the alternative data and, for example, such cases as <1> and <2> below occur, restricting access to the data from other parties without reasonable grounds (see Note 1) could be assessed as exclusion through the “artificial deviation from the scope of normal competitive methods” or the “refusal to trade as a means of achieving unreasonable objectives under the Antimonopoly Act.” If this substantially restrains competition in a field of trade or obstructs fair competition, it could be a problem under the Antimonopoly Act (Article 3 of the Antimonopoly Act (private monopoly) and Article 19 of the Antimonopoly Act (unfair trade practices) / Designation of Unfair Trade Practices, paragraph 2 (other refusal of trade) (see Notes 2 and 3).

Note 1: Includes conduct to prevent the use of channels for collecting data.

Note 2: This assessment differs from so-called “essential facilities doctrine.”

In the EU, it has been pointed out that there have been cases in which this doctrine has been applied. The doctrine has been applied in to the field of public infrastructure projects, which has been liberalized and includes facilities or networks built with public funds, but cautious approach should be taken in fields that have not been liberalized on the grounds that it may reduce incentives for technological innovation.

Note 3: When data falls under personal information under the Act on the Protection of Personal Information, if the business operators handling such personal information refuse to allow third parties' access to the information in order to fulfill their obligations under the Act, that is normally not regarded as unreasonable from an Antimonopoly Act standpoint. However, if effective consent for provision to third parties has been obtained under the Act on the Protection of Personal Information, and access is restricted in an attempt to unreasonably restrain competition, this may be regarded as unreasonable, even if this is not problematic under the Act on the Protection of Personal Information.

It has been pointed out that consideration needs to be given to the possibility that while competition can be encouraged when owners of data including personal information allow competitors etc. to access to the data, the person concerned may not want to allow such access.

<1> When refusing access to data that had been accessible before, even though no reasonable objective can be envisioned (see Note 1) other than exclusion of competitors from the market of products utilizing the data. (see Notes 2 to 4)

Note 1: The exclusionary intent as a subjective element can be an important fact leading the presumption that the alleged conduct is Exclusionary Conduct (Exclusionary Private Monopolization Guidelines, Part 2-1(1)).

Note 2: As stated above, the Distribution and Business Practice Guidelines give, as a specific example of a problem with the refusal of trade by an individual enterprise, a case in which an enterprise stops supplying an input that it has hitherto supplied with the objective of impeding the business activities of a competitor.

Note 3: The European Commission has deemed the exclusion of competitors in the server OS market through leveraging a market power in the PC OS market as constituting abuse of dominant position. Specifically, amid a situation that interconnectivity with Windows PCs (running the PC OS) was essential to achieve competitiveness in the server OS market, Microsoft, which not only possessed a controlling position in the PC OS market but also supplied an OS for low-end servers (group servers), refused to disclose information on the interface that allowed interconnectivity with PCs, even though it had disclosed it previously. The European Commission therefore ordered Microsoft to disclose the information on the interface to rival server vendors (March 24, 2004).

Note 4: The following views on the Antimonopoly Act approach to the installation of IC chips in the toner cartridges used in laser printers and the reuse of toner cartridges are shown (JFTC, "JFTC publishes result of investigation into Canon Inc. based on the Antimonopoly Act," October 21, 2004)): Given that the installation of IC chips may function to make it difficult for competitors to conduct business activities that they had hitherto engaged in, this case can probably serve as a reference for assessments of whether the refusal of access to operational data constitutes exclusionary conduct.

"It is not problematic itself under the Antimonopoly Act that a manufacturer of the laser printer installs IC chip in its printer in order to develop the quality and the function of the printer. However,

for example, if a printer manufacturer, without the reason of technical necessity and etc. or beyond its necessity, interferes with printer users using recycled cartridges as mentioned below, such behavior shall be problematic under the Section 19 of the Antimonopoly Act (paragraph 10 (Tie-in sales etc.) or paragraph 15 (Interference with a competitor's transaction) of Designation of Unfair Trade Practice)

(1) Making it impossible to recycle cartridges by coding the data memorized in the IC chip or making initialization of the data difficult

(2) Making operation of the laser printer suspended or a part of the printer's functions is not workable when a recycled cartridge is set in the printer by making IC chips memorized data that toner is empty.

(3) Making it impossible to use recycled cartridges by making the control system of laser printer for IC chip too complicated or changing it so frequently"

<2> When an obligation to allow competitors (or customers) access to data has been recognized (see Note 1), refusing competitors (or customers) access to data without justifiable grounds even though such refusal will lead to competitors being excluded from the market of products utilizing the data (see Notes 2, 3, and 4)

Note 1: Under the Act on the Protection of Personal Information, when a business operator handling personal information is requested by a person to disclose such retained personal data as may lead to the identification of the person, the business operator shall disclose the retained personal data. (Article 28). Furthermore, as contractual obligations, there are cases where the outsourcer allows the outsourcee to permit access by third parties to data the management of which has been outsourced, and where access to data such as transaction histories is allowed in contracts concluded between parties, such as financial institutions and depositors.

Note 2: When an enterprise other than the owner of a device gathers and possesses industrial data on the operation of the device under a contract concluded with the owner, there could be cases where the data is required in order to provide after-sales service for the device itself, to outsource after-sales service to a third party, or to replace the device with a new one. In such cases, it has been pointed out that if the enterprise makes third-party access difficult (e.g. encrypting the data output by the device) without any reasonable ground other than excluding competitors, this could probably be assessed as exclusionary conduct.

Note 3: While not an example of refusal to trade, a Japanese elevator manufacturer delayed the supply of components to the independent maintenance company in attempt to poach a maintenance contract with a business partner from an independent maintenance company. This was deemed to be an Antimonopoly Act violation (interference with a competitor's transactions, Designation 14) (the case of Toshiba Elevator Service (Osaka High Court Judgment July 30, 1993))

The problematic conduct in this case can be viewed as being similar to refusal to trade. The

judgment determined that elevator manufacturers have an obligation to supply components to the owners of elevators, and that the conduct was unlawful.

Note 4: While not an example relating to data, a survey performed by the JFTC concerning competition in the management and maintenance of condominiums (October 24, 2003) indicated that the refusal to provide information to customers could be an Antimonopoly Act problem. It showed that interference with the revision of contracts with management companies by condominium management associations could be an Antimonopoly Act problem as it constitutes "interference in competitor's transactions (Designation of Unfair Trade Practices, paragraph 14). For example, there is a case where large condominium companies or their affiliates prevent the management associations concluding contracts with other management companies or facilities maintenance companies, by hindering condominium management associations from obtaining lists of residents, facilities management handover documents, accounting documents, etc. from management companies even after requesting them.

- Furthermore, if an enterprise with a powerful position in a market where data is traded or market of products utilizing data, as a result of collecting data through unreasonable conduct such as fraud or illegal action, refuses access to the data that is essential to its competitors without justifiable grounds, and it would be technically or economically difficult for them to obtain alternative data, which makes their businesses difficult (see Note), this could also be an Antimonopoly Act problem.

Note: Examples of conduct constituting exclusionary conduct relating to refusal to trade, including the process leading up to the refusal to trade, can be found in the Part 2-3 of the Guidelines on Standardization and Patent Pool Arrangement (hereinafter referred to as the "Patent Pool Guidelines") and Part 3(1)-(i) (b)-(e) and Part 4-2(i)-(iii) of the Intellectual Property Guidelines.

- As a means of eradicating Antimonopoly Act violations involving the refusal of access to data, violators will sometimes probably need to be ordered to allow competitors access to data on reasonable terms.

(2) Joint refusal of access etc.

- With regard to data gathered jointly by a number of enterprises with a relatively high total market share, by preventing a specific enterprise from participating the joint collection and not allowing the enterprise to access on

reasonable terms, it becomes difficult for the third party concerned to carry out business activities as they have no other means of obtaining the data (see Note 1). If there is a risk of them being excluded from the market in such a situation, that would probably constitute an Antimonopoly Act problem in exceptional circumstances (see Note 2).

As was mentioned in Chapter 2(2) above, even if participation in the joint collection of data is restricted, the enterprise whose participation has been prevented could collect similar data independently (see Note 3). In that case, it needs to be considered that such a situation may not fall under the case where “it becomes difficult for the third party concerned to carry out business activities as they have no other means”

Note 1: Includes cases where even though the follower enterprise can collect similar data in theory, it is clear that this option is practically not available due, for example, to the costs that would be incurred.

Note 2: Based on the approach presented in the Part 1-2(2) of the Joint R&D Guidelines.

Note 3: In this assessment, characteristics of data such as its importance as an input, its non-exclusivity, and its scarcity are taken into account in each individual case.

- With regard to a situation where enterprise in a competitive relationship in a data trading market collect data individually and pool the mutually substitutable data, if those enterprises collectively license the data to a third party or refuse to license it, Antimonopoly Act assessments should probably be as follows:
 - The collective licensing of data through the data pool by enterprises in a competitive relationship in a data trading market has aspects of both avoidance of competition among them as to licensing (e.g. competition concerning data usage fees for data access) and the provision of multiple goods in combination, and it needs to be considered that this serves to reduce competition.

In order to assess whether an effect in reducing competition exists or not,

the following factors and their impact on competition are taken into account: (1) the importance of the data in light of factors such as the degree of proliferation of products utilizing the data, (2) market conditions such as the existence of alternative data pools, (3) the potential to license the data separately rather than through a pool, (4) the potential for selective licensing of part of the data, (5) whether there is a reasonable degree of need or a pro-competitive effect from pooling data and licensing it in bulk. There will normally not be an Antimonopoly Act problem if (1) the importance of the data in light of factors such as the degree of proliferation of products utilizing the data is low, (2) alternative data pools exist, (3) there is potential to license the data separately, and (4) there is potential for selective licensing (see Note 1).

- As a general rule, if enterprises in a competitive relationship in a data trading market jointly refuse to license data through the data pool and to license data consisting of the data pool owned by each enterprise to third parties without justifiable grounds for the purpose of obstructing entry to a market of products utilizing data as an input or excluding existing enterprises from the market (see Note 2), this would constitute an Antimonopoly Act problem (private monopoly, unfair trade practices) (Article 2(9)(i) of the Antimonopoly Act).

Note 1: Part 3-2(1)-b of the Patent Pool Guidelines describes a similar approach when patents in a competitive relationship are included in the patent pool, and this approach could probably serve as a reference concerning the establishment of data pools. With regard to data, however, the collected data itself is unlikely to become a standard, and the alternative data could be collected, while there are cases where a certain technology is standardized, and this makes it impossible for products to be manufactured and sold without use of the technology. When assessing "(2) market conditions such as the existence of alternative data pools" above, such characteristics of data will probably need to be taken into account.

Furthermore, the approach presented in Part 3-3 of the Patent Pool Guidelines could probably also serve to some extent as a reference when determining licensing terms in the event of licensing through data pools.

Note 2: The joint refusal of access to data based on this sort of intention is considered to be taken

mainly when the channels where data can be collected are limited and, hence, the parties refused access to the data will face difficulty in conducting business activities in markets of products etc. utilizing the data.

(3) Other unreasonable conduct relating to data access

- Besides the conduct described in (1) and (2) above, other conduct relating to data access that could be problematic under the Antimonopoly Act include selling data bundled with other services such as analytical tools (see Note 1), obliging customers to only trade data with the enterprise concerned, or restricting the collection or use of data by parties other than the provider (including the owners of devices relating to industrial data) as a condition for providing elemental technology such as machine learning technology for free or for a charge (see Note 2). Such conduct enables data to be used unreasonably, and that could be regarded as a wide range of conduct such as trading on restrictive terms and trading on exclusive terms.

Note 1: It is pointed out that though in the past a large SNS operator allowed a DSP enterprise to distribute advertisements to specific customers over the SNS based on targeting performed by the DSP enterprise, the large SNS operator recently becomes to provide distribution over the SNS and targeting by the SNS together and stops to provide only advertisement distribution over the SNS.

Note 2: Overseas reference case: The Toronto Real Estate Board (TREB) accumulated information on real estate from its members, operated a multiple listing service (MLS) and built and administered a database to facilitate this operation. TREB imposed restrictions on access to and use of the MLS information, and real-estate agents were prevented from displaying important information such as properties advertised in the past and sale prices. Canadian Competition Tribunal ordered the restrictive clauses to be removed on the grounds that they made it difficult for real-estate agents to conduct business activities online, and adversely affected competition by hampering the emergence of innovative services (Competition Tribunal decision, June 2016).

Chapter 5: Factors to be considered in reviewing Data-related mergers

1. Trends in data accumulation etc. by mergers

- With the collection of data becoming increasingly important for business activities,

it has been pointed out that IT companies already possessing vast amounts of data through channels such as free services are increasingly moving into completely different sectors such as automatic driving and financial services through the conglomerate mergers (see Note 1) both domestically and overseas. It has also been pointed out that data-related mergers, including mergers other than conglomerate mergers, are increasing in recent years (see Notes 2, 3, and 4).

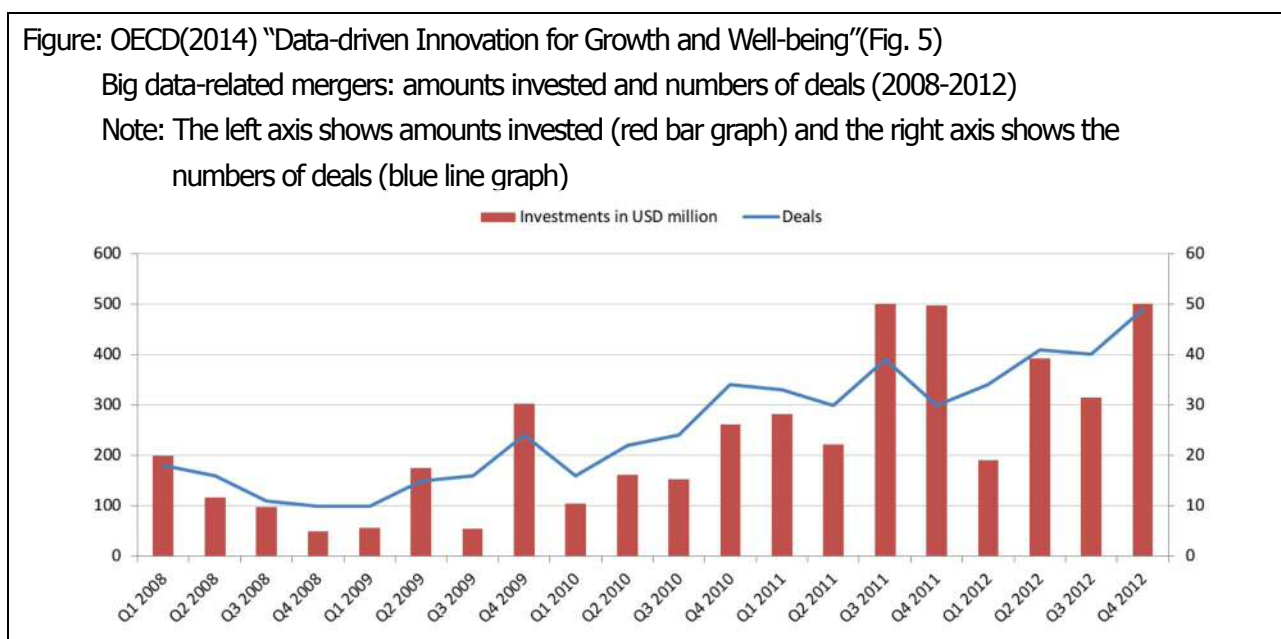
It has also been reported that digital platforms having already collected large quantities of data are attempting to buy up startup firms that could otherwise become their competitors in the future.

Note 1: The term refers to any merger other than a horizontal merger or vertical merger. The term also refers a merger by companies in the same business field but operate within a different geographical area.

Note 2: It has been pointed out that if a vertical enterprise in a dominant position collects data by itself and utilizes it in products, competition will be greater when vertical competitors exist than when there are only non-vertical competitors, which only trade data or only handle products utilizing data.

Note 3: See Annex 3 for overseas examples of data-related mergers.

Note 4: According to an OECD report³⁵ (see figure below), data-related mergers have been increasing worldwide in recent years.



³⁵ OECD, October 2014. "Data-driven Innovation for Growth and Well-being". Para. 24. Fig. 5. Available at: <https://www.oecd.org/sti/inno/data-driven-innovation-interim-synthesis.pdf>

- Given this situation, if notification of a merger is submitted for review, and one of the merging parties has accumulated a large quantity of data or possesses a channel for collecting such data, attention would need to be paid to the following matters while giving consideration to the scarcity and substitutability of the data:
 - As was mentioned in Chapter 3-4 above, for digital platforms providing “free” services such as SNSs, the level of privacy protection can constitute an important competitive tool. In such cases, the level of protection can be regarded as an element of product quality, and a reduction in the level of protection as a result of restriction could be assessed as having an effect in reducing competition (see Note).

Furthermore, there will probably also be cases in which it is necessary to impose conditions concerning privacy protection as part of the merger review process. Such conditions could include a pledge not to alter the privacy protection policy so as to prevent the establishment, maintenance, or strengthening of market power in the market of products utilizing personal data.

With regard to overseas merger cases, there have been some cases being approved on the condition that data collected by one of the parties cannot be used for the other party’s business of which privacy policy is different.

Note: In Europe, in fact, this has already been taken into account to some extent in the Microsoft/LinkedIn merger (European Commission, 2015) and the Facebook/WhatsApp merger (European Commission, 2014). In Japan, the assumption of non-price competition is made in practice. This can be seen, for example, in the case of Yahoo’s acquisition of Ikyu’s shares (Major Business Combinations in FY 2015: Case 8). The conclusion was that in the online restaurant booking service business, there is “competition to gather users based on the number or quality of restaurants registered.”

- As was mentioned in Chapter 3-3(2)(b) above, one of the primary usage of data is conducting its analysis, developing AI technology, and using it in various

products. Such development of technology for the collection, accumulation, and utilization of data can be regarded as an R&D activity. Therefore, at the point of a merger, even if the actual effect on competition among products is not clear because the final products are still being developed and not available, it may be necessary to determine whether there is a risk of market power being established with regard to the development of technology utilizing the data or the data accumulation itself (see Note).

Note: It was pointed out that as a remedy concerning the accumulation of data through a merger, it might sometimes be necessary to ensure that open access to data (as to personal data, it is need further consideration.) is provided by the merging parties to third parties (i.e. competitors).

- The analysis of large quantities of data collected through free services etc. has resulted in the improved functionality of algorithm-based products within a short space of time. In that cases, attention needs to be paid to ensure that the reinforcement of the cycle of product functionality improvement through the collection and the machine learning of raw data as a result of the network effects discussed in Chapter 3-4<2> does not lead to the establishment of market power in the market of products utilizing the data. In particular, where marginal costs of manufacturing would not increase such as digital content or software, where the nature of the product means that it would be difficult to differentiate it by, for example, focusing on a particular customer segment, or those where the product involves low transaction costs, such as a product that can be purchased over the Internet, it is relatively easy to expand the business, which could lead to the establishment of market power.
- Besides the R&D activities discussed above, there are also situations in which data is positioned as an input for various products. If by a merger, the data as a key input in the market and the channels of collecting it are accumulated within a specific enterprise, there is a risk that this could lead to the establishment of

market power (see Note).

Note: As was mentioned in Chapter 3-3(2)(c) above, even in cases where data is not traded by the companies at the time potentially problematic conduct (such as merger between the companies) is performed, there is a possibility that data trading by the companies will occur in the future, such as when there is a specific plan for one or both of the merging parties to trade data in the future, or when other companies have already traded the same data. In these cases, it might be appropriate to define the data trading market and carry out an Antimonopoly Act assessment of it.

- As was mentioned in Chapter 3-3(2)(c) above, data itself is sometimes traded separately, and if certain conduct would adversely affect competition in this trade, the data trading market will also be subject to the Antimonopoly Act assessment, regardless of the conditions of competition in the market of the products using the data.
- Furthermore, as is the case with typical products, there are situations where as a result of a merger between data suppliers and buyers, enterprises that had engaged in R&D and product development by being supplied with data or receiving licenses for related technology might no longer be able to be supplied with data or receive such licenses (input foreclosure). In such cases, the merger may not be approved (see Note).

Note: In the Microsoft/LinkedIn merger (European Commission, December 2016), Microsoft was a supplier of CRM (customer relationship management) software, and LinkedIn possessed data that CRM software could use for machine learning. In the assessment of this merger, the possibility that LinkedIn's refusal to allow access to data to competitors in the CRM software market constitutes input foreclosure is reviewed.

- In the case of conglomerate merger in particular, it has been pointed out if wide range of merging parties' businesses are reviewed on the grounds that data could have a variety of uses in the businesses of merging parties, this might impose an excessive burden on the parties. In response to this, it has also been pointed out if it is possible to reasonably assess data as an input in products or technology development during the merger review, an appropriate investigation needs to be performed from the standpoint of market foreclosure and exclusivity.

2. Pre-merger notification thresholds

- In Japan, merging parties are required to notify the JFTC in advance, if the merger satisfies certain pre-merger notification thresholds (see Note 1). In case of a merger, notification will be required if the one company has total domestic sales of more than 20 billion yen and the other company has total domestic sales of more than 5 billion yen. (see Note 2).

Note 1: In Japanese Antimonopoly Act, it is possible to regulate even mergers that do not meet the notification thresholds.

Note 2: The notification thresholds differ depending on the type of business combination. The other types of merger include shareholding, company splits, joint share transfers, and acquisitions of business etc. The thresholds for all types of business combination are based on total domestic sales amount (except in the case of some company splits, where sales amount of individual company, rather than total sales amount, are used.).

- As the OECD report illustrates, it has been pointed out that data-related mergers have been increasing worldwide in recent years. With regard to such mergers, the following matters have been pointed out:

- It sometimes takes a considerable amount of time before sales and profits are generated from the development and sales of new products utilizing the data.
- Once data accumulation starts generating profits, there is a possibility that market power will subsequently be maintained.
- Because of this, when ascertaining the potential for the establishment of market power at an early stage, the notification thresholds based on sales could be inadequate for capturing mergers to be regulated.

In Japan, regardless of whether notification is required, mergers that would substantially restrain competition constitute an Antimonopoly Act problem. It will be necessary, however, to keep a close watch on trends in Japan in the future, and to consider revising the notification thresholds as necessary (see Note).

Note: In Germany, only mergers that met notification thresholds based on sales amount were subject to regulation. However, with the aim of expanding the scope of merger regulation, the German Act against Restraints of Competition was revised as follows to establish the monetary value of enterprises as the criteria for regulation (March 31, 2017 revisions):

(1) The provisions on the control of concentrations shall apply if in the last business year preceding the concentration

1. the combined aggregate worldwide turnover of all the undertakings concerned was more than EUR 500 million, and
2. the domestic turnover of at least one undertaking concerned was more than EUR 25 million and that of another undertaking concerned was more than EUR 5 million.

(1a) The provisions on the control of concentrations shall also apply if

1. the criteria set forth in (1)1 above is met,
2. in the last business year the domestic turnover of at least one undertaking concerned was more than EUR 25 million but that of another undertaking concerned was less than EUR 5 million,
3. the price of the company to be acquired (der Wert der Gegenleistung (opposite benefit value) is more than EUR 400 million, and
4. the company to be acquired conducts business activities within a considerable scope in Germany.

(2) Paragraph 1 shall not apply where an undertaking which ... had a worldwide turnover of less than EUR 10 million in the business year preceding the concentration, merges with another undertaking, except in cases of (1a).

Conclusion

Although the productivity in Japan has been improving somewhat in recent years, it still remains low compared to other countries (see Note 1). Given these circumstances, it is highly expected that the utilization of data will lead to the creation of new business models and innovations in a wide range of sectors, and that this will boost productivity.

It has been pointed out that the advanced-sensor industry, which is a prerequisite for the accumulation of industrial data, is highly developed in Japan, and that there are numerous researchers working in the field of AI. In the future, the key to watering these seeds and spurring innovation through the data utilization will be to establish a fair and free competitive environment for the collection and utilization of data.

It has also been pointed out that hasty intervention from competition law would not necessarily be a good in the situation where new innovations relating to data utilization

emerging. Nevertheless, given that it has also been pointed out that large quantities of data and the technology for analyzing it are already being concentrated in certain enterprises, there is a risk of competition being impeded and the interests of consumers being harmed as a result. In such situations, action based on the Antimonopoly Act will need to be taken and the competition authorities should properly perform their roles.

Based on those views, the Study Group has engaged in discussions and compiled this report.

And it was confirmed that the current Antimonopoly Act framework is applicable to most competition concerns about the collection and utilization of data.

The Study Group hope that the JFTC will carry out policy making and strict legal enforcement taking the findings in this report into account.

Some issues concerning data and competition policy still need to be addressed. For example, there is the problem of “digital cartels” (see Note 2). If such digital cartels serve to substantially restrain competition, they will probably need to be strictly dealt with in the same way as other traditional cartels. Therefore, it would be desirable to keep a close eye on the situation, and if necessary, to discuss on issues with “liaison of intention” in the interpretation of the “unreasonable restraint of trade.”

Moreover, caution is also required concerning the monopolization and oligopolization of digital platforms. Although these platforms are making people’s lives a lot more convenient, many have pointed to the dangers of monopolization and oligopolization.

In addition to network effects, which have already been pointed out, product functionality improvements resulting from the collection of vast quantities of data and the use of AI-related technologies, the attraction of even more customers, and the expansion of network effects could lead to powerful economies of scale and economies of scope, which could make new entry more difficult. Furthermore, as deep learning technology improves, the scope of those effects will probably go beyond products sold on the Internet and reach to various products sold off-line.

It will be necessary to continue to keep a close eye on the points like this. Also, given that the Antimonopoly Act regulatory framework is normally only applied in cases where monopolists or oligopolists have engaged in certain unreasonable conduct, it will be necessary that all related regulations will continue to be reviewed to ensure, for example, that new entry to markets is encouraged.

Note 1: Labor productivity in Japan is one of the lowest in the OECD, and is only 60% of that in the U.S.

Note 2: Although there is no internationally established definition of a "digital cartel", the term is often used to refer to situations where companies share pricing algorithms or employ profit-maximizing AI which plays a collusive role in pricing.

(Annexes omitted.)