

## Points to Consider When Submitting An Economic Analysis Report and Data

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Japan Fair Trade Commission

### 1. Introduction

#### (1) Purpose of this document

In recent years, concerning investigation of alleged antimonopoly cases and review of mergers and acquisitions regarding Chapter IV of the Antimonopoly Act (hereinafter referred to as the “AMA”) (“Mergers and acquisitions” in this document refer to acquisition or possession of the shares of a company, interlocking directorates, mergers, absorption-type splits, joint incorporation-type splits, joint share transfers, and acquisitions of business; and “review of mergers and acquisitions” is hereinafter referred to as “merger review.”), there have been cases in which, in order to support their claims, enterprises submitted to the Japan Fair Trade Commission (hereinafter referred to as the “JFTC”) a report summarizing the results of economic analysis conducted by economic experts belonging to economic consulting firms or universities (hereinafter referred to as an “economic analysis report”). In addition, it is expected that economic analysis will be carried out in relation to the application of the AMA in other situations. An appropriate economic analysis report submitted in a timely manner will enable the JFTC to accurately understand and evaluate the contents of the claims of enterprises and, additionally, to consider the case in a more realistic manner; furthermore, in some cases, it will be possible to clarify the case and to reach the decision of merger review more quickly.

It is beneficial for enterprises that the JFTC clarifies when it regards the content of their economic analysis report as appropriate, through which the transparency and the predictability of the investigation or the review is improved. From this perspective, the JFTC decided to formulate this document based on economic analysis reports submitted by enterprises in investigation of alleged antimonopoly cases and merger review as well as the JFTC’s practices related to economic analysis in the past, and referring to the best practices for the submission of economic analysis and data published by several foreign authorities from the perspective of international convergence.

This document summarizes the principles, structures, etc. that are considered desirable to be taken into account in economic analysis reports submitted to the JFTC by enterprises as well as puts together the points to consider for the submission of data requested by the JFTC to carry out its own economic analysis, and for the communication between the JFTC and enterprises regarding economic analysis reports.

It is considered that enterprises may be able to enhance the persuasiveness of their economic

analysis report by submitting it based on this document. It is noted that even if an economic analysis report is not based on this document, it does not necessarily mean that its contents cannot be accepted.

(2) Definition of economic analysis

Economic analysis in this document refers to analysis carried out theoretically or empirically based on economics and its related fields, in order to identify the impact of the conduct of enterprises on markets, competitors, users, etc., and its extent or to show the grounds for the claims of enterprises, including analysis based on aggregated response data obtained through sending questionnaires.

(3) Scope of this document

Based on the JFTC's experience in the past regrading economic analysis reports submitted by enterprises, this document is applied to the cases where enterprises submit economic analysis report to the JFTC or submit data requested by the JFTC to carry out its own economic analysis in relation to investigations of alleged antimonopoly cases and merger review (hereinafter referred to as a "given case"). However, even in cases which do not fall within the scope of this document, it is desirable to follow this document when enterprises submit economic analysis reports to the JFTC or submit data requested by the JFTC to carry out its own economic analysis.

All the enterprises that submit an economic analysis report or data to the JFTC are subject to this document, including not only enterprises involved in investigations of alleged antimonopoly cases and in merger review, but also third parties such as witnesses concerned with investigations of alleged antimonopoly cases, competitors and users (hereinafter referred to as "related enterprises").

2. Points to consider when preparing an economic analysis report submitted to the JFTC

(1) Principles for economic analysis

Economic analysis contained in an economic analysis report submitted to the JFTC is desirable to meet the following four principles:

(i) Relevance

Economic analysis should be related to a given case. For example, the alleged conduct in a given case and the characteristics of the relevant market should be taken into account.

(ii) Clarity and transparency

Economic analysis should be clear about what it means to claim and accessible to non-economists as much as possible. In addition, specific issues such as theory of harm, methods and assumptions used in the economic analysis, grounds justifying their use (including explanation of the consistency between the assumptions used in the economic analysis and

the nature of a given case, as well as related references), and the conclusions drawn from the analysis, etc. should be clearly explained.

(iii) Consistency and robustness

Economic analysis should examine the degree of its consistency with other evidences for related claims (e.g. internal documents of related enterprises and statements of persons concerned). In addition, the robustness (Note 1) of the results should be tested.

(Note 1) "Robustness" refers to the degree to which similar results can be obtained despite minor changes in the used methods, assumptions, data, etc.

(iv) Reproducibility

Quantitative economic analysis should be such that any third party can reproduce the results, namely, necessary information such as the data used for the analysis, programming code, etc. should be attached so that the JFTC can reproduce the results of the analysis using the same methodology and data.

(2) Points to consider regarding the structure of an economic analysis report

Points to consider regarding the structure of an economic analysis report submitted to the JFTC are as follows.

(i) Summary for non-economists

Since non-economists are also involved in the decision-making process of the JFTC, a summary should be attached so that such persons can also understand the content.

(ii) The main body of an economic analysis report

The main body of an economic analysis report should include the following:

(a) Purpose of the analysis

The purpose of the analysis should be related to the matter at issue in a given case, such as theory of harm, or the assessment under the AMA, and its content should be clearly explained.

(b) Explanation of the data used in the analysis

When quantitative analysis is carried out, the following should be explained concretely regarding the data used:

- How the data was obtained
- By whom, when, for what purpose, and how the original data that has not been processed yet for the analysis (hereinafter referred to as "raw data") was processed and collected
- The methods employed to create the final dataset used in the analysis including methods to process raw data and to remove outliers (Note 2), and methods to complement missing values
- A clear definition and the unit of measurement for each variable, the codes used in the

data, the statistical population of the data, and descriptive statistics (e. g. number of observations, average value, maximum value, minimum value, etc.)

It is also desirable to explain the data granularity and the sample size, with regard to any advantages and disadvantages of the data used in economic analysis. In addition, alternative data is used for the economic analysis where data deemed appropriate for the analysis is not available, an explanation should be provided regarding the reasonableness of the use of such alternative data.

(Note 2) An outlier is a value that deviates significantly from other values.

(c) Choice of analytical methodology

The choice of analytical methodology should be clearly explained; specifically, the reasons of the choice, its relevance to the objective of the analysis, the assumptions made and the reasons why those assumptions are made. In addition, it is desirable to clearly explain the advantages and disadvantages in using the proposed methodology for a given case and the availability of alternative methodologies. Furthermore, the results of the analysis may be more persuasive if the chosen analytical methodology takes into account constraints on available data, characteristics of the markets and regulations to be investigated, previous researches in economics, and economic analysis used in similar cases in Japan and overseas.

(d) Results of the analysis and their interpretation

The interpretation of the analysis results should be explained. For example, the contents of the analysis results and the implications of the results for the assessment of the given case under the AMA should be explained. In addition, it is desirable to report the analysis results based on different assumptions or methodologies to check robustness.

It is noted that the analysis results may be less persuasive in the following cases: (i) there is a logical leap in the interpretation of the analysis results; (ii) the assumptions made in the model are not taken into account in the interpretation; (iii) the results of any feasible robustness analysis are not reported,.

(e) Information on references and relevant domestic and overseas cases

Information on references cited in the main body of the economic analysis report, such as publication years, names of authors, titles of the references, as well as publication years, case names, etc. of relevant domestic and international cases, should be listed at the end of the main body of the report or listed in footnotes for each citation.

(f) Information concerning the background, etc. of the preparation of the economic analysis report

It is desirable that the background of the preparation of the economic analysis report

(including the interests between the related enterprises and the persons in charge of the economic analysis or the organization to which they belong) as well as the names and short biographies of the persons in charge of the economic analysis be reported.

(iii) Appendixes

In general, data used in the analysis, programming code, questionnaire of a survey, etc. are required to be submitted separately. In addition, it is desirable to submit detailed explanations of data, results of robustness analysis, mathematical proofs, etc. as appendixes separately from the main body of the economic analysis report.

(3) Guidance on economic analysis

Economic analysis used in a given case includes graphical illustrations of data such as line graphs, statistical analyses such as testing for the significance of differences in prices of two products or calculating correlation coefficients for them, analyses using econometrics such as regression analysis on prices and estimation of demand function (hereinafter referred to as "econometric analysis"), and mathematical models explaining behaviors of economic entities such as enterprises and consumers (hereinafter referred to as "theoretical model"). Among these analytical methodologies, there is a wide range of differences in type and amount of data required for analysis, type and strength of underlying assumptions of analysis, and difficulty and rigorousness of analysis. In each given case, specific analytical methods are chosen in consideration of various factors including the necessity from important analytical purposes, the availability of data, and the usage examples for similar cases in the past. Of these analytical methodologies, the following sections provide the points to consider for econometric analysis, economic analysis using theoretical models, and surveys using questionnaires.

(i) Econometric analysis

Econometric analysis is helpful in the sense that it can identify the impact and its extent of the conduct of related enterprises, the characteristics of the market related to a given case, etc. through analyzing data using economic models. When carrying out econometric analysis and submitting it to the JFTC, the following points should be considered.

(a) Explanation on solutions to problems including endogeneity

Results of the analysis is less likely to be persuasive if the submission does not contain explanations regarding possible problems such as endogenous bias (Note 3) including simultaneity bias (Note 4) and omitted variable bias (Note 5), multicollinearity (Note 6), and sample selection bias (Note 7), in particular, explanations on what causes such problems, what is the impact of the problems, and how to solve them. In addition, when using an instrumental variable (Note 8), the reason why the instrumental variable is selected should be explained.

(Note 3) Omitted variable bias refers to a bias that arises to estimators because the economic

model does not include an appropriate variable correlating with the explained variable.

(Note 4) Endogenous bias refers to a bias that arises to estimators when an explanatory variable correlates with the error term of the economic model. Simultaneity bias and omitted variable bias are included in endogenous bias.

(Note 5) Simultaneity bias refers to, for example, a bias that arises to the estimated coefficient when carrying out a regression analysis in which the explanatory variable is the price and the explained variable is the quantity, even though the prices and the quantities in the market are determined simultaneously by the intersection of the demand and supply curves.

(Note 6) Multicollinearity refers to a situation where two or more explanatory variables are highly correlated with each other in a multiple regression or other analytical methodologies. It is known that multicollinearity makes the estimation result for the coefficient of the explanatory variable unstable.

(Note 7) Sample selection bias refers to a bias that arises to estimators as a result of extracting samples only from a specific group that meets certain conditions or excluding specific groups from the population.

(Note 8) Instrumental variable refers to a variable that is correlated with explanatory variables but is not correlated with error terms, which is used to solve the endogeneity problem.

(b) Reporting results of analysis

When reporting the results of the analysis, it is desirable to report in the standard format found in academic papers. For example, it is desirable that the results of the regression analysis contain not only estimated coefficients but also standard errors (Note 9), p-values (Note 10), and interval estimation (Note 11) for all relevant variables.

(Note 9) Standard error is an estimated value related to the degree of variation in the estimation result of the coefficient of an explanatory variable.

(Note 10) p-value is the marginal significance level at which the null hypothesis is no longer rejected if it becomes smaller than that level.

It is noted that the significance level is the probability that serves as a criterion for whether or not to reject the null hypothesis.

(Note 11) Interval estimation refers to estimating an interval of the possible values of the coefficient of an explanatory variable in consideration of the sample variation and the confidence level of the estimation.

(c) Submission of programming code, etc.

To enable the JFTC to reproduce any econometric analysis submitted, all programming code should be submitted, regardless of its purpose (e.g. code used for cleaning data, code

for creating the final dataset, and code for carrying out the analysis). In addition, the submitted programming code should be appropriately commented so that the contents of each program can be understood by a third party. At the same time, information concerning the name and version of the software used in the econometric analysis should be reported. Furthermore, when submitting the programming code, it is necessary in some cases to submit the dataset as an intermediate product generated in the process of creating the final dataset.

(ii) Economic analysis using theoretical models

Submission of economic analysis using theoretical models (including those using existing theoretical models) may be helpful for economics discussion. In the evaluation of economic analysis using theoretical models, the extent to which the assumptions are consistent with the behaviors of related enterprises, the characteristics of the market in a given case, etc. are important. Therefore, the submission of economic analysis using theoretical models should clearly present all the assumptions and the reasons for making those assumptions. Moreover, the derivation process of all key results from the assumptions should be proved as clearly and detailedly as possible.

Similarly, the robustness of the results should be discussed for such cases. It may also be helpful to provide a numerical simulation to see how the results vary with different parameter values in the theoretical model.

(iii) Surveys using questionnaires, etc.

When carrying out economic analysis based on the aggregate response data obtained through sending questionnaires (including so-called questionnaire surveys) or conducting interviews to a certain number of users / businesses, etc., the submission should contain explanations on the following items in addition to the result of analysis:

- Survey implementation body and implementation process
- Selection method of survey respondents (including sampling method)
- Questions presented to the survey respondents (including questionnaires)
- In the case of interview-based economic analysis, the instructions given to the interviewers
- Table of results

(4) Economic analysis carried out independently of the given case

The content of this document is intended to apply to economic analysis carried out for the sole purpose of application to a given case. However, the points mentioned in this document basically apply equally to the case where related enterprises submit to the JFTC an economic analysis carried out independently of the given case, for the purposes such as optimization of product / service specifications and measuring effectiveness of specific business activities as

an evidence to support their claims in the given case. In particular, when submitting economic analysis carried out independently of the given case to the JFTC, the submission is likely to be less persuasive if the relationship between the economic analysis and the claims that it intends to support in the given case is not clear; in some cases, the submission may not be considered by the JFTC. If there are any deficiencies in light of this document, it is desirable to add those details in the submission.

Furthermore, it may be helpful for related enterprises to submit an economic analysis to the JFTC carried out to explain to other competition authorities which investigate or review the same case. In such a case, the validity of using the same results for the investigation or the review by the JFTC is desirable to be explained from the viewpoint of differences in circumstances. The JFTC may ask to explain such validity, or may ask to carry out the same economic analysis using the data only related to Japan.

### 3. Points to consider when submitting requested data for the JFTC to carry out its own economic analysis

There are some cases where the JFTC requests data from related enterprises in order to carry out its own economic analysis for a given case (hereinafter referred to as the “data request”). In such cases, it is desirable that related enterprises comply with the following points when submitting data to the JFTC.

It is noted that the data submitted to the JFTC shall be subject to confidentiality obligations under National Public Service Act (Act No. 120 of 1947) and the AMA, in the same way as other information submitted to the JFTC by related enterprises.

#### (1) Contents of data request

The data requested by the JFTC in its data request is mainly sales performance data, monthly income statement and other information, which is generally more detailed than financial data and other information that is publicly released by related enterprises such as investors relations information. The JFTC usually requests data covering at least several years, depending on changes in market conditions and other factors. For example, in the case of monthly data, the JFTC often requests data for long periods covering five years or more. In order to understand what kind of data is owned and managed by related enterprises, they may be required to submit data covering a more limited period than normally required for economic analysis such as data for the most recent month (hereinafter referred to as “sample data request”) at first.

#### (2) Data processing, variable, code

It is necessary to pay attention to the following points in the submission of data.

- Because the submission of data generally requires time to prepare, preparing for the submission as early as possible is desirable for both the JFTC and related enterprises when



the JFTC makes a data request or a sample data request for carrying out its own economic analysis.

- Raw data should be submitted to the JFTC as far as possible when it is deemed necessary by the JFTC. At the same time, in submitting data, appropriate measures should be taken to protect the privacy of individuals, such as removing personal information contained in the data as far as possible.
- Information on the description and the processing of data should be described in as much detail as possible. On the other hand, as it takes time for the JFTC to confirm and understand its contents, it should be submitted as soon as possible.
- For variables used in the data, the units should be clarified. For example, in such a case as "0" or a negative value is entered with respect to data relating to prices, quantities, etc., it is desirable that an explanation be attached as far as possible to the values that may have undergone extraordinary special processing.
- If the structure of data, etc. (Note 12), is different for each store or plant, it is desirable that the sample data be submitted in such a way as to cover all data structures when submitting it. If the structure of data, etc. has been changed in the past, it is desirable that the data for the month before the change be also submitted, even if the JFTC requests the submission of data for the most recent one month in the sample data request.
- For data items and codes on product names, business partners, etc., it is desirable to attach an explanation of the definition or the existing code book used internally by related enterprises.

(Note 12) The term "structure of data, etc." refers to data items, data frequency such as weekly or monthly, etc.

#### 4. Communication with the JFTC

It is beneficial for both related enterprises and the JFTC that related enterprises follow the necessary procedures for the investigation of alleged antimonopoly cases and the merger review, and sufficiently communicate as early as possible with the JFTC in preparing and submitting economic analysis reports to the extent permitted by the procedure.

##### (1) Early communication

When the JFTC evaluates an economic analysis report, it is necessary to verify the reproducibility and the robustness of the analysis. Such evaluation takes time; therefore, it is desirable for the related enterprises to submit an economic analysis report as soon as possible.

If an economic analysis report is submitted at an early stage, the persons in charge of the given case at the Economic Analysis Office, General Affairs Division of the JFTC (hereinafter referred to as the "JFTC's economists") will be able to understand more precisely, and to properly

evaluate the submitted economic analysis report; hence, the usefulness of the submitted economic analysis reports will be enhanced.

On the other hand, the later the economic analysis report is submitted, the more likely it becomes difficult that the submitted economic analysis report will be considered by the JFTC due to insufficient time for such an evaluation.

Similarly, in the process of investigation, etc., when explaining or discussing the contents of the economic analysis at a meeting with the JFTC's economists, it is desirable to submit explanatory materials, etc. in advance with sufficient time as much as possible. By doing so, it will be possible to make the communication at the meeting more fruitful.

## (2) Sufficient communication

It is considered that related enterprises will deepen their understanding of useful economic analysis, etc. for them through sufficient communication with the JFTC's economists on issues such as theory of harm. Similarly, it is considered that the JFTC's economists will be able to better understand the claims of related enterprises through the communication.

Such sufficient communication enables to carry out and submit economic analysis efficiently and effectively, including the submission of data for economic analysis, and is useful at all stages of investigation, etc.

In order to ensure such communication regarding economic analysis, it is desirable to contact the JFTC in advance so that both the persons in charge of economic analysis on behalf of the related enterprises and the JFTC's economists can be present at the meeting with the JFTC.