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More documentation related to this discussion can be found at: oe.cd/mergerinv.

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Economic Analysis in Merger Investigations

- Contribution from Chinese Taipei –

1. This report is intended to describe the economic analysis procedure and methods adopted by the Fair Trade Commission (hereinafter referred to as the FTC) of Chinese Taipei in merger regulations and also to share its experiences in the application of economic analysis in the review of merger cases.

1. 1. The FTC’s application of economic analysis

2. According to the statistics of the OECD, the composition of the in-house economists of competition authorities in different countries can be categorized into three main types as follows: 1) the centralized type: all the economists are placed in the same department or office and led by an economist, normally the chief economist; 2) the decentralized type: all the economists are assigned to different departments and offices; and 3) the mixed type: each of the two former types is adopted. Currently, four of the seven commissioners in the FTC, including the chairperson, are economics specialists (each with a PhD in economics). On Feb. 6, 2012, after reviewing the law enforcement experiences of different countries, the FTC created the Information and Economic Analysis Office (hereinafter referred to as the IEAO) and also established the Division of Economic Analysis under it. At present, there are six economics specialists in the IEAO working under the leadership of the IEAO director who has a PhD in economics. Meanwhile, of the approximately 200 staff members of the FTC, 40% of them have a university degree in economics or related sciences. In other words, the FTC has set up an independent economic analysis unit while a large number of the staff members in the different investigation units also have a background in economics; therefore, the FTC belongs to the mixed type referred to by the OECD.

3. To ensure the proper execution of economic analysis in cases under investigation, the FTC has established the “Principle of Application of Economic Analysis in Investigations” and the types of cases in which economic analysis is to be applied are specified, including cases involving monopolization, concerted actions (including those requiring exceptional approval), mergers (cases requiring the filing of notifications but no notifications are filed and cases to be reviewed through the regular process¹), and cases associated with vertical price and non-price restraints. So far, economic analysis has been the most frequently applied form of analysis in merger cases. The statistics show that from 2012 when the IEAO was created until 2019, the FTC reviewed 461 merger cases and economic analysis was applied in 213, or 45.20%, of those cases in which the regular review process was adopted.

1. The FTC’s review of merger cases is divided into a simplified process and a regular process, to be adopted mainly according to the level of market share involved. For instance, the simplified process can be adopted in the following situations: 1) the total market share of the enterprises participating in a horizontal merger is less than 20%; 2) the total market share of the enterprises participating in a horizontal merger is less than 25% while the market share of one of the merging parties is below 5%; and 3) the total market share of the merging parties in each individual market does not exceed 25%.

4. To make the time points for the IEAO to participate in the review of merger cases more precise, the FTC has established the “Procedure of the IEAO’s Participation in the Review of Merger Cases through the Regular Process”. First of all, in cases to be reviewed through the regular process, the handling unit, if it deems necessary, may invite the IEAO to jointly examine whether the documents are complete. If the documents are complete and a notification is to be issued, the countersignature of the IEAO is required. It has happened that the product market involved in a case was more complicated and a market investigation on the competitors and users was needed. During the stage of document completeness examination, the IEAO was invited to help and offer its opinions with regard to the list of concerned parties to which survey documents were to be sent as well as the questions for such parties to answer. Secondly, if a handling unit considers that economic analysis is required when reviewing a merger case, it may request that the IEAO perform economic analysis (including quantitative or qualitative analysis such as market definition, market power evaluation, unilateral effect analysis, etc.) and the handling unit will refer to the results of the analysis and include them as an attachment to the handling proposal. Lastly, before the handling unit presents the handling proposal for approval, the countersignature of the IEAO is also needed. In short, as mentioned above, when reviewing a merger case through the regular process, the handling unit, if it is deemed necessary, may invite the IEAO to perform economic analysis and offer opinions at different stages of the review, including checking the completeness of documents and drawing up the handling proposal, for which the countersignature of the IEAO is required.

2. Adoption of both qualitative analysis and quantitative analysis in the review of merger cases

5. Unlike other competition authorities that adopt only the sales threshold, the FTC also applies the market share threshold². For this reason, market definition is particularly important. Enterprises often try to extend the market as much as possible to lower their market share and avoid stricter regular review procedures. In a small number of cases in which mergers were prohibited, market definition often became the key issue of debate in lawsuits. Therefore, correct market definition is very important in the review of merger cases. To make market definition standards more precise to facilitate case review and ensure that enterprises know exactly which regulations to follow, the FTC announced the “Principles of the Fair Trade Commission Regarding the Definition of Relevant Markets” in 2015 and clearly specified that the FTC would take into account whether reasonable interchangeability existed between the product or service in question and the geographic area and other products or services and geographic areas as well as apply the cross elasticity test and the hypothetical monopoly test (HMT) to define relevant markets.

6. When evaluating the market power and market concentration of merging parties in the relevant market, the FTC primarily adopts the concentration ratio (CR_n) and the Herfindahl Hirschman Index (HHI), but will also make reference to the threshold regulations associated with the HHI specified in the 2010 horizontal merger handling principle of the US as well as the results of the analysis or actual merger cases that the FTC

2. As set forth in Article 11 of the Fair Trade Act, any merger that falls within any of the following circumstances shall be filed with the competent authority in advance:

1. As a result of the merger the enterprise(s) will have one-third of the market share;
2. One of the enterprises in the merger has one-fourth of the market share; or
3. Sales for the preceding fiscal year of one of the enterprises in the merger exceed the threshold amount publicly announced by the competent authority.

has processed. Meanwhile in its assessment of the unilateral or coordinated effects likely to occur after the merger, the FTC mainly applies critical loss analysis, diversion ratio analysis, the upward pricing pressure index (UPPI), regression analysis, and merger simulation. The selection of the aforesaid analytical measures chiefly depends on whether the information needed to perform each type of analysis is available, while the timeliness and efficiency of the merger review is also taken into consideration³.

7. Economic analysis includes qualitative analysis and quantitative analysis and there are many analytical approaches as far as mergers are concerned. Under such circumstances, the decision as to which qualitative analysis or quantitative analysis method is to be applied has to be made according to the facts, evidence and investigation results in each case. Priority is not a concern in the application of various analytical approaches. Many economic analysis instruments are available while more complicated models require more hypotheses and the likelihood of triggering challenges and doubts in the future is higher. Therefore, if time allows, two or more analytical instruments will be adopted. If the use of such instruments leads to similar results, the outcome of the economic analysis will be worthy of reference. In addition, the FTC will hold workshops on individual cases when necessary. Besides the competent authority of the industry of concern, upstream and downstream businesses and horizontal competitors, external scholars and specialists familiar with competition law and economics are also invited to offer suggestions regarding the market's definition and evaluation of competition. In the past, scholars and specialists even participated in discussions of theories related to market definition, merger patterns and damage resulting from competition. When reviewing a merger case associated with cable TV services, the FTC also solicited opinions from external scholars and specialists regarding the influence on the relevant market, whether structural regulation or behavioral regulation should be imposed, and in terms of evaluating feasibility.

8. As mentioned above, the FTC adopts both qualitative analysis and quantitative analysis in its review of merger cases. Although the results of quantitative analysis are more convincing, when decisions are made accordingly, the methods involved in quantitative analysis may be too new or complicated and may be difficult to explain to decision-makers or the court. At this point, the IEAO may have to put forward independent opinions or reports based on the results of economic analysis to serve as reference for the Commissioners' Meeting, so that the commissioners can discuss and decide whether the results of the quantitative analysis will be adopted in merger decisions.

³ After an enterprise presents complete merger-filing information, the FTC will issue an acceptance notification and the following 30 working days will be the waiting time. If the FTC does not issue a written notice to shorten or extend the waiting time or prohibit the merger during this period, the merging parties may merge directly after the 30 working days of waiting time comes to an end. If further review is necessary, the FTC may extend the review period for another 60 working days at the maximum. In other words, the FTC is required to make a decision within 90 working days at the most. As the time allowed to review a merger case is rather short, timeliness is an important consideration when the FTC decides which economic analysis method to apply.

3. Case examples

3.1. A rare case in which the merger was prohibited three times⁴: an intended merger between two instant noodle makers

9. As a major domestic food product manufacturer, Company A was the leading supplier in the instant noodle market. It intended to merge with the second biggest instant noodle maker, Company B. After the merger, the two companies would account for as much as 70% of the instant noodle market. If the instant noodle market was to be divided into sub-markets according to different kinds of instant noodles, Company A would be the largest in the noodle soup market and Company B the biggest in the dry noodle market. Therefore, after acquiring Company B, Company A would be able to increase its competitive edge in the dry noodle market. When the two companies filed a merger notification for the first time in 2008, Company A asserted that instant noodles, fresh food products and boxed meals sold in convenience stores, delivered and take-out meals, and snacks should all be considered as belonging to the same market. After holding public hearings to solicit opinions from various sectors and gathering related evidence, the FTC concluded that instant noodles had their own market. During the review process, Company A made the promise that it would not raise prices in the near future, use the recipes obtained for its own products within a short period, or appoint its own personnel to be the general manager and high-ranking executives in Company B. After assessing the promise, the FTC came to the conclusion that market competition would still be weakened since the “merger remedies” proposed by Company A could not effectively “restore competition” and, therefore, decided to prohibit the merger.

10. In 2010, Company A filed a merger notification again for the same intended merger and put forth a further claim that high substitutability existed between instant noodles and the five main types of instant foods, namely, crackers and snacks (including crackers, bread and potato chips), fresh food products (sandwiches, and boxed meals sold at convenience stores), staple food containing starch (noodles and rice for consumers to mix with ready-made sauces), canned sauces (shacha sauce and canned ground meat sauce for consumers to mix with staple food containing starch), and frozen foods; therefore, they should all be defined as belonging to the same market. Under the new definition, the two companies would only account for 9.04% of the market after merging, and would obviously be unable to become a monopolistic power and have any impact on market competition. In addition, Company A also presented three statements from economists and legal experts to support the assertions made by Company A. The statements also included the inference that the cross elasticity of the substitutability between instant noodles and the aforementioned food products should be positive (meaning that when the prices of instant noodles increased, consumers would switch to purchase other instant foods). However, Company A did not provide any economic analysis data to support the claim.

11. When reviewing the case, the FTC adopted the practical indicia proposed by the US Supreme Court to be applied in the market definition associated with the Brown Shoe case (370 US 294, 82 S. Ct. 1502) in 1962. According to the indicia, market definition should be conducted with the cognition of enterprises or the public, unique production equipment, product characteristics and ways of use, target consumers, specific sales channels, specific prices, and consumers’ sensitivity towards price changes taken into account. After making a general assessment, the FTC concluded that instant noodles had their own market. Besides qualitative analysis, the FTC also performed quantitative

4. According to the 2019 Fair Trade Statistics Annual report, the FTC processed 1027 merger cases in total between 2002 and 2019 and prohibited 9 mergers. The merger approval rate achieved as high as 99.12%.

analysis to ensure that the review conclusion could be convincing enough to cope with the professional statements presented by Company A. To achieve this, the FTC specifically acquired the sales statistics and unit prices of leading instant food products between 2007 and 2009 from chain convenience stores and hypermarkets and calculated the cross elasticity of price and demand between instant noodles and different types of instant foods to find out whether substitutability existed. The outcome showed that no significant or high substitutability existed between instant noodles and the aforementioned instant foods. In the end, the FTC stood by the conclusion that instant noodles had their own market and once again prohibited the merger.

12. Company A decided to file a lawsuit with the Administrative Court to challenge the product market defined by the FTC. During the trial, the judge requested that the FTC explain the economic analysis methods adopted. The FTC specifically made a briefing presentation to explain in detail the application of cross elasticity to convince the judge to support the standpoint of the FTC. As a result, the judge pointed out in the decision: “The defendant in this case (the FTC) took public cognition, product characteristics and ways of use, target consumers, specific prices, public opinions and the opinions of instant noodle businesses into account to establish the reasons behind the original sanction, as well as adopted qualitative standards to perform the review and scrutinized the review results by conducting quantitative analysis within a specific range. Considering the defendant had difficulty in obtaining full and comprehensive information about the industry, this court therefore concluded that the analytical model of the defendant can be accepted.” The decision was an affirmation that the use of qualitative analysis and quantitative analysis by the FTC could indeed be a complementary measure in the review of merger cases and was not in violation of the rules of thumb and logic. As a consequence, the decision was affirmed and the court sustained the FTC’s prohibition of the merger.

13. Company A was still unwilling to give up the possibility of merging with Company B and filed a merger notification with the FTC for the third time in 2018. Compared to 10 years ago, the types of instant noodles imported from Japan, Korea and Southeast Asia were now even more diverse. Fast-cooking noodles could also be seen on the shelf right next to instant noodles that only required the addition of hot boiled water. To be careful, the FTC held public hearings again and invited external scholars and specialists, related trade associations, competitors, upstream and downstream trading counterparts, consumer groups and the merging parties to attend. Moreover, the FTC also sent letters to ask fast-cooking noodle makers related questions. After sorting out the replies, the FTC concluded that fast-cooking noodles and instant noodles were different as far as brands, clientele, marketing channels, pricing strategies and production processes were concerned. Therefore, after qualitative analysis was performed, the FTC maintained the decision that instant noodles had their own market.

14. When conducting the quantitative analysis, the FTC obtained the Customs’ import statistics and they indicated that imported instant noodles did not account for a high percentage in the total sales of instant noodles and, therefore, did not cause significant changes to the structure of the instant noodle market. The IEAO also applied the price correlation test and the Granger causality test and came up with the conclusion that the instant noodle market was a single product market. Meanwhile, the IEAO also adopted the diversion ratio analysis and the upward pricing pressure index to perform a competition evaluation and the outcome indicated that the unilateral effect of the possibility of a price increase after the merger between the two companies was approved would be significant. Hence, after assessment, the FTC remained convinced that the disadvantages of competition restraint after the merger would outweigh the overall economic benefit and prohibited the merger between the two companies.

3.2. Market definition dispute solved with a questionnaire survey: Merger between KTV businesses

15. KTV businesses Company C and Company D filed a merger notification with the FTC in 2019. Previously, the FTC had prohibited the merger of the two companies on two occasions. During the investigations and the administrative lawsuits in the past, the merging parties had expressed their objection to the FTC's relevant market definition. This time the merging parties also asserted that there were new competitors in the KTV industry whereas consumption patterns had changed, while many alternatives also existed due to technological progress and cross-industry competition, such as live streaming platforms, online KTV, mobile karaoke, etc. In order to reexamine whether the product market range definition was different as a result of technological progress and changes in consumption patterns, the FTC specifically commissioned an institution to investigate the behavior of consumers in the KTV service market by administering a questionnaire survey to understand the KTV service needs of consumers and the substitutive products available. Afterwards, the IEAO applied the survey results to be the reference in product market definition, unilateral effect evaluation and the calculation of the gross upward pricing pressure index (GUPPI).

16. According to the survey results, when the KTV service prices of Company C and Company D both went up by 10% while the prices of other KTV businesses remained unchanged, 42% of consumers would switch to other KTV businesses. Among these consumers, those who would choose mini KTV booths, singing apps, online KTV and live steaming platforms were respectively 1.6%, 1.5%, 0.6% and 0%, far lower than the 28.5% who would switch to other KTV chain operations. It was an indication that the substitutability of new singing services like mini KTV booths for the services offered by the merging parties was rather low. These new services obviously could not be considered to belong to the same product market in competition analysis.

17. As far as the unilateral effect evaluation was concerned, the survey results showed that when Company C raised its prices by 10%, 58.4% of consumers would switch to other alternative venues. Of these, 33.9% would turn to Company D, apparently more than to other alternative venues. On the contrary, when Company D raised its prices by 10%, 56.7% of consumers would go to other alternative venues, and 30% of consumers would choose Company C, which was also significantly higher than for other alternative venues. If both Company C and Company D increased their prices by 10% while the prices of other KTV operations remained the same, 42.3% of consumers would switch to other alternative venues, and only 14.2% would go to the competitor with the highest substitutability. These consumer behavior survey results indicated the following: 1) Each of the merging parties was the top choice of consumers to replace the other and each merging party was obviously the main competitor of the other. If the merging parties unilaterally raised their charges before the merger, more than half of the consumers would spend their money at other alternative venues, suggesting that they had the capacity to keep the merging parties from raising prices. 2) Once the merger went through, if the merging parties took advantage of their market power and increased prices simultaneously, only 42.3% of consumers would switch to other alternative venues and the aforementioned capacity to keep the merging parties from increasing prices would go down. In addition, the consumer switching ratio of the main alternative after the merger was only 14.2%, which was significantly lower than the ratios, 33.9% and 30%, of the merging parties when either of them was chosen by consumers to replace the other. This proved that each of the merging parties was the principal competitor for the other. In other words, the merging parties had the ability and incentive to raise charges after the merger as far as the switching choice of consumers and the competitiveness of other competitors were concerned.

18. According to the survey results, the IEAO calculated the GUPPI and, based on the various effects of the price changes, measured the impact of the weakening of competition as a result of the merging parties' unilateral price increase after the merger to make more profits. The index was applied to assess the unilateral price effects likely to be created as a consequence of a merger in a differentiated product market. The larger the GUPPI value, the greater the possibility that the enterprises would raise prices; in other words, competition concerns existed. According to the results of the GUPPI analysis calculated by the IEAO, the GUPPI values of Company C throughout the country and in the four northern cities fell between 4.37% and 9.26% while the GUPPI values of Company D throughout the country and in the four northern cities were between 12.22% and 22.44%. These figures showed that the merging parties were likely to increase prices in the relevant market after the merger since competition no longer existed between them.

19. When reviewing this merger case, the FTC also invited external scholars and specialists familiar with competition law and economics to attend workshops, discuss issues associated with the relevant market definition and the impact on the domestic licensing of music copyrights after the merger, and offer their opinions in relation to the case review. The results of the questionnaire survey and quantitative analysis all suggested that competition between the two top KTV businesses would disappear after the merger. In addition, the merging parties had the ability and incentive to raise charges after the merger as far as the switching choice of consumers and the competitiveness of other competitors were concerned. For this reason, the FTC made the decision to prohibit the merger.

4. Conclusion

20. The methods of economic analysis adopted by the FTC in merger cases are increasingly diverse and the analysis is also becoming more and more meticulous. The results of economic analysis can serve as complementary evidence in merger reviews and judges have confirmed that they have positive value. With cases involving significant competition restraint concerns, the FTC will invite external economic experts specializing in competition, econometrics and industrial economics to attend workshops and public hearings along with external specialists, upstream and downstream trading counterparts, competitors, related trade associations, the competent authorities of concerned industries and consumer protection groups to participate in discussions, so that the FTC can objectively take opinions from different sectors into consideration and use them as reference when evaluating whether a merger should be approved or prohibited.

21. Most of the data used in economic analysis that the FTC obtains are provided by enterprises filing merger notifications. To keep business secrets confidential, the FTC has never commissioned external economists to write up quantitative economic analysis reports and, therefore, has to count on the staff of the IEAO to perform the analysis. To enhance the economic analysis skills of the investigative units of the FTC, the IEAO conducts economic analysis training and arranges for experts to give speeches on special topic on an irregular basis to ensure that the investigative units can apply economic analysis more skillfully when reviewing each case, allow objective data to talk, and make merger decisions that are more convincing and able to withstand the tests of administrative courts.