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Working Party No. 3 on Co-operation and Enforcement

GEOGRAPHIC MARKET DEFINITION

-- Note by Korea --

28-29 November 2016

This document reproduces a written contribution from Korea submitted for Item 3 of the 124th meeting of the OECD Working Party No. 3 on Co-operation and Enforcement on 28-29 November 2016.

More documents related to this discussion can be found at [ww.oecd.org/daf/competition/geographic-market-definition.htm](http://www.oecd.org/daf/competition/geographic-market-definition.htm)

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-- KOREA --

1. Introduction

1. In Korean fair trade competition cases, the geographic market delimitation and the product market delimitation are considered to have no meaningful difference when it comes to the methodology used to carry out the delimitation. The guidelines for review of geographic market in the Monopoly Regulation and Fair Trade Act are defined as follows.

2. The particular business area refers to the entire geographic area to which major consumers can practically switch to alternative products when there is a significant, non-transitory increase in the price of such product while the price in all other geographic areas remains the same.

3. In accordance with the above definition, the SSNIP test, a standard test used to delimit the product market applies to the geographic market delimitation. In other words, the smallest unit of area within which a hypothetical monopolist, a review subject, could impose a small but significant price increase for a considerable period and could profit from the increase is delimited to a geographic market. Many countries including the United States and European nations have adopted the same principle of geographic market delimitation. This report will identify methodologies and the standard of judgment used to delimit markets by looking into three competition cases in Korea which are related to the geographic market delimitation.

2. Geographic market delimitation of Korean combination of enterprises cases

2.1 *Combination of Muhak Co., Ltd and Daesun Distilling Co., Ltd (2003)*

2.1.1 *Background of the case*

4. Muhak produces and trades 'Soju' (distilled rice liquor) which is one of the most popular alcoholic beverages in Korea. The company purchased 41.2% of Daesun Distilling shares through tender offer and physical buying which made Muhak the largest shareholder of Daesun Distilling. Despite the fact that Muhak holds less than 50% of the shares, the Korea Fair Trade Commission (hereinafter referred to as "KFTC") concluded that as the company is the largest shareholder and considering the stock dispersion, Muhak can exercise its shareholder' rights to form a control relation and as a result, decided that the case is subject to the combination of enterprises review.

2.1.2 *Controversies involving the market delimitation of case*

5. The major controversy of the combination case was related to the market delimitation in both product and geographic markets. In regards to the product market delimitation, the examinee argued that two of the most popular alcoholic beverages, beer and soju can substitute each other and as a result, they form so called a "single popular alcoholic beverage market".

6. If the relevant product market is determined to be the markets for soju and beer, the combination of enterprises case may not be considered to restrict competition. However, taking account the characteristics of two products and consumer perception and industry competition dynamics, the KFTC concluded that two products form two separate markets and delimited the relevant product market for the case to a single market for soju.

7. The geographic market delimitation was more controversial. In Korea, traditionally distinctive regional soju brands had strong presence in each region; Daesun Distilling had strong presence in Busan (84.4% of regional market share) and Muhak had strong presence in Gyeongsangnam-do (84.3% of regional market share). As a result, if Busan and Gyeongsangnam-do are delimited to a single regional market, the combination of two enterprises could severely restrict competition in the two regions.

2.1.3 Geographic market delimitation methods

8. The decision whether the soju market of Busan and Gyeongsangnam-do is a separate market or not is based on the conclusion whether the regional customers would switch to other regional soju brands when Muhak and Daesun Distilling, two hypothetical monopolists, perform a SSNIP test. The test involves interviewing consumers in the two regions to obtain the estimated figure of sales loss (actual sales loss) the enterprises will experience from a price increase. Then by looking into the documents on the profit margin of two enterprises, the critical loss is calculated. The appropriate delimitation of relevant market is decided based on the comparison of sales loss and critical loss.

9. The most important factor in employing the above measure is the definition of variable cost when it comes to calculating the range of price increase and profits ($= \frac{\text{Turnover} - \text{Variable cost}}{\text{Turnover}}$). Variable cost is calculated by subtracting fixed cost from total cost¹.

10. Setting the range of price increase used to perform the SSNIP test also brought controversy. If a high price increase is set, it will generate a substantial substitution, widening the relevant market and in the opposite case, it will generate little substitution, narrowing the relevant market. The international guidelines find 5-10% price increase to be appropriate. However, the guidelines recognize that a SSNIP in response to the range of price changes occurring when competition is practically restricted may differ depending on the characteristics of relevant industry and the combining enterprises' status in the industry.

11. At the time of review, the responsible High Court agreed to the KFTC. Considering the royalty of consumers in Busan and Gyeongsangnam-do to Muhak and Daesun Distilling's soju brands, the Court decided that the appropriate range of price increase for market delimitation to be 10-30%. The KFTC found the estimates for the extent of customer switching if the price was to increase which is directly related to the estimated actual sales loss. The most accurate method for it would be calculating the demand function derived from actual sales data of the market and then finding out the price elasticity with it. However, due to the difficulty of securing such data, the KFTC interviewed the customers of two regions to measure an estimate for the extent of consumer switching.

¹ For the accurate estimation of profit margin, the variable cost is calculated by deducting fixed costs out of the cost of goods sold, selling and administrative expenses and subtracting the outcome from the sales. In other words, the cost of goods sold, selling and administrative expenses are categorized into two parts: fixed costs and variable costs. Only variable costs are subtracted from the sales. Rental fees, depreciation costs, amortization expenses on intangible assets, taxes and public charges, insurance premium and dues are some of the variable costs.

12. In order to evaluate the soju consumer's intent to switch to alternative brands, each consumer's level of alcohol consumption should be taken into consideration. The switching of a consumer who drinks more than eight bottles of soju a day has more impact than that of a consumer who drinks less than a bottle and therefore, when calculating actual sales loss, consumer's level of alcohol consumption should be taken into account. To differentiate consumers with different consumption levels, when a consumer drinks a "bottle or less" a day, the subject is given a weighting of one, when a consumer drinks "two to four bottles" a day, the subject is given the weightings of three, when a consumer drinks "five to seven" bottles a day, the subject is given the weightings of six and when a consumer drinks "more than eight bottles" a day, the subject is given the weightings of nine. The following table shows the estimate of actual sales loss.

Table 1. Estimate of actual sales loss with a 10% price increase

| The Level of Alcohol Consumption | Number of Respondents | Number of Weighted Respondents | Number of Switching Respondents | Number of Weighted Switching Respondents | Switching Rate for Weighted Purchase |
|----------------------------------|-----------------------|--------------------------------|---------------------------------|--|--------------------------------------|
| Less than a bottle | 311 | 311(311 X 1) | 81 | 81(81 X 1) | 26.0% |
| 2 – 4 bottles | 209 | 627(209 X 3) | 44 | 132(44 X 3) | 21.1% |
| 5 – 7 bottles | 121 | 726(121 X 6) | 26 | 156(26 X 6) | 21.5% |
| More than 8 bottles | 304 | 2736(303 X 9) | 56 | 504(56 X 9) | 18.5% |
| Total | 945 | 4,400 | 207 | 875 | 19.9% |

13. If the price goes up by 10% and individuals' alcohol consumption level is reflected, the actual sales loss will be 19.9%. The KFTC employed the above measure and found the actual sales loss and critical loss depending on the level of price increase and whether the price increase will widen the relevant market or not. The results are listed in the following table.

Table 2. Level of critical and actual sales losses depending on the range of price increase

| Price Increase | 10% | 15% | 30% |
|---------------------------|---|---|---|
| Critical Loss | 23.9% | 32.0% | 48.5% |
| Actual Sales Loss | 19.9% | 23.2% | 34.5% |
| Relevant Market Expansion | Busan and Gyeongsangnam-do Delimited to a single Market | Busan and Gyeongsangnam-do Delimited to a single Market | Busan and Gyeongsangnam-do Delimited to a single Market |

14. Even with 10-30% of high price increases, the actual sales loss was smaller than the critical loss. Such outcome indicates that the consumers of the two regions did not switch to other regional soju brands even with the drastic increase in the soju prices and as a result, Busan and Gyeongsangnam-do can be delimited to a single regional market.

15. As the two regions were delimited to a single market, combining enterprises' share in the relevant market is calculated to be higher than 80% and the Court recognized that the combination will cause a severe restriction of competition.

2.1.4 Outcome

16. The KFTC systematically analyzed the consumption pattern of the two regions' consumers when delimiting the regional markets concerned to the combination of enterprises case and faithfully carried out the SSNIP test and its principles to draw the conclusion. The KFTC's methodology used for the market delimitation has contributed in making its decision more trustworthy.

2.2 Combination of E-land and Carrefour (2006)

2.2.1 Background of the case

17. E-land signed a stock purchase agreement to acquire 50% shares of Carrefour Korea stock, a foreign hypermarket chain and notified the deal to the KFTC. Both E-land and Carrefour Korea operated their businesses in the domestic market for hypermarket. E-land was the fifth largest player in the industry with the market share of 6.4% and Carrefour Korea was the fourth largest player with the market share of 10.4%.

2.2.2 Controversies involving the market delimitation of case

18. The relevant market for the case is delimited to the market of hypermarket business out of all retail businesses. A hypermarket has distinctive features compared to other retail businesses as it refers to a store with a sales floor larger than 3,000 m² that carries and offers a wide range of products including full groceries lines and general merchandise at low prices.

19. The geographic market delimitation was the main issue of the case. The examinees argued that while it is true that typically franchise stores of a hypermarket operate in different regions, important operational decisions including price policy, opening hours, product composition and store design are made at the central headquarter and a hypermarket competes against other operators on a national level. Therefore, the examinees claimed that the relevant market should be delimited to the whole nation.

20. On this matter, the KFTC decided that as the two enterprises sell products closely related to customers' lives, customer welfare should be considered instead of the competition dynamics of the enterprises when delimiting the relevant market. With such decision, the KFTC needed to find out the customer visiting pattern of hypermarket in a geographical perspective.

2.2.3 Geographic market delimitation methods

21. The KFTC looked into the customer base of each hypermarket in major cities and found that 70-90% of all customers resided within a 5km to 10km radius of the market. (Table 3)

Table 3. Cumulative distribution of hypermarket customers

(Unit: %)

| Area | 2km | 3km | 5km | 7km | 10km |
|--------|------|------|------|------|------|
| City A | 50.9 | 64.0 | 81.6 | 82.5 | 86.3 |
| City B | 81.6 | 83.1 | 86.1 | 90.0 | 91.8 |
| City C | 33.3 | 44.8 | 56.9 | 74.1 | 81.8 |
| City D | 25.4 | 33.6 | 44.8 | 58.8 | 70.1 |
| City E | 21.4 | 30.5 | 53.7 | 58.7 | 65.6 |

22. In a survey, customers were asked what are the factors that affect their hypermarket choice. According to the survey, accessibility and price level were the most important factors. (Table 4)

Table 4. Factors affecting customers' hypermarket choice

(Unit: person)

| Number of Survey Conducted | Accessibility | Distance | Price Level | Product Quality | Store Design |
|-----------------------------------|----------------------|-----------------|--------------------|------------------------|---------------------|
| 1 | 62 | 60 | 67 | 51 | 41 |
| 2 | 63 | 63 | 66 | 53 | 40 |

23. As shown above, accessibility and distance are the most important factors when customers choose a hypermarket. Based on the result, the KFTC delimited the geographic market of the hypermarket to a 5km radius of each market.

2.2.4 Evaluation of competition restrictiveness depending on the geographic market delimitation

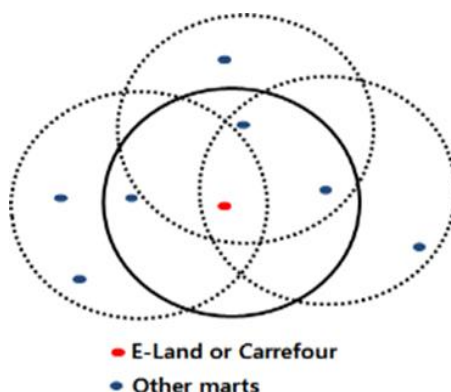
24. At the time of combination of enterprises, E-land and Carrefour Korea respectively operated 19 and 31 franchise stores nationwide. The KFTC reviewed regional locations of the franchise stores and specified regions (cities) whose competition would be restricted if the combination was to take place. Two conditions were applied to figure out such regions.

25. First, the franchise stores of E-land and those of Carrefour Korea should be less than 5km apart. The decision was made based on the geographic market delimitation which is a 5km radius of each market. In other words, if a region has one of each franchise store and they are more than 5km apart, the combination of the two hypermarket brands will not affect the competition in the region.

26. Second, even when the first condition is met, if the combined market share of two hypermarket brands in a region is less than 30%, the KFTC decided that the competition in the region will not be restricted. By applying two conditions, three cities whose competition could be restricted after the combination were selected.

27. The next step is delimiting the geographic market that covers all franchise stores of E-land and Carrefour Korea in those three cities. First, determine the boundary of other rival franchisers in each city to find out the regional market boundary. Then find an estimated market share of the combining enterprises and evaluate whether the combination will restrict competition or not based on the estimate. The method of union of nested circles is used to determine the boundary of regional market. As shown in the below picture, rival franchisers located within a 5km radius of E-land or Carrefour Korea become the first line of competing franchisers and rival franchisers located within a 5km radius of those franchisers become the second line of competing franchisers. With the process, all franchisers which are expected to compete against the combining enterprises are selected.

Figure 1. Selecting competing regional franchisers by using the method of union of nested circles



28. The franchisers in the solid circle are the first line of competing franchisers and the franchisers in the dotted circles are the second line of competing franchisers

29. Then, predict the possible change in the market share of the combining enterprises in the three cities' specified competition regional boundaries (franchisers selected through the method of union of nested circles) and evaluate whether the combination will restrict competition or not based on the prediction. Table 5 shows the possible changes in market share of two enterprises and changes in Herfindahl-Hirschman Index (HHI) of the relevant regional markets.

Table 5. Changes in post-combination market share and HHI in three cities

| | Market share (%) | | | HHI | | |
|--------|----------------------|------------------|--------|----------------------|------------------|-------------|
| | Prior to Combination | Post-combination | CR3 | Prior to Combination | Post-combination | HHI Changes |
| City A | 35.6 | 42.3 | 93.2% | 2,973 | 3,450 | 477 |
| City B | 19.8 | 32.3 | 77.4% | 2,038 | 2,533 | 495 |
| City C | 11.4 | 36.6 | 100.0% | 2,813 | 3,388 | 574 |

30. The above table shows that CR3 and HHI will change significantly when the combination takes place. Based on the result, the KFTC decided that the combination of the two enterprises is likely to cause competition restriction.

31. To further evaluate the possibility of competition restriction, the KFTC also calculated the possibility of product price increase if the combination was to take place. The implemented method is the same one used in the combination of Staples and Office Depot, both office supply chains. The method used (also referred to as the natural experiment) evaluates the possibility of product price increase a combination of enterprises can cause, considering regional competition dynamics instead of conducting a typical combination simulation.

32. The purpose of the analysis is to statistically figure out if an acquiring enterprise ever raised or dropped its product prices reflecting an increase or decrease in the number of regional rival franchisers. When E-land, the acquiring enterprise, is combined with Carrefour Korea, this will reduce the number of competing franchiser. The data on its past price policy tells the KFTC whether its post-combination prices will increase or not. The analysis showed whether E-land raised or lowered its product prices when a franchise store of Carrefour Korea opened or closed its business within a 5km radius of E-land franchise stores.

33. According to the analysis, E-land increased its product prices by 4.2% when a competing Carrefour franchise store located within a 5km radius closed its business and the finding had a meaningful

impact on the outcome of statistics. The result indicates that if the combination of E-land and Carrefour Korea is consummated, it will have the same effect as the cessation of Carrefour Korea and it is highly likely for E-land to attempt price increase in the three cities.

2.2.5 *Outcome*

34. After evaluating changes in the post-combination market share and HHI, the KFTC concluded that the competition restriction is likely to occur if the combination takes place. The result of the natural experiment also indicated that E-land could increase its product prices in the three cities after concluding the combination.

35. Based on the discoveries made, the KFTC approved the combination on the condition that the enterprise sells one of E-land or Carrefour Korea franchise store in the three cities.

2.3 *Combination of SK Telecom and CJ HelloVision (2016)*

2.3.1 *Background of the case*

36. SKT is the largest mobile communications enterprise in Korea and provides high-speed Internet and IPTV services. CJH is the country's leading cable TV operator and it holds the second largest market share in pay TV market.

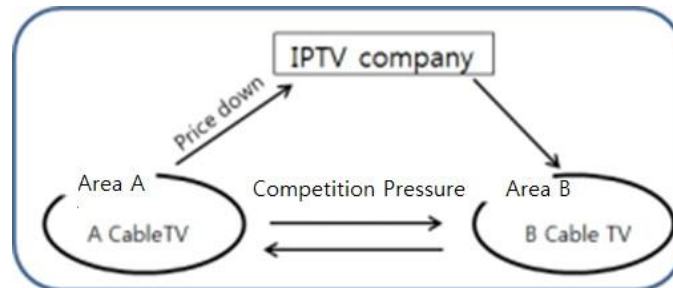
37. SKT acquired CJH stocks by buying its shares and it notified KFTC of the combination deal in 2015.

2.3.2 *Controversies involving the geographic market delimitation of case*

38. The main issue was whether to widen the geographic market of the case to a national level or to delimit it to the broadcasting regions of CJH. IPTV service providers including SKT own nationwide service networks while cable TV service providers such as CJH operate only within designated broadcasting regions.

39. The KFTC decided that the geographic market of the combination is delimited to CJH's broadcasting regions. The decision reflected Korea Communications Commission's analysis on market delimitation outlined in the [2015 Communications Market Competition Assessment]. The KFTC also took into consideration that the combination will affect competition only in CJH's broadcasting regions as other cable TV operators will continue to compete and the level of competition in other regions will be left unchanged.

40. However, SKT argued that while cable TV operators offer services in their separate broadcasting regions, they compete at the national level as their competition dynamics is linked to IPTV operators that offer services nationwide. In other words, if Cable TV Service Provider 'A' attempts to lower prices in Broadcasting Region A, an IPTV operator that is in competition with Provider A will lower its prices, which in turn may pressure Cable TV Service Provider 'B' operating in Broadcasting Region B to lower its prices.

Figure 2. Downward price pressure

41. The argument suggests that cable TV service providers operating in separate broadcasting regions can compete against cable TV service operators in different broadcasting regions as they are all affected by IPTV service providers that operate on the basis of a nationwide uniform pricing system. The examinee claimed that the chain of substitutability can be applied to the pricing of relevant enterprises, suggesting that cable TV operators in the respective coverage areas can indirectly compete against each other as IPTV operators serve as an intermediary.

2.3.3 Outcome

42. Important and distinctive features of the case made it a very contentious combination case and the geographic market delimitation of it was one of important issues. The KFTC looked into many factors including the result of survey and supply-side substitutability. In addition, decisions on the past cases related to cable broadcasting were examined. Based on the findings, the KFTC decided to delimit the geographic market of the case to the broadcasting regions of CJH.

43. The examinee's argument that the geographic market of the case should be entire Korea as applying the chain of substitutability theory to the case seemed reasonable. However, due to lack of data and domestic and international cases that applied such theory, the claim was not reflected in the final decision of KFTC.

3. Conclusion

44. The KFTC has been working to make objective and fair decisions on competition cases by looking into scientific data, taking in various opinions and reviewing the case results of experienced competition authorities. The cases introduced in the report shows the commitment of the KFTC for objective and fair decision making. The KFTC plans to utilize effective methods for the promotion of fair competition order by studying international cases and conducting own research.