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ECONOMIC ANALYSIS AND EVIDENCE IN ABUSE CASES – Contribution from Korea

- Session II -

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This contribution is submitted by Korea under Session II of the Global Forum on Competition to be held on 6-8 December 2021.

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

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Economic analysis and evidence in abuse cases

Economic analysis in margin squeeze cases

– Contribution from Korea –

1. Introduction

1. In February 2015, the Korea Fair Trade Commission (KFTC) imposed an administrative fine of KRW 6.5 billion and remedies on mobile carriers for damaging competition by squeezing profits of its rivals in the market for business text messaging services. This is the first margin squeeze case sanctioned by the KFTC. In this case, mobile carriers excluded downstream market competitors by setting lower retail prices for business messaging services compared to wholesale prices which they offered their competitors. Business messaging services refer to services that send bulk messages to customers on behalf of businesses such as credit card companies, banks, shopping malls, and hospitals.

2. This case is meaningful in that not only is this the first margin squeeze case sanctioned by the KFTC, but also an economic analysis was conducted to examine firms' margin squeeze behaviors, and its results were also adopted as evidence. The KFTC's economic analysis had two purposes. The first was to identify which type of abusive practice the mobile carriers committed and verify whether it meets the requirements of the law. The second was to verify whether the purpose and results of the conduct was to exclude competitors.

3. The theory of harm, which was constructed using the market and transaction structure, specified this case as a margin squeeze, and the economic analysis estimated the "normal trading price" to determine whether the pricing scheme fell into a margin squeeze case. Korea's Monopoly Regulation and Fair Trade Act does not specify terms such as margin squeeze or predatory pricing and instead, regulates a behavior for excluding the competitors by stating it as "an act of supplying goods or services at prices below the normal trading price." Thus, in the economic analysis for this case, it was necessary to establish a normal trading price that could be used to analyze margin squeeze behaviors, as distinct from predatory pricing cases. To this end, the KFTC defined normal trading prices as the price level in which effective competition happens, and used the weighted average method to yield it. Then, the KFTC used a method comparing profits to analyze whether mobile carriers' strategies were economically reasonable enough.

4. The results of the economic analysis indicated that mobile carriers' prices, which were below the normal trading price, squeezed competitors' profits , and there was no other purpose than competitor exclusion. Meanwhile, the market share of competitors decreased significantly and thus the competitors were excluded from the market.

5. The following introduces KFTC's economic analysis methods and evidence for this case.

2. Business Messaging Service Market

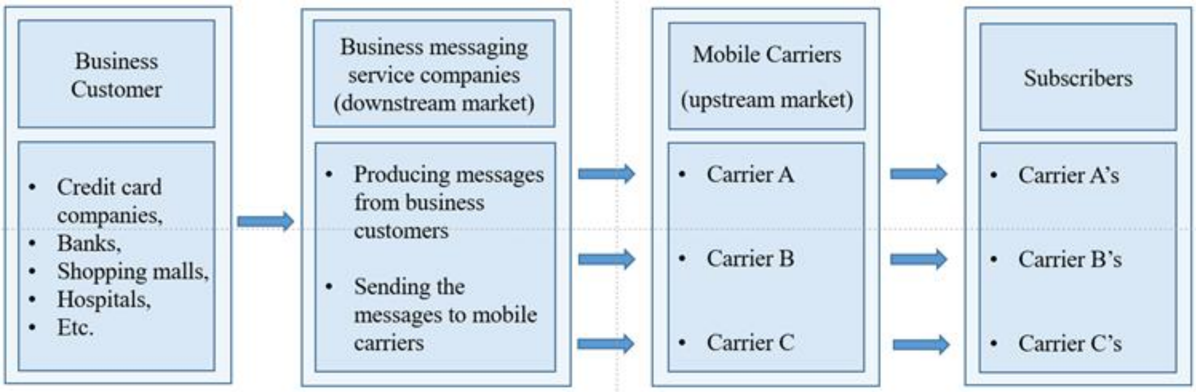
2.1. Market and Transaction Structure

6. The relevant markets for this case are the business text messaging service market (downstream market) and the business text messaging sending market (upstream market) where business text messages are sent to customers.

7. Mobile carriers in the upstream market can only send text messages to their subscribers, so business messaging service companies including the mobile carrier A and B must transact with all mobile carriers in order to send text messages to all subscribers. In other words, even a vertically integrated company that carries out telecommunication businesses must have access to the mobile network of other companies in order to send text messages their subscribers.

8. Summarizing the market and transaction structure explained above is as <Figure 1> below.

Figure 1. Market and transaction structure of business messaging services



Source: KFTC Resolution (No.2015-049, No.2015-050)

2.2. Price Structure of Business Messaging Services

9. The profits of messaging service companies are as follows:

Profits = Price of business messaging service – wholesale prices – other costs

10. The profits of messaging service companies are determined by service fees paid to mobile carriers per text (hereinafter referred to as "wholesale prices") and fees messaging service companies receive from business customers per text. The wholesale price is in the KRW 9-20 range and this decreases as the amount of delivered messaging services increases (refer to <Table 1>). Mobile carriers set the minimum wholesale price at KRW 9-10 if the amount of delivered text messages exceeds each mobile carrier's pre-determined criterion.

Table 1. Wholesale prices according to delivered text messages

1. Mobile carrier A

<100 thousand	<1 million	<2 million	<3 million	<7 million	<15 million	<20 million	20 million<
KRW 20	KRW 18	KRW 15	KRW 14	KRW 13	KRW 11	KRW 10	KRW 9

2. Mobile carrier B

<50 thousand	<100 thousand	<300 thousand	<700 thousand	<1 million	1 million<
KRW 20	KRW 18	KRW 16	KRW 14	KRW 12	KRW 10

3. Mobile carrier C

<100 thousand	<1 million	<3 million	<10 million	<20 million	<30 million	30 million<
KRW 20	KRW 18	KRW 15	KRW 13	KRW 11	KRW 10	KRW 9

Source: Written resolution of the KFTC (No.2015-049, No.2015-050)

11. To lower the wholesale prices which business messaging service companies face, they have an incentive to secure as much demand for messaging services as possible. If they do not secure enough demand, their profits are reduced since they are in the higher wholesale price bracket.

3. Economic Analysis for the Case

3.1. Findings

12. Mobile carrier A and B set a lower retail price for business messaging services compared to the wholesale price which they offered to their competitors.

3.2. Economic Analysis

13. The economic analysis conducted by the KFTC have two purposes. The first is to determine which type of abusive practice the mobile carriers committed and verify whether it meets the requirements of the law. The second is to verify whether the purpose and results of the conduct was to exclude competitors.

14. First, the KFTC used the following equation in order to find the normal trading price that is in accordance with the Monopoly Regulation and Fair Trade Act.

$$\text{minimum price of business messaging service} = \sum_{i=1}^{n}(MS_i \times W_{min,i}) \qquad (1)$$

15. In Equation (1), the 'minimum price of business messaging service' on the left-hand side indicates the minimum price downstream competitors may face. On the right-hand side, MS_i represents the market share of carrier *i* based on the number of subscribers, while $W_{min,i}$ represents the minimum wholesale price supplied by carrier *i*. When estimating the normal trading price, the KFTC considered MS_i because business messaging service companies must transact with all mobile carriers.

16. The minimum price of business messaging services derived from Equation (1) refers to the minimum price that can be set by the most competitive messaging company among those that do not possess their own telecommunication network. Since the normal trading price would compose of the minimum price of business messaging service plus additional costs and the appropriate margin, there wouldn't be any messaging company that can offer at a price lower than the minimum price.

17. The cost was the wholesale price that the carriers of abusing behaviors offered to downstream competitors. This implies that the normal trading price was composed based on cost of competitors, and not the cost of abusive carriers. In a predatory pricing case, the analysis is conducted through comparison with its own cost, but this case is called a margin squeeze case. The KFTC composed a new standard that can be applied to downstream-only companies.

18. Next, the KFTC constructed the following equation to analyze whether service prices set by mobile carriers were reasonable enough.

$$\text{Carrier's Downstream profits} = \text{Base price} - \underbrace{\textstyle\sum_{j \neq i}^{n}(MS_j \times W_{min,j})}_{wholesale\ cost} - \text{Variable cost} \qquad (2)$$

$$< MS_i \times W_{min,i} = \text{Carrier's Upstream Profits}$$

19. The wholesale cost in Equation (2) represents the weighted average of wholesale prices, not including the cost imposed on itself. The right-hand side represents the expected profit the company can receive when it only provides messaging sending services in the upstream market. If mobile carriers do not participate in the downstream market, they can only receive wholesale profits for text messages they send to their own subscribers.

20. If Equation (2) holds, that is, if the expected upstream profit is higher than the downstream profit, setting prices below the normal trading price in the downstream market is not reasonable. In other words, it implies that the mobile carrier will give up the upstream profits which is more profitable rather than the downstream profits, so it would be difficult to think of other purposes besides competitor exclusion.

3.3. Assessment for Economic Evidence

21. The minimum wholesale price is set at KRW 9-10 and the market share of mobile carriers based on the number of subscribers has remained stable at a ratio of 5:3:2 for a considerable period of time. Using this market information and Equation (1), the normal trading price is estimated as KRW 9.2.

Table 2. Estimated minimum wholesale price per text message

KRW 9.2 per text message $= W_{min,1} \times 50\% + W_{min,2} \times 30\% + W_{min,3} \times 20\%$

22. If mobile carriers A and B set messaging service prices below KRW 9.2, messaging service companies that do not own telecommunication network cannot survive in this market. This is because no matter how efficient a company is, it cannot set prices for messaging services below KRW 9.2 without facing any loss. Also, if mobile carriers secure the demand that can reach the minimum wholesale prices due to the low retail price strategy, wholesale prices of competitors will rise, making it more difficult to compete effectively. The KFTC's

investigation showed that business messaging services that were lower than KRW 9.2 accounted for 47% to 51% of messaging services offered by carrier A and B.

23. From market share analysis, the KFTC confirmed that competitors were excluded from the market as mobile carriers sold business messaging services at a low price. Following such abusive conduct, the market share of mobile carrier A increased from 14.1% to 24.8%, while the market share of carrier B increased from 29.6% to 44.4%. Meanwhile, the aggregate market share of business messaging service companies that did not operate telecommunication businesses decreased from 56.4% to 30.8% and 2 out of 11 companies exited from the market.

24. Next, the analysis results of Equation (2) indicate that the purpose of mobile carriers A and B which set prices below KRW 9.2 is to exclude downstream competitors. According to <Table 3>, if mobile carriers A and B do not enter the downstream market, their expected upstream profits are KRW 2.0-2.7, and if they enter the downstream market, their downstream expected profits are KRW 1.4-1.66 at most.

Table 3. Comparison of expected profits depending on market participation

Mobile carrier	Participation in the downstream market			Nonparticipation in the downstream market
	Price(i)	Cost (ii)	Profit (i-ii)	Profit
A	Less than KRW 9.2	KRW 7.8= KRW 6.5 (wholesale price)+ KRW 1.3 (variable cost)	Less than KRW 1.4	KRW 2.7
B	Less than KRW 9.2	KRW 7.54= KRW 7.2 (wholesale price)+ KRW 0.34 (variable cost)	Less than KRW 1.66	KRW 2.0

Note: When calculating wholesale prices of each company, wholesale prices provided by the company itself are not included.

25. If mobile carriers A and B had no intention of excluding competitors, it is reasonable for them to refrain from participating in the downstream market. Thus, setting business messaging service prices below the minimum wholesale price can be regarded as a margin squeeze intended to exclude downstream competitors.

4. Conclusion

26. This business messaging service case is significantly meaningful in that it was the first margin squeeze case in Korea and economic analysis played an important role. The Supreme Court also recently issued a judgement on June 30th, 2021 which supported economic analysis results and showed some possibility of using economic analysis as evidence when assessing illegality. KFTC's economic analysis for this case was acknowledged by the Supreme Court as it properly reflected the market and transaction structure.

27. This case was a margin squeeze case distinct from discriminatory treatment or predatory pricing cases, and the theory of harm was constructed in a way that fell into a margin squeeze case. The economic analysis contributed to constructing the 'proper' normal trading price which serves as a criterion for comparison in a margin squeeze case and to understand the purpose of the abusive conduct. If a similar margin squeeze case occurs again in the future, economic analysis will help clarify the effects of the abusive conduct and diagnose the purpose of companies for committing such anticompetitive behavior.