Ex-Post Evaluation of Business Combination - Application of Economic Analysis to Competition Policy

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(Summary)

When a company merges with another company in the same industry, such merger objectives are often cited as improved profitability, higher valuation in the capital market, competitive advantages in technology, quality and cost, and better services to their customers. In this study, we conducted empirical examination for merger transactions since fiscal year of 2000 based on data on profit margins, share prices, R&D expenditures, the number of public patents, and retail prices of products so as to verify the success of these objectives in previous merger transactions.

We studied mergers between regional banks to evaluate if there had been any improvement in their profitability through the merger, and estimated the impact on the operational result. As for the analytical method used to assess a change in operation results of ex-post merger, we chose as a comparison an unmerged banks which had similar financial characteristics to the merged bank, and compared the two by examining following financial indicators; recurring profit margin to shareholders' equity (recurring profits ÷ net assets × 100), capital turnover (recurring revenue ÷ net asset × 100), bad loan ratio (risk management liability on bank regulation criteria ÷ net asset × 100) and labour productivity (recurring profit ÷ the number of employees). The analysis showed that profitability hasn't improved in the first four years of the merger with the recurring profit margin to shareholders' equity deteriorating more often than not. However, if you extend the term of analysis to the fifth year, there are more cases of improved profitability than not. While it is an even score for the capital turnover ratio with the same number of cases sited both for improvement and deterioration, more instances of deterioration were confirmed as regards to the bad debt ratio and labour productivity even if study term was extended to five years. In general, operational results deteriorated at more banks after the merger.

Next, we scrutinised how the capital market valued the merger, namely, what sort of influence the merger announcement had on the share price, using an event analysis method. In the equity market, a share price should be determined on long-term profitability of a company as investors are supposed to invest in shares based on the company's long-term profit forecast. If the merger is predicted to improve the efficiency of the company and lead to higher long term profitability, the announcement of a merger should increase the share price, realising a higher price-earnings rate (hereinafter referred to as "excess return" rate) than the expected price-earnings rate without a merger. In this research, based on 15 cases, we investigated whether an excess return rate was achieved between the date of merger announcement (event date) and 30 days after the announcement, using accumulated share prices (hereinafter referred to as "accumulated excess return rate"). Our investigation indicated that, even though the accumulated excess return rate was positive in

11 cases out of 15 cases soon after the announcement of the merger, the equity market didn't view favourably the mergers in most cases by at least one week after the merger announcement with only six instances achieving a positive accumulated excess return at that point.

With respect to the implication of the merger on the R&D, while on one hand there is the *'quiet life hypothesis'* whereby the more monopolistic the enterprise is the less they spend on R&D, on the other hand there is Schumpeterian Hypothesis claiming that the more monopolistic the enterprise is the more they spend on R&D. According to empirical studies in the past, relatively more studies indicate a merger tends to have a negative implication for R&D activities. Our research analysed the effect on R&D of mergers from both aspects of input and output in 39 cases of mergers of manufacturing companies by comparing the R&D intensity (R&D expenditure ÷ sales × 100) before the merger with that of post merger as an input of R&D activities as well as the number of public patents before the merger with that of post merger as an output of R&D activities. The result showed that R&D intensity after the merger increased in less than half cases. However, confined only to R&D intensive enterprises (those with 3% R&D intensity on an average over five years post merger), more than half showed an increase. Meanwhile, with respect to the number of public patents granted after the merger, patent application increased only in about 30% of the cases even with the R&D intensive enterprises alone less than half. Consequently, our analysis revealed that mergers do not always promote R&D activities. We also identified that, even though R&D expenditure increased in many cases, their efforts were not necessarily reflected in the number of the public patent as far as R&D intensive companies like pharmaceuticals and machineries are concerned.

Further, we investigated the retail price movements after mergers compared to those before mergers in cases of household flavour seasoning, sugar and instant noodles in order to assess implications of mergers on consumer benefit. According to our research, the average prices in the market rose in two items exclusive of instant noodles after the merger and the retail product prices of the merged entities rose more than the market average prices in all three items. Separately, both sales and market shares of the merged entities in the case of household flavour seasoning market and sugar market were lower than the simple sum of those of the relevant companies prior to the merger. Meanwhile, sales of the merged entity were higher in the instant noodles market, but their market share hasn't change that much. In light of our research results, for the post merger companies studied in the household flavour seasoning and sugar markets, the customer taking effect disappeared between the relevant companies, and a situation of decreased sales and market share emerged for these merged companies. This suggests the possibility that the merger and resultant pricing decision do not necessarily produce higher profitability (it could even reduce it) unless certain efficiency gains are obtained after the merger. Our research indeed signalled that so-called merger paradox[1] actually happened in the markets for household flavour seasoning and sugar.

We summarised our empirical research as follows. According to the samples studied in our research, the merger, on an average a merger did not improve efficiency sufficiently to

[1] Merger Paradox: Profitability and market share of the merged company decrease compared to those prior to the merger while profitability and market share of their competitors improve.

improve profitability and was not positively valued by the capital market; nor did it promote R&D activities. With respect to the retail prices, prices for goods rose after a merger. Having said that, however, some reservations should be kept regarding these research outcomes as to the following points: 1) our research focused on the impacts of mergers in three-to-five year timeframe, which may not be long enough for the efficiency gains of the merger to appear fully, and 2) the merger cases of our research samples were not carried out purely on economic rational as they contained some rescue-oriented mergers.

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