CPRC

History of 10 years and Future Research Projects

Competition Policy Research Center

Japan Fair Trade Commission

10th Anniversary

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Three-party Collaboration among Practitioners, Legal Scholars, and Economists at the Competition Policy Research Center (CPRC)

Yosuke Okada (Director of CPRC • Professor, Graduate School of Economics, Hitotsubashi University)

CPRC celebrated the 10th anniversary of its inauguration in July 2013. Under the strong leadership of the former directors of Professor Kotaro Suzumura and Professor Hiroyuki Odagiri, we have achieved many research projects which are based on the "three-party collaboration" between JFTC staff, legal scholars, and economists. This principle facilitates three goals of CPRC; to strengthen theoretical basis of the JFTC by having its staff participate in collaborative research; to offer academia opportunities to sharpen their conception and way of thinking regarding the enforcement of anti-monopoly law; and to maintain a platform deepening mutual understanding between jurisprudence and economics both of which are important bases for competition policy. Based on the principle of this three-party collaboration, we conducted a number of joint research projects, as well as workshops, BBLs, open seminars, and international symposia.

Over the past ten years, the Japanese economy has experienced successive structural changes through globalization, the rise of emerging economies, rapid change of information technology, and increased disputes of intellectual properties, to name a few. You can see our research projects clearly reflecting these structural transformations which have increasingly complicated law enforcement in the global marketplace. For example, rapidly growing state-owned enterprises in emerging economies constitute a mounting threat to competition authorities in the advanced economies; with the nationality and location of business blurred more than ever in the digital economy, relevant administrative agencies as well as courts have to handle jurisdictional disputes and territoriality of multinationals.

Under these changing circumstances, it is a painstaking and sober job to extract lessons and best practices out of accumulated court and tribunal decisions. However, from the viewpoint of not only law enforcement but also from the standpoint of business, competition policy should be more and more rational and transparent.

While we acknowledge an extensive amount of legal studies on the Japanese competition policy, what is the gist of research that incorporates economics at the CPRC? What is the reason for setting up an independent research site within the JFTC while keeping a certain distance from law enforcement (in reality difficulty lies in how to measure that appropriate distance)? I believe there are three rationales as follows.

First, economic analyses clarify the universality and idiosyncrasy of the Japanese competition policy; economics offers almost universal analytical tools, which may be one of the main reasons why competition authorities are increasingly putting more weight on economic analyses. Reviewing the Japanese competition policy from an economist's viewpoint would highlight differences and similarities with world practices more strikingly, and facilitate to identify best practices from the global perspectives more easily.

Second, our research will contribute to practitioners by reinterpreting and clarifying

legal judgements and formulating reasonable code of conducts and guidelines for business. Especially, it is important to scrutinize the validity of empirical evidences that are premises of legal judgements. This research field has not yet to be examined fully in the legal studies of judicial precedents. Although we believe that the JFTC has made their judgements by examining empirical evidences in detail, we cannot quite distinguish important evidences from those that are not from outside the administrative court; although economics is an effective tool to assess the validity of empirical evidences and to confirm the causal links between them, there have been few empirical economic studies of individual judicial cases so far.

Third, CPRC is to provide a platform for the fruitful three-party collaboration; JFTC staff, legal scholars, and economists can meet and exchange opinions freely on a routine basis. Understanding between people from different disciplines is generally very difficult, but the CPRC's continued effort over the past ten years definitely removed the "psychological barriers" among the three parties, at the very least. Frankly speaking, in the competition policy arena ten years ago, there was still an atmosphere in which economists were viewed as aliens who talked unpractical nonsense while dishing out abstract maths and statistics profusely. Thankfully, I have hardly experienced such a reaction these days at conferences and seminars on competition law and policy; of course it is quite possible that I have felt that way as most of people I meet have a certain selection bias. Thus I recognize even more strongly that it is the main mission of the CPRC to enlarge the three-party collaboration and deepen mutual understanding each other.

Finally, let me take this opportunity to express my sincere appreciation to those who have supported the CPRC till now and ask your further assistance for our three-way partnership to achieve even better outcomes in future.

Business Combination (Future Research Projects)

Hiroshi Ohashi（CPRC Chief Researcher • Professor, Graduate School of Economics, University of Tokyo）

（English translation by CPRC Secretariat）
Regarding business combination, there are so called “loose combination” and “tight combination”. The former type of combination is made by contracts and/or agreements between companies and may cause private monopolisation, unreasonable restraint of trade or unfair trade practices. The latter type of combination requires not only instruments such as contracts but also a change in ownership of firms. For example, a combination through share ownership, while maintaining the form as an independent enterprise, could act as a single economic entity integrating multiple enterprises if the combination is sufficiently substantial. Thus, broad concept of business combination includes loose combination. In contrast to other regulations under the Antimonopoly Act, ex-ante regulations are applied to a business combination by way of notification system. This is because of the irreversible nature of the business combination, especially in the case of a “tight combination”. While regulations in relation to business combinations are roughly divided into two categories, regulations on market concentrations and those on ordinary concentrations, normally it means the former one which prevents a substantial restraint of competition caused by business combination in a specific market.

A variety of discussions have been held from the viewpoints of jurisprudence, economics and practitioners with regard to the regulations on business combinations, coupled with repeated amendments to the guidelines for business combination (“Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination”). Because of limited available space, here I would like to focus on the viewpoint of economics and present my personal opinion on the future research projects to be taken up at the CPRC.

In economics, business combinations are generally expected to bring about two contradictory effects on the national economy. One is to improve efficiency. This is to provide consumers products with better quality at lower prices, achieved in a form of productivity improvements in areas such as production, sales and distribution through the economies of scale and the synergy effects among various business divisions as a result of the business combination. This “efficiency improvement effect” is not necessarily a short-term effect. A combination of business partners, for example, will be able to generate further efficiencies in transactions by bringing about relationship-specific investment which leads to further efficiency gains, and this type of effects will be realised after a certain amount of time.

On the other hand, there is a concern for reduced competition among companies because the combination will decrease the number of companies in the market. This “anticompetitive effect” is roughly considered to occur in two forms: enterprises operating alone or enterprises working in cooperation or conspiracy. Each case can reduce social welfare in that consumers are forced to accept higher prices or lower quality as a result of reduced market competition. While horizontal

business combinations are particularly common problems under the Anti-Monopoly Ac because they directly reduce competitions in the marketplace, vertical business combinations also could adversely affect market competition at least in theory. Under certain assumptions, for example, vertical business combinations can damage economic welfare by forcing competitors cost increase when sufficiently high barriers to entry exist.

Based on the assumption that businesses maximise its profits, it is natural conclusion from an assumption of economic rationality that a business combination should increase its profits at least on average compared to the case where businesses do not combine. Therefore, business combinations, which should be closely examined under a review system of business combinations, are those which would reduce economic welfare while being profitable. Naturally, it is a very contentious point as to what sort of economic welfare competition authorities responsible for business combinations should adopt as an objective function. Although maximising social welfare, which is the sum of the consumer welfare and producer welfare, is used as an objective function generally in economics, maximising consumer welfare is often deemed to be the most appropriate measure in real practice. Given the fact that some of the business combinations with efficiency gains could reduce consumer welfare in spite of increasing social welfare, there is much point in debating properly what the appropriate object function is in the review of business combinations (and competition policy in broader terms).

The Antimonopoly Act prohibits a business combination which “may be substantially to restrain competition” in “any particular field of trade”. A practical problem in enforcing this law will be how to define the “particular field of trade” and how to identify when this combination “may be substantially to restrict competition”. For the latter, it is also considered important how to envisage its likelihood because this regulation is ex-ante one. Meanwhile, from the viewpoint of economics, the issue would be whether it is necessary to define the “particular field of trade” in order to evaluate “a substantial restraint of competition”. Works like SSNIP test, which seeks to ascertain whether a particular field of trade for goods and services is the same as other goods and services, means to make a certain threshold for (quality adjusted) cross-price elasticity of demand. The real task in market definition is whether to define or not to define markets if the cross-price elasticity of demand is lower (or higher) than the threshold. However, from the viewpoint of economics, is it required to have certain threshold level in the cross-price elasticity of demand at all when judging whether business combination “may be substantially to restrain competition”? The answer to this question is that there is no such necessity. It is not always necessary to calculate market shares in evaluating a substantial restraint of competition, although the reason for defining markets is to calculate market shares.

In order to use limited resources effectively, it often makes sense to utilise market share as safe harbour standards when selecting business combination transactions to be investigated. However, market share is meaningful till that point, and thus “synthetic judgement” including price is required in considering substantial restraints of competition. In this context, I have an impression that in economics too much focus is put on both

market share and work for the market definition required to calculate market share when assessing regulations for business combination. Further discussion will be required from the viewpoint of the agency with respect to the economic method for analysing the price movements due to business combinations.

In conducting such a study, it is beneficial to find out how much the past cases of business combination affected actual competition in the market. One of the comprehensive studies compiling such quantitative analyses is "*Ex-Post Evaluation of Business Combination – Application of Economic Analysis to Competition Policy*" (CR04-11). This paper analyse the outcomes of business combinations from the four aspects, namely, profit ratio, stock price, R&D and price. As we have not had a myriad of ex-post assessments of the business combinations in Japan, this research paper can be regarded as valuable outcome. Further analysis will be necessary in future to identify efficiency-enhancing effects from anticompetitive effects as a result of a business combination. Also, more cases using quantitative analyses should be accumulated to be employed for the assessment of business combinations by the competition authorities. In academic fields, an advanced method has been applied to the merger simulations to assess possible price movements in terms of efficiency effects as well as anticompetitive effects in a specific case of the business combination. In US and other European countries, it is considered as one of the challenges how to simplify essences of such analytical method to be put into practical use, which is also the case in the future in our country.

Future research agenda in relation to business combinations are numerous from an economics point of view. This paper also discusses the appropriate welfare standard in the review of business combinations. I would like to discuss briefly three other issues as follows. The first one is how to determine the efficiency effect in business combination. While efficiency effect should incorporate so-called innovation effect, it is a variety of discussions over how possible it is to evaluate such an effect that is yet to be materialised. For instance, there is an extreme view that as innovation brings breakthrough or unpredictability to society, it is not regarded as innovation anymore once such a phenomenon can be demonstrated. However, one cannot conclude that there are no efficiency effects because there are not enough analytical tools at present. If the launch of new products or services from innovation becomes important, the way of thinking about efficiency can greatly change the fundamental concept on the review of business combinations as it is not possible to determine future efficiency effects by using existing market share in the first place. The construction of economic theory in this point of view is required.

Secondly, it may also be important to examine the impact of merger remedies as a part of policy assessment regarding the review of business combinations. It will be of great significance to conduct an ex-post examination in order to study concept on more effective remedies, with the basic principle in mind that ex-ante examination of remedies at the time of business combination could often differ from ex-post outcome.

Last one is related to activities to promote greater understanding with regard to substantial restraints of competition. Though there are sufficient theoretical approaches including industrial organisation with regard to

the pricing behaviours of firms, it is still far from a full understanding in practice from the empirical viewpoint. In economics, it is generally accepted that substantial restraints of competition as a result of business combinations should be measured by mark-ups over marginal cost, but these understandings by economists are not adequately communicated to the practitioners. It should be high road to be taken to bridge the gap between the economists' concept of marginal cost including opportunity cost and the practitioners' concept of pricing. CPRC is expected to work on these issues in the future.

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

（CR04-11, released in November, 2011）

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and other Researchers
（titles at the time of paper release）

(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.

[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.

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 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.

(English translation by CPRC Secretariat)

Cartel and Collusion（Future Research Projects）

Kuninobu Takeda（CPRC Chief Researcher, Professor, Graduate School of Law and Politics, Osaka University）

（English translation by CPRC Secretariat）

1) Regulations on hard-core cartel

A hard-core cartel is one with the exclusive purpose for restricting competition among unreasonable restraints of trade which are prohibited by the Anti-Monopoly Act. For instance, hard-core cartels include price cartels, production cartels, market-dividing cartels and bid-rigging. Every competition authority in the world focuses on prosecutions and eradication of hard-core cartels. The JFTC also took 22 legal actions against hard-core cartels in 2011, 12 of which were bid-rigging and five were price cartels. When discussing future development of regulations for hard-core cartels, the Supreme Court ruling on the Tama bid-rigging case, and introduction and enhancement of leniency policy should be referred primarily.

2) Supreme Court ruling on the Tama bid-rigging case

Surprisingly, the issue of regulations on hard-core cartels was an area where collaboration was difficult between jurists and economists. When investigating the unreasonable restraints of trade in the study of Anti-Monopoly Act, attentions are usually paid to formal requirements such as “competitor status”, “mutuality of the restraints”, and “commonality of the restraints”, and textbooks and handbooks on the Anti-Monopoly Act also devotes much space to these formal requirements. However, economists may not be interested in these arguments. Also, it is considered to be similar to the accumulated studies on “goods and services” where a levy is charged.

Such current situation, however, is expected to be changed by the Supreme Court ruling on the Tama bid-rigging case. The Supreme Court ruling on the trial noted that, if an agreement on restricting competition was made, then it restricted the parties’ decision-making, and also “restrict[ed] … their business activities”, and the requirement that “in concert with other entrepreneurs, mutually …”, was fulfilled. This can be taken that if an agreement was reached, the formal requirements on unreasonable restraints of trade stated above was satisfied. The Supreme Court’s decision in the Tama collusion trial is considered to make it easier for economists to understand the issue for the research into the Anti-Monopoly Act.

3) Leniency policy and regulations on non-leniency transactions

The introduction of a leniency policy in 2005 has improved the effectiveness of regulations on hard-core cartels greatly as well as transformed dramatically the policy issues that the JFTC should work on. While the leniency policy enables to obtain direct evidences and to gain the active cooperation from firms, it also highlights the regulatory issues with regard to non-leniency cases where the firms do not provide sufficient information or direct evidences. This instance is related to the issues on proof of the existence of a hard-core cartel based on circumstantial evidences.

An economic approach seems useful in these issues on proof, however, there haven’t been necessarily sufficient works on these issues with the economic point of view. When unreasonable restraints of trade are examined in the study of the Anti-Monopoly Act as well as

in its practice, "tacit collusion" and "conscious parallelism" are distinguished, in which the former is deemed illegal while the latter is not. In contrast, economics do not discriminate between them. Economists view all the behaviours involving pricing over the competitive level as "collusion," such as tacit collusion, conscious parallelism, or even an explicit collusion, and take issue with its incidence. Given this point of view in economics, it is natural that the study of the Anti-Monopoly Act has not necessarily taken into account economic knowledge appropriately.

In the study of Anti-Monopoly Act and its practice, it is "communication of intention that distinguishes 1) tacit collusion from 2) conscious parallelism. While 2) conscious parallelism is defined as that one unilaterally recognises and accepts behaviours of the other party such as price increases, 1) tacit collusion is that one mutually recognises and accepts those. In conscious parallelism, however, a situation related to tacit collusion that one mutually recognise and accepts behaviours such as price increases could be observed. Thus, the definitions above have not clearly determined the difference between tacit collusion and conscious parallelism in practice. The point is to identify a "culpable" behaviour from those that bring in mutual cognition and acceptance. It is no wonder that there has not been a common platform for discussions between economists and jurists of the Anti-Monopoly Act.

Such situation is, however, expected to change. The theme of the 9th CPRC International Symposium was "Economic Studies of Cartels and Bid-Rigging, and he Competition Law". One of the keywords referred to at the symposium was communication. The communication concept may be able to connect discussions between economists and jurists of the Anti-Monopoly Act in terms of their effort to extract "culpable" behaviour from those with mutual recognition and acceptance. In the US and European countries, collaboration between lawyers and economists is being carried out based on the communication concept[1].

4) Design of sanction system

So far, the following points have been put forward: 1. The Supreme Court ruling on the Tama bid-rigging case lowered the barrier for discussion between jurists and economists, 2. the introduction of a leniency policy enhanced regulation of hard-core cartels, and 3. an interface between law and economics is emerging in the communication concept in relation to the regulations on non-leniency transactions. The current regulatory issues on hard-core cartels are the field where one can expect a maximum benefit from the collaboration among lawyers, economists and practitioners.

Regulatory issues on hard-core cartels are not limited to the discussions above. Other measures such as improving the efficiency of leniency policy and enhancing the investigation authority of the JFTC would be beneficial in securing effective regulations on hard-core cartels. It should also be debated if any discretion should be allowed for levies accepted as sanctions. All these issues require a comprehensive approach. The leniency policy is based on the assumption of

[1] It is the attempt to extract "culpable" concerted actions by ascertaining a collusion mechanism focused on communication. For example, how the notice of price increases to the competitor and the subsequent joint price increases are evaluated? Are there any differences between the cases that the notice of price increases is conveyed only to the competitor and that it is made public including consumers? Are there any differences between the cases that the other party commits to the price increase and that it does not commit? The discussion on these issues has already started between lawyers and economists in the US and European countries.

enforcing strict sanctions, which is also likely to have an effect of further increase in solidarity of the hard-core cartels once established. A design of system by the collaboration between economists and lawyers is also expected in this issue.

5) Past research and future projects at the CPRC

The CPRC has executed collaborative research on the regulations on hard-core cartels in the past, as introduced briefly in the following pages. The outcomes are believed to have made a substantial contribution in regulating hard-core cartels practically. For instance, one of the CPRC handbook series, "*Utilisation of Economic Analysis in Cartel Regulation*", enables to identify industries where hard core cartels are prone to materialise, making it easier for the JFTC to allocate the resources for investigation and oversight effectively. In addition, the collaborative research entitled "*Investigation of Target, Material Fact and Circumstance Evidence for Cartel and Bid-rigging*" was a pioneering research as to how to prove a communication of intention based on circumstantial evidences.

As described in the beginning, every competition authority in the world focuses on prosecution and eradication hard-core cartels. A hard-core cartel is one of the most strictly regulated anticompetitive behaviours in the US and European countries. With the emergence of cross-border cartels, regulations on hard-core cartels are also desired to enforced strictly in Japan, similarly to the US and European countries. The CPRC is expected to work on fundamental research for that. Also, it is important issue in the regulation of unreasonable restraints of trade to discuss how to construct an appropriate regulatory framework for concerted actions other than anticompetitive purposes, i.e., non-hard-core cartels. With respect to this issue, the CPRC's work is also expected.

Utilization of Economic Analysis in Cartel Regulation – CPRC Handbook Series No.2 -
(CR 07-11, released in February, 2012)

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(titles at the time of paper release)

(Summary)

The cartels are main topic of enforcement of competition policy in any country naturally regarded as illegal. In Japan, cartels are prohibited on the Anti-Monopoly Act as an unfair trade restraint, and considered most common type of violation. This is because, as economics show, a cartel, not only price cartel but production cartel or market-dividing cartel - causes higher prices by restrict competition and damages economic welfare by reducing production and consumption.

This research, focus on which industry has likelihood of cartel occurring, more specifically the regulation between cartels and each factors on industrial mechanism on a basis theoretical analysis in order to deepen understanding economic way of thinking or economic analytic method for the cartel regulations.

This research picked up cases relating to the manufacturing industry in all the cases prosecuted by the JFTC between 1990 and 2004[1] and analysed the factors to prompt a cartel; demand factor and supply factors, in order to verify the factors on industrial mechanism to prompt or prevent a cartel. This study adopted growth in shipment value and its fluctuation as a demand factor, inventory per plant and an acquisition value of the machines per plant for a barrier to entry as a supply factor, and the Herfindahl-Hirschman Index (HHI, sum of the square values of the companies' market share) or the market concentration rate of the top three companies (CR3) as an indicator of market concentration.

The findings of the empirical study regarding the relationship between the occurrence of cartels and structural factors of the industry are as follows. It was showed that demand factors, both growth in shipment value and its fluctuation, had a statistically significant negative relationship with the establishment of a cartel. On the other hand, it was showed that supply factors, inventory per plant and the acquisition value of machinery per plant, had a statistically significant positive relationship with the establishment of a cartel while, as for market concentration, both HHI and CR3 indicated a negative relationship with the establishment of a cartel though it was insignificant statistically. Comparing these results with the theoretical analysis, they showed similar outcomes except for the growth in shipment value and market concentration, granting support to the theoretical hypothesis. Analysis showed above revealed that a cartel is more likely to be created in the industries

[1] This analysis referred to the methodology of the empirical study of cartel undertaken by the OFT in the UK. Office of Fair Trading (2005) "Predicting Cartels," OFT773.

where market size is decreasing, demand environment is stable with a clear prospect for the future economic environment, and/or have high barriers to entry such as which are demanded a large amount of initial investment.

From the analysis showed above, we have predicted a probability of occurring cartel. According to prediction the seven industries out of top ten of indication have caused actually. On the other hand, there are industries which have caused cartel with low indication. For example each of livestock food product manufacturing industry and manufacturing industry of canned vegetable/fruits and non-perishable farm food products, showed low indications although they have caused cartels. In these industries, it is suggested that some additional factors are worked other than structural factors of the industry, which we applied as explanatory variable.

Finally, it was concluded that the practical application of this study can be utilized for the competition agency to better identify and select the industries in which cartels are functioning. Considering the fact that which industries the agency showed prioritise its resource, it must be an efficient decision to allocate their resources to overseeing the industries which evidently have statistically high incidence factors of cartels.

(English translation by CPRC Secretariat)

Summary and Prospects of Regulations on Unilateral Action

Naoki Okubo（CPRC Chief Researcher・Professor, Faculty of Law, Gakushuin University）

(Summary)

Reviewing on cooperative research projects about the regulations of unilateral action at the Center over the past 10 years, unsurprisingly they have strongly reflected the concerns of the US and European authorities of the past 10 years.

In the past 10 years their concerns in the US and Europe have centred mainly on the two points as below.

The first such concern has been how to deal with the effects arising from deregulation.

As is well known, entry to the public utility industries such as power, electricity, communication and gas which was once monopolised due to various reasons has been deregulated in the US and Europe since 1980's, introducing previously non-existent competition to the sector. The background ideas for such deregulation trend have been that competition is also desirable in some areas of public utility business where there is no need to have monopoly all the way from the upstream to the downstream markets.

However, deregulation of entry to an industry cannot necessarily ensure competitive pressure in the sector as can be seen in the case of such facilities which are very difficult to replicate as the last one mile of the telecommunication industries as well as pipelines in the gas industry. These services are required to be open to all the participants on fair terms to assure competition in both upstream and downstream markets. Consequently, regulations were incorporated in various laws (collectively called public utility law), which oblige the operator of such business services as the last one mile and pipelines to offer competitors these services. The regulations in the public utility law overlap with those of competition law, being created in order to prevent anti-competitive behaviours from taking place. Here, the issue has arisen as to the difference between regulatory criteria in the various public utility laws and that of the relevant competition law, as well as which has the priority in the case where there is an overlap of these two. Two research projects were undertaken to address these issues: Review *"Report regarding Adoption of Competition Law of the European Commission against Abuse of Dominant Position in the Public Utilities Sector"* released in March, 2004, and "*Report regarding Regulations in Foreign Countries on Abuse of Dominant Position in Telecommunications Sector*", released in March 2005.

Frequently sited issues in the newly deregulated markets were predatory pricing and margin squeezes (or price squeeze). Predatory pricing, for fear of distorting a proper competition in the marketplace if regulated by too loose prerequisites, has long been a contentious issue both for lawyers and economists as to what sort of prerequisites are appropriate to be used in its regulation. Further debate has been spurred by the increased incidences of this in the public utility industry. Margin squeeze, though not unprecedented, also attracted attention,

appearing more in between the gaps of new regulations being enacted as part of the public utility law after the deregulation. Predatory pricing was examined in the above *"Report regarding Adoption of Competition Law of the European Commission against Abuse of Dominant Position in the Public Utilities Sector"* released in March 2004, while *"Competition Policy in Network Industries – Comparative Legal Studies across Japan, USA and EU and Economic Analysis"*, released in October 2010, discussed the latest trends in court rulings on margin squeeze in Japan, the US and Europe.

So far we have discussed the joint studies undertaken in response to the first of two concerns in the US and Europe.

The second concern in the US and Europe over the past 10 years has been the identification of the requirements for violation common to all exclusionary behaviours. Previously, it was not regarded a problem to have different sets of violation requirements for various exclusionary behaviours dependent on the type of violation such as predatory price cutting, tied-in sales, and exclusive dealing.

However, because it has now come to be more widely recognised that certain actions, such as a set discount sale where the fixed price of combined products is lower than the simple sum of the prices of each product, can be interpreted both as trading on exclusive terms or predatory pricing, when discussing the violation requirement of such behaviour, it has increasingly become evident that a single activity affecting a single market should not have a different set of violation requirements depending upon which type of activity the act is categorised, with the resultant focus turning on the question of "what is the exclusionary behaviour". "*Theoretical Review on Unfair Trade Practices and Private Monopolization which Exclude Competitors*", released in June 2008, discussed the current arguments on this issue in the US and Europe.

(Prospects)

Fair competition can still exclude others. Therefore, defining the threshold dividing fair and unfair competition, in other words, illegal activity that excludes others, remains to be a vital area to be studied in the future too.

Active exchanges were held over the past 10 years not only by lawyers but also by economists with respect to the question of the 'requirements for violation common to all exclusionary conduct'. Regulatory authorities such as the US Justice Department, JFTC and EU Commission, compiled the fruits of such exchanges and released a report or guidance paper. It was not long ago that *"Guidelines for Exclusionary Private Monopolization under the Antimonopoly Act"* was released in Japan in October 2009, in the wake of the exclusionary type private monopoly becoming subject to levy.

One of the important study tasks for future is to watch carefully and analyse on how these new academic concepts are to be accepted by the courts or whether totally new ideas are again proposed, and analyse them as they happen. In some areas, differences of interpretation between the courts and regulatory authority is already being debated with the latest joint study report *"Competition Policy in Network Industries – Comparative Legal Studies across Japan, USA and EU and Economic Analysis"* released in October 2012, presenting the case and its analysis. With thought-provoking new rulings being made one after another, further research is eagerly waited.

Another important area is the issue of

enforcement. The issue of enforcement orders has been dealt with only collaterally in the research projects so far, however, an increasing focus has currently been put on the content of orders and their enforcement in the US and Europe as those authorities issued very strong injunctions against Microsoft. As enforcement and the requirements for violations are inseparable elements of competition policy, it is necessary to take stock of what's happening in the US and Europe and study them. In this sense, it will be beneficial to compare their experiences with merger transactions where there are quite clear common requirements for violation in addition to relatively numerous experiences on enforcement already accumulated.

Competition Policy in the Network Industries – Comparative Legal Studies of Margin Squeeze Regulation across Japan, USA and EU and Economic Analysis

(CR02-12, released in October, 2012)

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（titles at the time of paper release）

（Summary）

Margin squeeze is a behaviour where an entrepreneur in the upstream market which offers products required for carrying out business activities in the downstream market and is also engaged themselves in business activities in the downstream market sets a price of its product in the upstream market at a higher level than that of their own product in the downstream market, or sets a price at such a level that their customers in the upstream market cannot compete with them in the downstream market by economically reasonable business activities. The view of the anti-monopoly law on this behaviour is clearly stipulated in the guidelines for the exclusionary private monopolization. And lately, while we see numerous important precedents and legal decisions for margin squeeze overseas mostly in the US and EU, much attention has been paid to marked differences in regulations against margin squeeze between the US and EU.

In the EU, margin squeeze had been traditionally treated as a type of unilateral refusal to deal in the Commission's guidance on the Article 82. However, its recent precedents treat the margin squeeze as an independent type of violation. In contrast, the US authorities tend to be passive in regulating margin squeeze (more often called price squeeze in the US) and not to treat it as an independent type of violation but to interpret it as two separate issues in anti-trust law: an issue of unilateral or unconditional refusal to deal in the upstream market and an issue of unjust low price sales or predatory pricing in the downstream market. Meanwhile in Japan, the Supreme Court's decision in December 2010 on the case of NTT East Japan, where the relevance of margin squeeze was in contention, ruled that the conduct of NTT East Japan was a "unilateral and one-sided refusal to deal or price cutting" and provided factors to consider the relevance of exclusionary conducts. Based on those recent major shifts in the regulation of margin squeeze both domestically and internationally, especially in the network industry, this research examined cases of illegal margin squeeze in the US and EU, and then compared them with those of Japan, so as to obtain suggestions for the future application of the Anti-Monopoly Act and competition policy concerning the regulation of margin

squeeze.

Our evaluation on the treatment of margin squeeze and the regulatory stance in Japan, the US and EU are the following. Although the guidance on the Article 82 had treated margin squeeze as a type of unilateral refusal to deal in EU, the European Court of Justice ruled that it is an independent type of violation. According to the guidelines on the exclusionary private monopolisation, the Japanese law treats margin squeeze as a type of unilateral refusal to deal like the EU guidance on the Article 82. However, the Supreme Court decision on the case of NTT East Japan declared it to be a 'refusal to deal or low price sales'. Nevertheless, the anonymous exposition published in the judicial precedents bulletin believed to be written by a research law clerk at the Supreme Court, while stating that '*it is considered that the judgement of its legality could be satisfactorily made if the same standard is applied as that applied to a refusal to deal,'* also stated that '*there would be no substantial disparity in this case whichever stance is to be taken for the decision'* even if it is identified as a low price sale, arguably placing their position closer to that of the guidance on the Article 82. In addition, the subsequent exposition written by a research law clerk at the Supreme Court indicated that '*this decision seems to have avoided a predication as to what sort of framework to be adopted in judging the actions in this case and judged from the viewpoint of "whether the stated actions in the case correspond to an exclusionary conduct as an illegal refusal to deal," referring in principle to the guidelines (note: Guidelines on Exclusionary Private Monopolisation)*'. In contrast to the case in Japan, rulings in the US showed a marked difference with the decision on the linkLine case interpreting margin squeeze not as an independent violation type and deemed that prosecutions based on margin squeeze will not be valid in terms of competition law, unless unjust refusal to deal occurs in the wholesale market where an anti-trust legal duty is recognised or predatory pricing in a retail market. The US takes the following stance toward margin squeeze: margin squeeze is a problem inherent to unilateral refusal to deal in the upstream market or to predatory pricing in the downstream market.

As to these differences in regulation of margin squeeze between the US and EU, this study listed a couple of factors contributing these differences such as consideration for investment incentives in the upstream market and different enforcement frameworks of competition policy. Having understood those points, this study proposed several factors to recognize margin squeeze as illegal under the Anti-Monopoly Act in Japan. Firstly, we evaluate whether the price gap between a wholesale price and a retail price is negative or not, and if it is negative, margin squeeze is identified as an illegal conduct under the Anti-Monopoly Act. On the other hand, if the price gap is positive, we determine whether the dominant entrepreneur sets the price at such a level as to exclude an equally-efficient competitor from the market. If the pricing is deemed exclusionary, then it will be identified as illegal under the Anti-Monopoly Act.

This study also provides economic analysis of the regulation of margin squeeze. When obliged to deal with competitors under access charge regulation in the upstream market, a vertically integrated entrepreneur with market dominance has incentives to exclude its equally or more efficient

competitors by exercising margin squeeze because it cannot make enough profits in the upstream market due to its inability to set an access charge on its own. In the end, the margin squeeze regulation was identified appropriate because in the above-mentioned instance, the market dominant entrepreneur is still able to set such retail prices as to exclude its competitors without infringing rules on predatory pricing as long as their margin allowance approved under the access charge regulation leaves enough room for profitability.

Lastly, concerning the content of the cease and desist orders against margin squeeze, it is necessary to examine adequate remedies on a case-by-case basis in light of various factors such as situations behind the violation, comparable prices, if any, and the existence of access charge regulation, because it is difficult to identify appropriate remedies in a single uniform way, noting that margin squeeze is an act of violation relating to the mark-up between a wholesale price and a retail price. Regarding the current situation that the Anti-Monopoly Act in Japan does not give entrepreneurs incentives to actively offer remedy, this study suggested an incentive scheme such as the commitment system in the EU which could spare a designation of violation or imposition of surcharges in return for a certain commitment, or an mechanism to let entrepreneurs offer constructive remedy in return for decreasing surcharges.

(English translation by CPRC Secretariat)

Intellectual Property Rights and Competition Policy （Future Research Projects）

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The Intellectual Property Basic Act was legislated in 2003, when the CPRC was founded, to provide for 'the realisation of a dynamic economic society based on the creation of added value by way of creating new intellectual properties and their effective utilisation'. At that time in Japan, it was strongly felt that its industrial structure had to shift from the one centred on manufacturing activity to an economy based on intellectual property such as technology, and music and film contents. In this context, establishment of the '*intellectual creation cycle*' was regarded essential by protecting and strengthening intellectual property rights (IPR).

Innovation is a driving force of competition. Promoting the creation and application of intellectual property is also desirable from the perspective of competition policy. However, at the same time, it should be ensured that the creation and application of intellectual property is not to be inhibited and that the competition is not hindered by abuse of IPR under the strengthened IPR protection system.

Such an awareness of the issue led us to conduct a research project on competition policy and anti-monopoly law with respect to IPR.

Among various problems regarding IPR, the 'patent thickets' issue received particular attentions at that time. Against a backdrop of globalisation and reinforcement policy of IPR protection, rights holders with whom one must negotiate for the commercialisation of products have increased in number and variety, often even in a latent way. There is a concern that the negotiations with these numerous patent holders and the infringement risk of IPR might adversely affect both smooth growth in IPR and competition. It was well recognised this sort of problem could materialise and have serious implications if it is concerned with, in particular, IPR related to the standard technology used widely in an industry. There was also a concern in the field where R&D activities are accumulative, that the existence of the patent thickets of previous patents might inhibit new R&D activity.

Three major reports by the CPRC on IPR investigated from diverse angles the current status of intellectual property licensing and appropriate discipline to be provided by competition policy in the presence of the 'patent thickets', focusing on three different issues; consortium-type technology standards, multi-party licences, and Microsoft's non-assertion of patents provision against their multiple licensees.

A joint research report entitled *"Technology Standards and Competition Policy – on the Issues of Consortium-type Technology Standards"* discussed our investigation into the

formation and diffusion process of such technology standard as MPEG and DVD, the role played by patent pools in its process, rules on competition policy adopted by the standard-setting organisation and the application and management of competition policy to this effect by the competition agencies in the US and Europe. In this study, the importance of continuous divisional application system to the business was demonstrated as well as important roles played by universities and R&D specialist companies. Moreover, it was clarified that whether the relevant patents are substitutes or complementary in reviewing a patent pool from the perspective of competition law plays an important role as a decisive factor, and its' significance. In addition, it was ascertained as critical to maintain the freedom of bypass (ability to agree on licensing without going through the patent pool) in order to keep the patent pool pro-competitive. In our research, a reasonable level of the licence fees for an essential patents of a standard technology was indicated to be the *'price negotiated at the stage where the user of the standard technology has not yet sunk their investment'*, determining it clearly uncompetitive behaviour to impose a high royalty against the rules of the standard-setting organisation after the investment is made without disclosing ownership of the patent. This is again contrary to the patent policy of the standard-setting organisation while welcoming in competition policy terms the owners of essential patents to commit to a specific licensing format before any investment is made.

In a joint research paper "*Multiple Licence and Competition Policy",* we examined the current situation of cross-licensing contracts, and a comparative law analysis was made on their regulation. It theoretically demonstrates the efficiency of cross-licensing of complementary patents and the significance of comprehensive cross-licensing contracts as a solution to hold-up problems. It also showed the situation where mutual royalty payment obligations or geographic restrictions in cross-licensing agreements could be anti-competitive and gave theoretical weight to the notion that the competition with third party could function as a force to lower the royalty to nil. It listed concrete examples of regulations in the US as well as covered exhaustively the current status of regulations on licensing in the US and EU.

Another joint project report, *"The Effect of Non-Assertion of Patents Provision – R&D Incentives in Vertical Relationship"*, examined the case as a subject where the JFTC took measures (ruling made on September 16, 2008) against unfair trading practices in restrictive terms including the non-assertion of patents provision forced upon the licensee (an OEM enterprise), constructed a theoretical model and conducted a rigorous investigation from an economic points of view on the following: 1) whether the contract was forced upon the licensee, 2) the probability of hindering R&D activities for the related technology, and 3) if there is any adverse effect on the related technology and/or product market. According to the consideration of these issues, it was made clear that whether an OEM enterprise's profits were damaged when technology was introduced into the OS of the patent holder (Microsoft) imposing the non-assertion of patent term was dependent on the effects brought about by the introduced technology (effects being such as whether the quality was improved, or whether marginal cost of Microsoft's or the OEM was reduced) as well as the differences with the previous quality and costs of the OEM enterprise's products.

These studies were carried out on what were

acknowledged to be crucial issues of competition policy at those times with strong interests from industries as well. The depth of interest in these subjects was also evident in the facts that the public seminar held midway through the research projects on February 18, 2005, attracted many attendees as well as both research reports mentioned above being reprinted and published in the *'IP Prism'*. With a part of the information and policy proposals brought up in the joint research reports being incorporated into the JFTC guidelines, "*Guidelines on Standardization and Patent Pool Arrangements"*, and these studies contain analytical outcomes and policy implications still valid today concerning the relationship between patent pool/technology standards and IPR. Insight into the effects of accumulated innovation on competition in these research projects, led us to the further collaborative project at the CPRC, *"Innovation Competition and Antitrust Policy: Focusing on Merger Regulation"* （refer to the "Business Combination II" in this journal）.

With a number of unexplained areas being left as regards to the relationship among technology standards, patent and cumulative technology development as well as restrictive terms in IPR licensing contracts, future studies should be continued in these areas.

A new area for research is expected about the accumulation and transfer of IPR as result of merger. With the increasing number of large-scale corporate consolidations in the IT and electronics industries, one can notice the accumulation of IPR in the combined businesses or its transfer to a separate leading company other than the combined business. Additionally, it will be necessary to investigate the meaning of joint R&D activities of the companies given a flood of business alliances being made. It is another challenge to extract various problems in relation to competition policy by accurately grasping the actual practices of acquisition, distribution and the exercise of IPR in the biotechnology industry and in the distribution industry of copyright contents including those of music and games as expected for some time.

With a number of civil cases being filed in the US and Europe with respect to essential patent on standard technology, the EU authorities are expected to make amendments to the comprehensive exemption rules for technology transfer in 2014. It is also essential to keep current on the regulatory updates made in the US and Europe.

There are some methodological challenges to our future research, too.

The first is how to measure actual corporate behaviour on licensing agreements and patent filings. In our previous joint research, we used securities filings as well as the content of patent pools and observational studies of patents published by the patent pool administrative organisation and technology standard-setting body. It is pointed out in the research paper that the situation would have been even clearer if the details and major clauses in the IP licensing contracts were obtained. Considering the recent reorganisation in the IT industry, a better understanding of the actual conditions seems necessary not only for the investigational purposes but also for the regulatory works.

The second issue is how to apply the fruits of the study to actual competition policy and legal application. In order to enhance the significance of collaborative work of the JFTC staff and external researchers, it would be a constructive exercise to improve their communication, share common understandings on the current state of affairs and reconcile the areas of concern.

Transactions involving IPR are being executed globally, international attention is upon both what sort of strategy and policy Japanese players adopt based on what sort of recognition. Another issue on research methodology is that the future release of the CPRC research agenda and its outcomes on IPR should be communicated widely using its global reach while, at the same time, endeavouring to collect, compile and exchange information globally.

Technology Standards and Competition Policy – Focusing on Technology Standards of Consortium –

（CR04-05, released in November, 2005）

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（titles at the time of paper release）

（Summary）

Reflecting the increasing importance of intellectual property rights (IPR) and owner companies of essential patents of the standard technologies progressively becoming diversified such as companies specializing in R&D, the number of cases in which essential patents of standard technologies are offered gratis by patent holders at public standard setting agencies as well as private standard setting organization tends to decrease. Under these circumstances, if the owners of essential patents of a standard technology start claiming their rights independently, it could be a case that popularisation of relevant technology standard is disrupted by excessive royalty payments. In order to address this, cooperation among enterprises such as patent pool have attracted attention. Additionally, a hold-up problem has emerged in which an outside enterprise asserted its patent rights after the technology standard had become widely diffused.

This research examined the following three issues: 1) fact-finding investigation on formation processes of four recent critical technology standards such as MPEG2 and DVD, 2) a hearing survey on enforcement policy of competition authorities in the US and EU toward patent pools, and 3) appropriate competition policy for technology standards of Consortium, which require cooperation of multiple patent holders, based on fact-finding investigation on intellectual property policy by standard-setting organisations in the US, EU and Japan. Our findings are following.

Firstly, according to our fact-finding investigation on the formation processes of the MPEG2, DVD and 3G technology, the number of essential patents of technology standards and the number of owner companies of those patents are vast. The reasons are; 1) there are many technological elements required for these standards, 2) the large number of companies competes in the research and development of these technologies, 3) companies have strong motivation to be a participant in forming new technology standards due to the bandwagon effect of compatibility of technology standard, and 4) the availability of continuation/divisional application system of patents. R&D specialist companies and universities also played crucial roles such as Columbia University for MPEG2 and Qualcomm for 3G. Patent pools for MPEG2 and DVD made a commitment in licensing on the RAND terms, （Reasonable and non-discriminatory terms）, making licensing agreements with many companies.

Secondly, fundamental views on the competition safeguards for patent pools supporting technology standards are

converging in the US and EU.

1) To pool highly complementary patents only. Dominant pool in the market should be restricted to essential patents that do not have alternatives outside of the pool.
2) An institutional mechanism is required in order to assess objectively relationships among patents
3) Cooperation among companies through the pool should be restricted to the collective licence of a bundle of complementary patents.
4) Freedom of bypass should be ensured; that is, companies are able to obtain a licensing agreement outside of the pool, by way of, for example, negotiating directly with the patent holder.
5) Requests for Grant-back by the pool are permitted only if the requests are limited to the non-exclusive licensing of essential patent of standard.
6) In case that the technology standard is dominant in the market, there should be an open license. (It is called license under fair and non-discriminatory conditions in the EU.)
7) If the validity of patent is legally challenged, only the relevant patent holders can protest by refusing licensing of the patent.

Additionally, if a firm participating in the technology standardisation chooses not to disclose in breach of rules of the standard-setting organisation that its essential patents are to be included in the standard technology given that the company knows about, and it asserts its patent rights after the popularisation of the technology standard, this type of behaviour is regarded as anti-competitive because of the following two reasons: i) it distorts fair competition for the selection of technology standards, and ii) it could impose a higher royalty ex-post by making the companies using the concerned technology standard into a state with holdup. In the US, the competition agency intervened in such an instance and the EU authority also indicated an intention to prosecute such action of 'patent ambush'.

Finally, a review of the policy for intellectual property of standard-setting organisations, though having started, is still under way reflecting the increasing importance of intellectual property and antitrust cases. Accordingly, the following issues still remain to be clarified even in the patent policy of public standard-setting agencies:

1) What is RAND? A clear definition of 'reasonable' and 'non-discriminatory' are required.
2) The disclosure policy of IPR: whether the disclosure is an obligation or not, and the contents of IPR to be disclosed or licensed (whether to include technologies with patent applied for.).
3) The extent of duties to comply with IPR policy, and possible punishment at the time of deviations. Who is responsible for breaches, the company or the individual in charge?

A 'reasonable' price is considered to be one negotiated before the user of the standard technology commits its investment as well as the one accounting for the pricing for the whole of the relevant technology standard. However, no standard-setting organisation has made these principles explicit.

Based on the results mentioned above, this study provides the following recommendations:

1) It is essential also in Japan to adopt a competition policy that takes into account the complementarity and the substitutability as well as the freedom of bypass of pooled patents.
2) As regards to the licensing terms for a

bundle of essential patents in relation to technology standards, it is preferable also from a perspective of competition policy that there exists competition among technology standards and that users of the standard technology commit to the terms their investment.

3) With increasing importance of IPR and a wider variety of holders of essential patents of technology standards, the IPR policy of the standard setting organisations should be enhanced in the areas of clarification of both basic concepts for licensing terms and the disclosure obligations in order to reinforce preventive measures against the hold-up problem.

4) It is anti-competitive for patent holders to impose high royalties in direct contradiction to the stated patent policy of the standard-setting organisation after the technology standard is adopted widely despite initially not disclosing the patent right in breach of the disclosure policy of the standard-setting organisation.

5) An institutional mechanism which objectively evaluates the essentiality or the complementarity of patents should be established in order to make sure the relevant patent pool does not function anti-competitively.

(English translation by CPRC Secretariat)

Distribution Business and Antimonopoly Act (Future Research Projects)

Fumio Sensui（CPRC Visiting Researcher・ Professor, Graduate School of Law, Kobe University,）

Previous joint studies at the CRPC concerning the distribution industry and vertical restraints were generally divided into three categories: 1) resale price maintenance, 2) exclusive dealing and 3) regulations on buyer power.

Research on the effect of 1) above includes "*Law and Economics of Resale Price Maintenance*" and "*Platform Competitions and Vertical Restraints -Based on an Analysis of the Sony Computer Entertainment Case-*". Needless to say, resale price maintenance is an old yet new issue. In the US, the decision on the Leegin case made resale price maintenance itself rule of reason from illegal action whilethe ruling on the Kahn case made the maximum price resale rule of reason from per se illegal. Maximum resale price maintenance has not been the object of so-called hard core regulations anymore in the EU with the plea of the effectiveness acknowledged for other forms of resale price maintenance. "*Law and Economics of Resale Price Maintenance*" examined the decisions by the US Supreme Court and demonstrated instances in which the resale price maintenance either promotes competitive effects or produces anti-competitive effects based on economic analysis. In addition, on examining the approach taken in the EU and comparing it with the precedents in Japan, the paper presented some future tasks. "*Platform Competitions and Vertical Restraints*" analysed the effects of resale price maintenance, using the findings from the Sony Computer Entertainment (SCE) trial decision as research material. In other words, considering the issues raised in "*Law and Economics of Resale Price Maintenance*" as being those of complicated situations of platform competition, in particular two-sided markets, though it was prior research, economic analysis was conducted on the effects of resale price maintenance on economic welfare and incentives, external effects, and anti-competitive effects. "*Economic Analysis of the Two-sided Markets*" also investigated two-sided markets and discussed resale price maintenance of books in part.

Research to the effect of 2) above includes "*Study on Anti-competitive and Pro-competitive Effects of Exclusive Dealing Contracts*" and "*How should We Regulate Parallel Exclusive Conducts?*". "*Study on Anti-competitive and Pro-competitive Effects of Exclusive Dealing Contracts*" was theoretical research on the preventive effect of exclusive dealing contracts to new entry into a market, making use of an economic model in which a distribution company proposes an exclusive dealing contract to a company in an upstream market. Further, by reviewing a multi-layered industry structure, it demonstrated characteristics of the industry structure in which exclusive dealing contracts can eliminate a new entrant in each separate layer of the industry. "*How should We Regulate Parallel Exclusive Conducts?*" attempted both an economic and juristic

investigation based on the model of exclusive dealings as to parallel exclusionary conduct, bravely tackling a difficult theme as to when parallel exclusionary conduct can damage competition, an issue without precedent even though being argued in the trial judgements such as Toyo Rice Mill Machine.

Research to the effect of 3) above includes "*Impacts of Buyer Power on Competition in Distribution Market -On Large-Scale Retailer-*". This study examined (i) abuse of superior positions, (ii) the waterbed effect (while a market dominant large-scale retailer can purchase goods cheaply from a supplier by exercising a buyer power, the supplier is forced to raise its prices for other retailers than the said market dominant retailer in order to make up for lost revenue, resulting in the effect of pushing up the purchase cost of the relevant retailers), (iii) the emergence of monopsony power of the buyer (retailer). In the case of (iii) above, the question of buyer power was discussed mainly as a consideration factor for the merger control from the theoretical perspective, verification and comparison regarding regulating a possible abuse of a superior position. So far I have summarised the joint study projects.

And now, the main purpose of this paper is to outline the future research agenda concerning the distribution industry and vertical restraints. These are important not only for the purpose of economics and jurisprudence study but also because of their direct implications for urgent practical matters concerning the direction of amendments to the current guidelines on distribution systems and business practices (Guidelines Concerning Distribution System and Business Practices under the Antimonopoly Act). We will take a general view of the latter point below.

Guidelines on distribution systems and business practices were prepared and released in 1991. This was directly triggered by the US – Japan Structural Impediments Initiatives being held then, focusing mainly on the issues discussed at the initiatives. By the way, economic and legal study on distribution systems and vertical restraints (including price and non-price restraints) experienced dramatic change and theoretical progress owning to the efforts of academics of the Chicago School in early 1980's and later post-Chicago School. Compilation of works by post-Chicago School academics, "*The Theory of Industrial Organization"* by J. Tirole and "*Handbook of Industrial Organization" by* R. Schmalensee & R. Willig (ed.) were published two years prior to 1991. (An article on the vertical restraints was penned by M. Katz). Although these were pioneering theories at the time, naturally it was not yet ready at the stage to be reflected in actual practices. History afterwards has been a continuous effort of try-and-error, especially in the US, to apply new analysis and have it reflected in actual policy. Practitioners in Japan, whilst paying attention to the trends in the US and other regions, compiled relatively independently numerous judgement, rulings and discussions, which were crucial both theoretically and practically.

As such, the guidelines on distribution systems and business practices, which have basically remained unchanged over the past 20 years since their initial publication, contain some areas which do not necessarily conform to current practices and theory in addition to some accounts which are not consistent with those of other guidelines such as the guidelines for exclusionary private monopolisation. Therefore, revision of the guidelines concerning distribution systems and business practices is an urgent task. However, the revision has to incorporate both (i) the application of

accumulated understandings acquired from the previous judgements and rulings as well as (ii) the latest current theory and description which do not contradict at all widely accepted theory in the least. This means that there are so many contentious issues to be discussed and huge challenges to overcome. (Please refer with respect to the individual issues to the separate papers published in the *Fair Trade* No. 736 in 2012.)

The backbone of this revision should be past and future joint studies conducted at the CPRC from the viewpoint referred to in (ii) above as Professor Noboru Kawahama pointed out in this special edition featuring the *Fair Trade*, in addition to the accumulated understandings acquired from previous judgements and rulings mentioned in (i) above.

Let's have a look at past judgements and rulings mentioned in (i) above. Firstly, some unnecessary sections need to be deleted. Guidelines concerning distribution systems and business practices mainly target vertical restraint, and there are more than a few types of action which have hardly been issues as far as the Anti-Monopoly Actis concerned. Some examples are reciprocal dealing, acquisition and ownership of shares in a trading partner, and sole import distributorship. Separately, safe harbour criteria of 10% market share or top three market share should be re-examined as to its theoretical relevance and whether they are misleading or not.

Studies mentioned earlier in 1) above will contribute greatly to the theoretical field of resale price maintenance while then studies touched upon in 2) above as well as other various ones contributing to the area of trading on exclusive terms. Prohibitions on unilateral refusal to trade, restrictions on sales method, and sales among distributors are still rather ambiguous regulations. However, the Supreme Court has issued the rulings and decisions on these issues. The Supreme Court judgement on the NTT East Japan case regarding a unilateral refusal to trade seems to adopt a wider scope. How then should the Article 2 of the General Designation of Unfair Business Practices be handled? As for the scope for restrictions on sales methods, the problem of restrictions on sales method on the Internet is an increasingly imminent task. Moreover, interference with a competitor's transactions, cases of which are recently on the increase in its numbers including civil cases, will be suitable materials to be investigated.

Instances regarding monopsony power in relation to the studies referred to in 3) include a series of cease and desist orders, and payment orders for penalties for the abuse of a superior bargaining position as well as warnings of unjust low price sales against three liquor distributors. With respect to mergers, assessment of business combinations in the electronics industry (such as the merger of Yamada Denki and Best Denki) will be a useful reference point. There is an abundance of raw material on which investigation of other areas of guidelines is to be conducted such as the abuse of superior bargaining position and unjust low price sales.

Although the problem in relation to platform markets and two-sided markets touched upon 1) at the beginning of this paper, has never been a direct point of contention, decisions on the inhibitive nature of such actions on competition in the marketplace have been already made in the cease and desist orders against the JA (Japan Agricultural Cooperatives) of Ohyama-cho in Oita Prefecture and DeNA, and decisions on such cased are expected to increase in future. Here are again plenty of questions to be covered.

So far I have listed randomly the expected areas of research. These research topics will

probably be constrained by the assumptions and models to apply them into the new guidelines concerning distribution systems and business practices. Guidelines generally demand both simply stated rules including presumptions and the appropriate presentation of reasons for considerations. Consequently, as Mr. Akinori Uesugi pointed out in the special edition featuring the *Fair Trade* mentioned earlier, new guidelines concerning distribution systems and business practices will present (i) criteria for safe harbours based on market share, (ii) presumption criteria for a few cases of hard-core restrictions and (iii) method of analysis and investigation (factors to be considered) for most types of actions, as was the case for merger guidelines and guidelines on exclusionary private monopolization. Accordingly past and future collaboration in research will become the theoretical backbone of the new guidelines as explained above.

Impacts of Buyer Power on Competition in Distribution Market -On Large-Scale Retailer

(CR04-10, released in December, 2010)

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(Summary)

This research was purported to review three concerns from the perspectives of both economics and jurisprudence in relation to the growth of buyer power which could arise from business combination. Those concerns are abuse of a dominant market position, the waterbed effect and acquisition of seller power by a buyer.

The waterbed effect means that, while a market dominant buyer such as a large-scale retailer, locally dominant retailer or collective buyers' group created for joint purchase and joint sales purposes, is able to procure goods cheaply from the supplier by exercising their buyer power including a unreasonable demands for price discounts, the said supplier is forced to raise prices for the other retailers than the market dominant buyer in order to compensate for lost revenues, leading to higher purchasing costs to other retailers.

This research revealed the following issues and implications:

1) Waterbed effect is most likely to materialise when the supplier holds seller power and when the retailer has both buyer and seller power in a monopoly-like situation. R. Inderst and T.M. Valletti demonstrated theoretically in 2009 that waterbed effect is likely to be created in a market where the store(s) of major retailers co-exist with other small retailers, while the effect is unlikely to materialise in the market without the presence of major retailer's stores. Fact-finding survey and empirical analyses regarding the effect of this theory is eagerly waited with great interest to determine if the waterbed effect is actually created in the case of the dominant presence of major retailers and not created in the market without such a presence.

2) In assessing the waterbed effect in Japan, an analysis was undertaken on the difference between the wholesale price of supermarkets and the wholesale price of general retailers utilising the wholesale price data of the early 1990's in assessing the waterbed effect in Japan, it was hard to distinguish whether the difference was due to voluntary price differentiation policy on the side of suppliers or due to non-voluntary outcomes, or due to the combination of both. A detailed assessment of the waterbed effect demands not only a simple price analysis but also a comprehensive fact-finding survey and positive analysis by government such as the grocery market survey conducted in the UK.

3) If there are any likely concerns in future about the abuse of a dominant market position, the waterbed effect or the

strengthening of seller power through buyer power, a business combination transaction, even though made for the purpose of forming an opposing buyer power in a response to a market dominant supplier, needs to be carefully examined against these concerns in advance. In particular, in regions where a merger could provide a buyer such as a large-scale retailer with seller power as well, some degree of ex ante regulation would become essential such as disposal of some stores in the relevant region to address concerns about the impact on consumers. In regulating merger transactions in relation to buyer power, it is crucial to determine what sort of ex ante regulation should be taken as a remedy, in order to balance buyer power and supplier's seller power while paying attention from a broader perspective to the markets which have vertical relationships to the market where the merger is actually happening, as well as to ensure the competition in the retail market of each region from local point of view.

4) Issues surrounding the buyer power emerge generally in the mid-to-long term timeframe, being theoretically a supplier's exit from the market as result of buyer power, reduced investment in new product or technology development and subsequent decrease in production, or lower social surplus. It is hoped to devise regulations on buyer power with a mid-to-long term perspective in the application of Japan's Anti-Monopoly Act while paying a close attention to the developments both domestically and internationally.

5) When a supplier has a certain level of negotiation power, buyer power can be beneficial to the social surplus, functioning as an opposing force as long as the retail market remains competitive. However, if the retail market is not competitive, its positive effect as an opposing force will be lost and may cause losses to the social surplus. As a consequence, justification of buyer power needs to be carefully reviewed on a case-by-case basis to see if the buyer power is also likely to lead to the formation of seller power by the buyer. As we have seen so far, a comprehensive judgement is required to assess transactions related to buyer power by balancing the possibility of the competitive effect of creating an opposing buyer power against the anti-competitive effects of buyer power of acquiring the seller power.

6) As the procedures in considering the regulation on business combinations of retailers, first, a definition of the geographical market is appropriately determined. And then it will be ideal to make general conclusions after assessing both the possibilities of the competitive effects as an opposing buyer power formation and the anti-competitive effects of buyer power turning into the seller power after the merger, once an appropriate definition of the market is geographically determined. Nevertheless, it is difficult to correctly measure competitive effects of creating an opposing buyer power. In this context, it is critical to examine the power balance between companies as well as industries in a vertical market as shown in the regulation on business combinations in the EU competition law. Regulation of the buyer power of major retailers under the EU competition law is mainly enforced by regulations on business combinations by examining the competitive circumstances of the market once defining it

geographically. Also it is characteristic in the EU that the mergers between suppliers are usually determined review only after confirming the existence of an opposing buyer power in the relevant market in case of a business combination among suppliers. (English translation by CPRC Secretariat)

Indices of Competition (Future Research Projects)

Noriyuki Doi（CPRC Chief Researcher, and Professor, School of Economics, Kwansei Gakuin University）

The competitive situation in an industry will inevitably be reflected in one or any of the market structure, market conduct or market performance of the relevant industry. Then, the intensity of competition to measure the competitive situation will be captured by those three elements. Traditionally the competition intensity has been measured by the level of industrial concentration in each industry. In particular, the traditional industrial organization economics, which emphasizes the primary causal relationships among those elements, places importance on concentration, one of structural elements. But after that, the different views criticised the significance of industrial concentration. The current dominant view argues that industrial concentration can indicate the competitive situation of an industry to a certain extent, taking into account at the same time the endogenous relations that the market share and concentration does not only affect business behaviour, but also are likely to be affected by business behaviour. Then the useful measurement of competition intensity in a market is essential for competition policy. This short note summarizes major challenges on the “old, but yet new” problem.

First of all, the definition of a market is necessary for measuring the degree of market competition. Leaving aside the theoretical explanation, it is often difficult to precisely define the market. Because the definition of market has a larger influence on legal decisions in particular when practically enforcing competition policy, this problem is of a critical importance and is one of the most controversial issues in competition policy. Today, because of technological progress, deregulation, diversity of consumer needs, and product differentiation, the definition of a market has become more complex and difficult. Also, geographical definitions are important. Under growing economic globalization, competition is sometimes necessary to be taken into account in a global framework rather than a domestic one. As regards to the method of market definition, various tools based on economic theory are these days created and applied in enforcement practices. Therefore, the market definition is one of the major roles in competition policy where economics can contribute and is a challenge which CPRC faces.

Once a market is defined, several structural indicators are available to measure the degree of market concentration such as the cumulative concentration ratio (CCR), Herfindahl-Hirschman index (HHI), entropy index, Gini coefficient, and Hannah-Kay’s index. Most of these indicators have a relatively high correlation with each other. In fact, they each have both specific advantages and shortcomings. But the first two indices are most often utilised because of practical and theoretical reasons. These two measures can show structural characteristics at a certain point in time, but they do not necessarily capture the level of competitive intensity and its fluctuation precisely. For example, competition is likely to be fierce even in a highly

concentrated industry. Also, companies may face a different level of competitive pressures even in the same industry, dependent upon their position in the marketplace. For example, when there are mobility barriers between the higher ranking companies and lower ranking companies, the barrier may affect the competitive situation of the whole industry. Thus, the market definition and the measurement of competition intensity are critical issues for indicators which can capture complicated competitive states.

As recently more emphasis is placed on the economic analyses of an individual industry for policy analyses, structural indicators are not regarded as critical evidence of competition any more. As mentioned before, market share and concentration ratio may well represent outcomes of market conduct, and also higher concentration may not induce primarily anti-competitive behaviours. However, structural indicators can still play a meaningful role in policy and theoretical analyses, although having their shortcomings.

Market share and concentration may still have an analytical significance. First, the index for market concentration is an effective screening mechanism for competition policy enforcement such as merger regulation. Also, in economic analysis, there have been some arguments for the significance of market share and concentration for merger regulation (J. B. Baker & C. Shapiro) or the effectiveness of HHI for competition policy (D. L. Rubinfeld). Therefore, market concentration still remains useful theoretically and practically as a competition indicator.

Next, technological progress and changes in industrial structure would affect corporate behaviours and also boundaries and definitions of markets and industrial competition. In these situations, the movement of market share and concentration may possibly reflect the competitive situations in a market, because they may be the outcomes of corporate strategy. Therefore, it is worth attempting to measure market share and concentration. This also suggests that the measurement of market share and concentration are necessary to be interpreted with prudence.

Finally, the change in industrial structure may lead to changes and expansion in industries covered by competition policy. Now, competition analysis is necessary for such emerging and transitional industries. But unfortunately, in Japan the survey of market concentration has not covered many of service industries and emerging industries well. It is necessary to include those industries in the survey. In addition, we emphasize that Japan Fair Trade Commission publishes indices for market concentration in many industries in an annual base. This information surely promotes economic analysis as well as policy enforcement.

New considerations will be required to make up for the shortcomings of the two conventional indices mentioned above. Here some of the considerations will be examined.

First, a more comprehensive approach is desired by using multiple indicators to capture as much as possible the competitive situation of a market. For instance, a comparison between multiple indices including CCR and HHI, and alternative indices such as entropy index would provide an important suggestion.

Recent competition is both multi-dimensional and dynamic, with technological competition, global competition, competition among alternative goods and services, and consumer pressures accompanied by increases in sophisticated consumers. Consequently, it is necessary to develop and apply an indicator able to capture such multi-dimensional and dynamic competition. Taking into account these

requirements, three competition indicators deserve our attentions as discussed below.

The first indicator is the mobility index. Some indicators are needed to be developed to reveal the mobility or instability of market shares and positions in the process of competition both in theory and in practice. As such dynamics tend to be induced by a fluctuation of market shares and positions of firms as result of new entry, exit or competition among existing firms, it is necessary to use mobility indicators capturing those behaviours. In fact, such problem was examined before, and now is examined in CPRC.

In addition, other factors to be taken into account are the number of the new entrants into a market and a sum of their market shares, the number of the company exiting from the market and a sum of their market shares, and then the number of the companies remaining in the market and a sum of their market shares. Some of them are relatively easy to calculate because of being extractable from existing data and materials, and also are useful for policy enforcement.

The second one is the degree of market concentration in the world market ("world market concentration"). Global competition, global oligopolization and increases in international cartels all suggest the necessity of developing indicators of competitive conditions in the global market. One of them would be an indicator for the global degree of market concentration such as CCR and HHI on a global basis. Recently systematic analyses have been undertaken concerning this issue.

Third, in the current economic system which is frequently described as "consumer capitalism", the importance of consumer's 'voice' (consumer input) is often emphasized in explaining corporate activities. That is, consumers are likely to have an influence on competition, drawing more attentions. Therefore, the development of indicators incorporating consumer input (for example, retailers in wholesale market) is another important task. The intensity of buyer concentration were previously measured and analysed by the Economic Planning Agency in 1977 and the CPRC in 2004. Now, further efforts for developing new indicators will be required for measurement of consumer pressures.

Finally, competition indicators derived from market conduct and performance, deserve our focus, in addition to the structural indicators. They include for example profitability, price-cost margin, the speed with which performance of an individual company is adjusted to its industry average, relative profitability (Boone Index), and price fluctuations (its magnitudes and frequencies). Of course, these indicators have their own shortcomings as well. It is necessary to identify the determinants of these indicators. One of them is an empirical analysis of their relationship to the structural indices such as mobility indices and market concentration. Therefore, studies concerning the relationship between market structure and market conduct/performance remain still useful, as conducted by many prior studies, though improvement and innovation in econometric methods are essential.

The various studies of the intensity of competition described here have been conducted in practice by the competition authorities when assessing individual concrete cases in the form of 'comprehensive consideration'. What is now required is to systemize and to refine these considerations and measurements. Still each indicator has its own disadvantages as indicated above. Further, as they are an *ex post* result, they inevitably contain some qualifications when being applied

to the examination of an *ex ante* type of enforcement such as merger regulation. Nevertheless, taking into account that these alternative indicators have their own drawbacks, it will still be possible to capture the degree of competition by combining multiple indicators.

In conclusion, while paying close attention to the definition of market, not only are the traditional indicators for market concentration still meaningful, but also the development of new competition indicators is required. Given the change in industrial structure, a study of emerging and transitional industries has become important.

CPRC has examined the methodology of measuring competition intensity, and is now examining the indicators of the mobility in market structure as one of joint research projects.

Quantitative Analysis on Competition, Innovation and Productivity
– Analysis on Dynamics and Performance of Market Structure –
(CRO1-06, released in August, 2006)

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(Titles at the time of paper release)

(Summary)

Economic analysis of competition policy is mainly focused on profit ratio and competitive market conditions at industry and firm level. An analysis related to such rate of excess profit and market power of firms provides important suggestions for studying how competition policy functions to secure the static conditions for the market competition. When considering competition policy in dynamic context in relation to its economic impact such as the relationship to economic growth, however, the study of relationship among competition, productivity, and innovation becomes crucial. It will be demonstrated whether a competitive situation in the market affects a mid-to-long term rate of economic growth (potential rate of growth), by examining the relationship to the growth rate of Total Factor Productivity (TFP).

The Herfindahl-Hirschman Index, a static indicator of market structure, is often referred to when enforcing a competition policy, having a solid foundation in the theory of industrial organisation. On the other hand, the share fluctuation index puts emphasis on the dynamics of market structure as a new aspect and has a high potentiality to be a major indicator for competition policy, but it has no theoretical basis.

This research investigated the relationship among competition, innovation, and productivity by focusing on the dynamics of market structure. A theoretical model based on the product life cycle (hereinafter referred to as 'PLC') was utilised for the theoretical framework with respect to the dynamics of market structure. It was observed that the dynamics of market structure is affected by the PLC within the process from its birth to maturity in the marketplace. Accordingly, interpretation of indicators in relation to the dynamics of market structure such as the share fluctuation index demands an understanding of the PLC of the relevant market. Specifically, when a new market is being created with the birth of new product, the number of players in the market will increase due to new entrants, but the number of the market participants will decrease in tandem with a lower growth rate of the market thereafter (Klepper and Graddy, 1990). This means that the share fluctuation index will go up during the earlier stage of the PLC and go down in its latter stage even under market competition. Taking these characteristics of the PLC as a given, the share fluctuation index needs to be analysed.

This research first calculated the share fluctuation index on a detailed item

classification basis by utilising individual data of the Census of Manufactures from mid 1980's to 2003, and then undertook quantitative analysis on its relationship with the stage of the PLC for each product. This research also analysed the determinants of the share fluctuation index as well as its characteristics.

In order to determine the stage of the PLC for each product, it is essential to specify the timing of entry into the market for each product. To satisfy this requirement, we prepared two sets of data; 'detailed item data' and 'continued item data', utilising respectively new product classification and continued product classification of the item classification (six-digit detailed classification) in the Census of Manufactures.

An analysis with the continued item data by dividing them into the first half and latter period of product life, reported that the share fluctuation index at the earlier stage of the PLC was larger than that of the latter stable-growth period. In addition, the state of market share fluctuations in the 'declining phase' (the process a product disappears from the market) could be determined, depending upon kinds of product. It was also revealed that the market share fluctuations at the 'declining phase' of the PLC is larger compared with that of the stable-growth period. Thus, it is evident that one must consider the stage of the PLC of each product when evaluating competitive market conditions with the share fluctuation index.

Next, we conducted a regression analysis on such determinants of the share fluctuation index including the stage of the PLC as the growth rate of the market and the number of market participants, and we devised the 'theoretical' share fluctuation index for each product at the different stages of the PLC with the results. In the case that the actual share fluctuation index is lower than this theoretical indicator by a wide margin, there is a high possibility of existence of some problems on market competition.

By utilising the analytical framework of Klepper and Graddy in 1990 from the detailed item data, this study also listed products which have a large deviation from the theoretical share fluctuation index among products at the time of the launch where there exists particularly a high possibility of leading some issues on competition policy.

Furthermore, this research specified a future agenda in this field of study as follows. With regard to the data, the industrial statistic data from 1985 to 2003 is subject to the analysis in this study, which is rather short to fully capture the stage of the PLC for each product.

On the one hand, static indicators of market structure such as Herfindahl-Hirschman Index and concentration index of shipment value have been conventionally represented as tools to provide situations of market competition, and on the other hand, the share fluctuation index is unique in its ability to show dynamic situations of market competition. As can be seen in the market of Internet browsers, the market seems oligopolistic statically, but the fact that the main player in the browser market has changed from Netscape to Microsoft represents dynamic fluctuations. Thus, in the IT industry where the network effect playsquite significant role, static indicators of market structure are considered insufficient to grasp the landscape of the market competition.

As seen above, the share fluctuation index is highly expected in its ability to reveal another aspect of market competition, unlike any other previous indicators. However, there are still some difficulties in its application. Basically, a share fluctuation for each company becomes relatively small in a market with many participants where competition is statically active, making the indicator itself less relevant.

Accordingly, it is necessary to adjust the

index by controlling these factors when using the share fluctuation index as an index for market competition.

In addition, theories on the dynamics of market competition are required to be developed in order to study the fluctuation of market share further in the future. Although a theoretical model proposed for this project by incorporating the PLC is one of the newer studies, this model assumes perfect competition, and it has not directly brought up the issues of inefficiency of a dynamic market. Development of a theoretical model explicitly addressing market inefficiencies in dynamic competition lags far behind that of the static market. Both theoretical and empirical research is further required for effective application of the share fluctuation index.

(English translation by CPRC Secretariat)

Survey and Analysis of Competitive Conditions in Individual Industry (Future Research Projects)

Tatsuo Tanaka（Associate Professor, Faculty of Economics, Keio University ）

In competition policy, there is a relatively established field of cartel and merger review in the manufacturing or retail industry. Meanwhile, there is a relatively new and controversial area like intellectual property and platform monopolisation in the IT industry. With research as its main objective, the CPRC should work on not only already established area of policy but also newer and debatable issues for its research project. In this new area, the CPRC produced five reports, conducting surveys and analysis of different industries. Four of them, targeting the IT industry, examined network externality, switching cost and the definition of a market while another report analysed efficiencies in the media content industry.

Monopoly by network externality is often a major problem in the IT industry. This problem started attracting attention since the monopoly case of Microsoft OS. Once a common platform such as the OS, file format or website achieves a dominant market position, the platform at issue becomes the de facto standard and can create a monopoly if the said platform is controlled by a specific enterprise. A typical example was Microsoft's OS which was why the company was prosecuted under competition law in various jurisdictions.

The difficulty with this issue lies in the fact that the relevant company has caused a monopoly by engaging in proper trade practices without resorting to anti-competitive actions like cartels or enrty brriers. Although the competition law seeks to regulate such actions as cartels or exclusive conducts, , it has not fully taken into accounts the cases where the monopolistic situation is '*naturally*' created without any illegal behaviour. A separation of the platform from control by a specific enterprise is crucial in order to completely exclude monopolies in such an environment, however, this means a very forceful intervention as this action interferes with the private asset of an enterprise. There have been serious concerns for such forceful intervention as it may adversely affect the investment motivation of companies. There has also been a criticism to such intervention on the basis that new technological innovation in the IT industry will eventually destroy the monopoly.

In the research, we tried to draw a conclusion by examining these issues quantitatively. Consequently, multiple reports endorsed that with the respect to the OS of personal computers the network externality was so powerful that new technological innovation was not able to challenge it. If a technological innovation cannot destroy the monopoly, policy action becomes even more urgent. It is one of the achievements of this research. On the other hand, it was estimated that the necessity of policy action is limited for the IP telephone and router market as their network externality is not so powerful to warrant it. It is also a benefit of this research to identify differences among industries.

A remaining task is concerned with how to measure any adverse effects to

investmentmotivations. Even if the platform is to become open after a certain period of time, what is an appropriate length of time? Is the particular policy action worthwhile even at the risk of investment motivation? These questions remain unanswered.

In addition, even though I stated earlier that a technological innovation could not destroy the monopoly, an unexpected new development could transform the picture totally. As predicted in the reports, the monopoly in the OS market of personal computers could not be destroyed, but you could argue that competition was revived in a larger sense of market of information terminals with the emergence of new devices like smart phones and tablets. This is again concerning the issue of defining the market.

Switching costs are costs generated when changing a provider of certain goods or services. As the existence of switching costs can harm competition in that consumer choice of providers is somehow restricted, the measurement of the switching cost impact becomes a problem to be solved.

In the study, switching cost was measured for personal computer OS, IP telephone, router and broadband services, demonstrating a substantial level of switching cost. Due to a systematic facilitation such as telephone number portability is helpful in addressing the issue of switching costs, this study is valuable as basic reference for designing such system.

However, a bigger issue is that the existence of a switching cost does not necessarily produce a loss of economic welfare. Reviewing a simple two-term model, switching costs make simply the price of the first term cheaper and produce no loss of economic welfare. A good example is often seen in the discount offering of broadband services such as free or half price for the first year of service, in which case you can argue that the switching cost is fuelling competition. If it helps generate more competition, there is little need for competition policy action.

In reality, though, a simple two-term model is not realistic and a loss of economic welfare is likely to occur. However, its measurement is yet to be achieved and remains a future task.

With the definition of the market being a characteristic issue of competition policy, various instruments have been tried from demand elasticity to SSNIP test to define the market. In our study, an attempt was made to define the market about broadband services such as ADSL and optical fibre. The result suggested that the optical fibre market and high-speed ADSL market could be bundled in a single market, providing a narrower definition of the market than previously considered.

A current challenge is how to apply the methodology promptly to rapid changing markets. The definition of a market is more problematic in the industries such as the IT industry where goods and services change very quickly and dramatically. The question of market definition also concerns the markets of personal computer and smart phone as to whether they should be bundled in a single market as mentioned earlier. Then there is a risk of being too late for policy action while waiting for an accumulation of data necessary to conduct proper investigation because of the rapid change of the market. As an instance, if we need five-year data in order to determine whether the personal computer and smart phone should be regulated as a single market, it is possible that the policy agency will be too late for any appropriate policy action with market dominance already established by the time when the data become available.

The media and content industry includes TV, film, music, book and newspaper business, which have not traditionally been targets of competition policy in the past. With increasing interest in them as both growth and export industries, however, they are being recognised as the targets of economic analysis

Studying the three industries of TV, film and games, our research compared the efficiency of the media (TV stations, film distributors, gaming hardware companies) with that of content producers (program production companies of TV, film and gaming software), reaching the conclusion that the promotion of competition in the media is improving the efficiency of content producers. This research demonstratively confirmed the conventional notion that production companies, being put in a disadvantageous position as against media companies, thus have their competitiveness harmed.

It is also a future challenge to address a change caused by the recent explosive growth of Internet. Though our study focused on the traditional forms of media, people's viewing platform of contents is being transforming dramatically. We need to address this new trend. We need to consider the implications for example when public starts watching news and movies on a smart phone or tablet rather than on TV.

Lastly, I would like to point out some industries to be carefully monitored in future. A natural deduction from this text so far will claim those of smart phone, SNS, electronic books and video transmission. All of them have network externality with switching costs, are difficult to define their market, and also play a role of media as content distributors.

Taking electronic books as an example, network externality exists in that a leading provider of most books content has a competitive advantage in the market and a switching cost exists when the book can be purchased only from a specific service provider. The definition of the market here is problematic as electronic books can be read both on a tablet and a smart phone while electronic books are a typical content business.

The reality is that dominant companies are actually emerging in these industries, such as Apple and Google for smart phones, Facebook for SNS, Amazon for electronic books, and Google for video transmission, suggesting a strong need for policy research. More progress in research on these separate industries is eagerly awaited

Report regarding Competitive Situation in the Broadband Service

(CR 01-04, released in February, 2004)

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(Summary)

This research investigated the competitive situation of the market for broadband access to the Internet (hereinafter referred to as 'broadband service') based on the three perspectives such as economies of scale, network externality and switching costs. In addition, the situation of inter-platform competition among broadband services such as ADSL, FTTH and CATV is examined. These investigations aim at provision of basic materials for considering competition policy issues and challenges in the broadband service market.

We regard capability of a new market entry as primary importance to maintain competition, and thus introduce these three perspectives as barriers to the entry.

Firstly, as to the economies of scale, the presence of large economies of scale theoretically makes it difficult for new entrants to enter the market, which easily causes a monopoly or oligopoly. We examined the existence of economies of scale by estimating the production function from financial data of individual ADSL service providers. As a result, little evidence of economies of scale was verified.

Secondly, network externality exists when the network becomes more valuable according to the increase of the number of subscribers in the network. Under this circumstance, only one network tends to increase its subscribers if interconnection among networks is not sufficient, leading to a monopoly. In this study, we conducted a questionnaire survey which asked users whether they were aware of any network externality with regard to the IP phone, and inferred the existence of network externality from their answers. Consequently, it was demonstrated that network externality had not had a marked impact at that stage when IP phone service had just begun while the users were conscious of network externality to some extent.

The third point was the switching costs, which make it more difficult for the existing users to switch providers even if a rival provider or new entrant offered a lower cost or superior service, and thus it reduces the competitive pressures. We asked users the actual amount of switching costs in the questionnaire and investigated whether the switching cost influenced consumer behaviour. Our result confirmed that the switching cost actually existed with some impact on consumer behaviour.

As to inter-platform competition, when inter-platform competition provides an enough competitive pressures, the market power does

not work even if individual market of broadband service is monopolistic. With respect to three broadband services (ADSL, FTTH and CATV Internet), this study also reached a tentative conclusion that it was hard to conclude that they belong to separate markets as there exists certain level of inter-platform competition, taking into consideration the results of our hearing survey.

Based on the findings discussed above, our conclusion is that further measures such as those beyond the supervision and elimination of anticompetitive behaviours based on the Anti-Monopoly Act are necessary, in terms of the perspective of entry disincentive and inter-platform competition, because the current market of broadband service was weak in both economies of scale and network externality with a sufficient level of competition, keeping some reservations as follows. The first reservation is concerned with the network externality of IP phone. Though the network externality is not currently evident due to the limited number of users, it may emerge prominently as the number of users grows in the future. With regard to the second reservation, the fierce competition in the broadband market is mainly brought by ADSL while FTTH is forced to reduce its charges because it is exposed to inter-platform competition with ADSL currently. However, due to technological barrier of the ADSL service, inter-platform competition between ADSL and FTTH may not work effectively in the future, once the number of contents and services which are only available with the speed of FTTH service increase.

(English translation by CPRC Secretariat)

Expectations for the CPRC - From a Viewpoint of Collaborations between Jurists and Economists

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1. Introduction

The CPRC has played a significant role since its foundation as a functional and sustainable cooperative platform such as joint researches among outside researchers, practitioners and staff of the JFTC. There have been a number of joint research projects among economists, jurists and practitioners in the past. However, they tended to be temporal ones focusing on a specific agenda and both their achievements and experiences have not been continuously and systematically accumulated. According to the mission statement at the time of its establishment, the CPRC has sought "to reinforce theoretical foundation on which we operate Antitrust Law and plan, propose, and evaluate competition policy from medium- and long-term perspective as well as from the perspective to utilise the platform to enforce measures for current issues", and actually the achievements and experiences from the joint researches have been accumulated in the CPRC. Focusing on the CPRC's activities with regard to the collaboration between jurists and economists, this paper evaluates their activities from a viewpoint of jurists and expresses expectations for their future. While the CPRC's activities contributed to the competition policy in a broad sense including competition advocacy such as policy evaluation of various governmental regulations and a review of the system, and understanding the competitive situations of individual industries, this paper focuses on their contributions to the practices of the Anti-Monopoly Act.

2. Relationship between the Study of Anti-Monopoly Act and Economics - Recent Global Trend

Since the requirement for the illegality of any action in Anti-Monopoly Act (Competition Law) includes economic evaluation criteria, it should not be operated without consideration of the economic aspect. It is almost 40 years since the necessity of joint works between jurists and economists has been strongly advocated from both sides in Japan. Having said that, however, it cannot be denied that such joint works have not made much progress during the 20th century. Of course, there have been some economic law scholars and practitioners who argued for the importance of economic analysis while there have been some economists who argued for the importance of practical proposals with regards to the specific issues on competition policy. Nevertheless, it is hard to ascertain that the jurists and legal practitioners concerned with the Anti-Monopoly Act shared a common understanding regarding the economic aspect. There were also more than a few of them who recused themselves from the use of economic analysis. More than anything, there were very few instances where the evidences based on an economic analysis were referred to in legal practice concerning the Anti-Monopoly Act.

Indeed it was only in the US during the 20th century where the competition agency applied economic analysis to the enforcement of

competition law by employing a number of economists. Furthermore only the US Courts and Authority accomplished rulemaking on the basis of economic analysis through economic experts' testimony. However, the trend of valuing economic analysis for the enforcement of competition law has become notable in the EU in this decade, and then it has also spread globally after this trend.

Mario Monti, Commissioner, Directorate General for Competition of the European Commission from 1999 to 2004, once recollected that "to develop an economic interpretation of EU competition rules was, indeed, one of my main objectives when I took office as Commissioner for competition four years ago". [1] The White Paper on modernisation of regulatory rules published in his first year in the office was intended to establish the rules based on economics and steered the agency towards the explicit utilisation of economic analysis by introducing the position of chief economist. Additionally, it was also significant that the European Court of First Instance annulled three decisions of the Commission in a row regarding merger transactions on the ground of a lack of economic reasoning in 2002. [2] These descisions did not only ensure the inevitability of Directorate General for Competition in the EU regarding economic analysis as important but also made clear the benefit of using economic analysis to the parties to a dispute. A tendency to focus on economic analysis in the EU competition law immediately affected the enforcement of competition law in its member states. Once both the US and EU turned to put much more weight on economic analysis, this trend has spread globally through communication in such places as the ICN. Thus the debate among the global community of competition law has experienced a drastic change in this decade.

Such transformation, which may have occured by chance, may also have arisen due to requirements of both sides of demand and supply as follows. Though competition law in the context of economic regulations had a high presence only in the US and Germany in the past, the range of application of competition law has widened spectacularly along with deregulation, regulation reform and globalisation. In response to such widened range of application, it has been increasingly required to explain the rationale of regulation in a consistent manner. Economic analysis is an attempt to satisfy such a requirement. This is the requirement on the demand side. In addition, the development of neo industrial organisation theory and neo empiricalindustrial organisation at that time enabled to carry out economic analysis more specifically to each circumstance. It was the time when supply side was getting ready to respond to the requirement of the demand side as well.

3. Circumstances in Japan and Significance of the CPRC

The CPRC was established at a time when this drastic change was about to begin in the enforcement of competition law. It was quite significant that the CPRC was founded at this point in time. Unlike in the EU, there were no external pressures to apply economic analysis to the enforcement of the Anti-Monopoly Act in Japan. In addition, as any merger transactions were handled privately, there are very few examples that the parties to the merger utilised economic analysis to support

[1] Mario Monti, "EU competition policy after May 2004", at Fordham Annual Conference on International Anti-Monopoly Act and Policy (New York, 24 October 2003) available at http://europa.eu/rapid/press-release_SPEECH-03-489_en.htm

[2] Case T-342/99, Airtours v. Commission, [2002] ECR 11-2585; Case T-310/01, Schneider Electric v. Commission, [2002] ECR 11-4071; Case T-5/02, Tetra Laval v. Commission, [2002] ECR 11-4381.

their claims. It was unclear in the first place how much relevance claims based on economic analysis could have in trial decision or in court even if the parties concerned used them. In such circumstances, there was very little incentive for lawyers to understand economic analysis and this "chicken-and-egg" situation that it would not be improved unless there was a common understanding with regard to economic analysis in relation to the Anti-Monopoly Act could have continued. While the JFTC was responding proactively to the international movements at the time of global drastic change in the enforcement of competition law by holding the ICN conference in Japan, competition law community in Japan could have been isolated from the evolution outside like Galapagos Islands to stretch the point a bit if the lawyers had continued to ignore economic analysis. It is believed that the activities of the CPRC played a significant role to avoid such pitfalls.

Many of the reports, discussion papers and handbooks published by the CPRC have become a guidance for economic analysis in each field of the Anti-Monopoly Act, and the CPRC has widely presented the methods of economic examination to those who are involved in competition policy through such occasions as open seminars. Furthermore, interactions among economists, jurists and practitioners through collaborative research projects, seminars and workshops, are thought to have greatly contributed to establishing a common understanding on economic foundation of the competition policy.

4. Review of the Enforcement of the Anti-Monopoly Act and Role of the Economics: Expectations for the CPRC

With respect to the relationship between the Anti-Monopoly Act and the economics, some lawyers seems to have some preconceived notions. One of them is their view of regarding the economics as only special expert knowledge that could give answers to factum probandum. This view itself is not wrong, but it underestimates the value of economics. A concrete example is provided as follows. The 2010 Horizontal Merger Guidelines of the US declared that the evaluation methods utilising econometric analysis such as UPP and merger simulation as well as other economic evidences could be applied to analyse the market power. In Japan, not a few lawyers regard this as an issue of the propriety of introducing economic instruments. However, the methodology utilised in the past was not always foreign to economics. A merger transaction becomes illegal only when it causes "a substantial restraint of competition in any particular field of trade," in other words, when it creates, enhances, or entrenches market power. This can be only determined through economic theoretical reasonings based on various indirect evidences to support the claim. Assuming an advocate believes that a legality of the transaction can be judged based on the sum of market share of the parties to the merger and the concentration rate, this indicates that the person accepts the structuralist perspective. The US Supreme Court ruling (*United States v. Philadelphia National Bank*, 374 U.S. 321 (1963)), renowned for establishing presumption rules from such a perspective, was based on numerous empirical investigations. Even though it is not clear whether the devotees of the concentration rate and market power as criteria are reliant on such empirical investigations or knowledge from requotation, the decision should be intrinsically supported by either an empirical or a theoretical background. Current Japanese guidelines on business combinations clarified three types of functional mechanism which induces

substantial restraints of competition; unilateral conduct in relation to homogeneous goods, unilateral conduct in relation to non-homogeneous goods, and concerted conduct. Such functional mechanisms are based on a theoretical foundation of markets and behaviours. In summary, it is truth that "*Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.*" (J. M. Keynes, "*The General Theory of Employment, Interest and Money*"). More than a few instances have been noticed where an economic analysis of one's own style was used as basis for the debate without presenting proper economic assumptions.

There are various levels of required economic intelligence. While only a rudimentary understanding of economicsis required for some case (*California Dental Ass'n v. FTC* 526 U.S. 756 (1999)), highly sophisticated economics analysis may be required for other complicated cases. Whichever the case is, it is crucial that the lawyers in charge of the case should have relevant economic reasoning in order to make correct decision.

It should be made clear here for those who are specialised in economics that what lawyers call "empirical rules" (*keikensoku*) does not mean "rules of thumb" which do not have any theoretical background. In judicial context, they are comprehensive nomothetic intelligence, including logical and theoretical, which is used for deducing facts to be proven from evidence. A sharing of such nomothetic intelligence in the community of the enforcement of the Anti-Monopoly Act is essential to maintain the soundness of judicial decision-making. Economic common sense is important which can correctly evaluate the relevance, reliability and robustness of novel techniques without jumping at it or rebelling against it unnecessarily.[3] The activities at the CPRC have made a notable contribution to the cultivation of such common sense.

Economics is important in the enforcement of the Anti-Monopoly Act owing to its ability to provide economic reasoning for adjudicated fact findings in the evaluation of evidence. This provision of economic reasoning in individual cases is also important in the context that it directly leads to legislative facts necessary for formulating rules (rationales for regulation). Assuming here that it has become an issue in certain cases whether a specific type of action brought about a substantial restraint of competition or not, basic understanding of economics has helped to determine whether it restrains competition or not. Accumulation of such experiences demonstrates necessary conditions for generally predicting anti-competitive effects by a specific type of action, and enables to formulate appropriate codes of conduct. In this aspect both economics and economic reasoning are crucial.[4] For example, the annulment of the original decision by the Supreme Court ruling on the Arai-Gumi case (February 20, 2012, Minsyu, Volume 66 No. 2 page 796) could be said to depend on the economic reasoning which allows a presumption that effectively functioning bid-rigging (basic agreement) restricts

[3] Admissibility of the expert testimony is scrutinized through Daubert standard in the US. However, there were instances where the testimonies by notable economists like Gary Becker and Robert E. Hall were not admitted as unreliable in the antitrust litigation. Refer to Etsuko Sugiyama "*Civil Litigation and Expert* (*Minjisoshou-to-Senmonka*)" (2007, Yuhikaku) regarding the issue of expert use in litigation.

[4] Refer to the pages 133-141 and 277-327 in Takehiro Hara, "*Creation of Law and Factual Inquiries by the Court* (*Saibansho-ni-yoru-Housouzou-to-Jijitsushinri*)" (2000, Kobundo) which elucidates the relationship between rule formulation and legislative facts from the viewpoint of legal procedures.

competition substantially in itself , and presented the example of establishing rules based on sound economic reasoning.[5] Conversely, the original descision was arguably based on the economic analysis of one's own style.

It is not always evident how the requirements of conduct provided in the letter of law causes "a substantial restraint of competition in any particular field of trade" or to "tend[s]to impede fair competition". Strict enforcement of the law is difficult without clarifying competition rules concretely. Although clarification through the compilation of precedents is invaluable, it has its own limits as cases are unevenly concentrated on cartels due naturally to the large number of their breaches and their significance. Since the publication of the report by the Study Group on the Anti-Monopoly Act in 1980, "*Management of the Distributive Integration in the Anti-Monopoly Act*," the details of the regulation have been specified through various official reports and guidelines. In particular, the "*Guidelines to Application of the Anti-Monopoly Act Concerning Review of Business Combination*" published in 2004, together with the revisions in 2007, lays its foundations on economic analysis. As described earlier, the law enforcement based on economic analysis has been a global trend and is also valuable in indicating the rationale of the regulation. It is not rare in the US and EU to publish working papers and discussion papers in the process of formulating guidelines. The CPRC has never been engaged in such a task directly nor indirectly, but it is expected to be involved in such activities in future.

5. Conclusion

As stated in the introduction, economic analysis is increasingly used in the global community of the enforcement of competition law. Moreover, economic analysis related to the competition policy has become enormous and highly sophisticated, enough to make lawyers hard to access to. Maybe overwhelmed by its enourmousness, some lawyers seem to reject economic analysis flatly by drawing the development of the behavioural economics which deviates from rational choice model assumed in the standard economics. However, behavioural economics is not a rejection of economics but an amplification of tool for economic analysis.[6] Activities at the CPRC greatly assisted in sharing variously developing economic reasoning by having lawyers and practitioners involved in leading edge economic studies, and there are high expectations for their future contribution as well.

[5] Refer to pages 89 and 94 in Takao Fujita, "Important Judicial Precedent and Commentary (Toki-no-Hanrei)" *Jurist*, No 1448.

[6] With this aspect, refer to Noboru Kawahama, "Normative Implications in Behavioural Economics," in Hitohiko Hirano, Hiroshi Kamemoto and Noboru Kawahama (eds.) *Transformation in the Contemporary Law* (2013, Yuhikaku).

Experience of Innovation Research at the CPRC and Proposal for Future

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1. Experience at the CPRC

As a Senior Visiting Fellow of the CPRC from 2004 to 2008, I had the opportunity to carry out research in the field relating to innovation. It was fortunate that I had chances to be involved in three projects jointly carried out by lawyers and economists: technology standards, licensing, and innovation markets. The projects realized good cooperation between scholars and practitioners in both theoretical analysis and empirical analysis. The readers of the project reports would be the best judges of to what extent we realised the synergies of cooperation in this field, but for those who actually undertook the projects it was a very rewarding opportunity in which we learned a lot. I would like to offer my sincere thanks to Professor Koutaro Suzumura, then the Head of the CPRC and the CPRC office for giving me this opportunity.

Below, looking back on the three projects, I would like to summarize my experiences for those who do such research in the future. And I also put forward some proposals as follows.

1.1 Research into competition policy on technology standards

Research into technology standards was my first research. The key motive for this research was that, because of the growth of the role of standard in information and communications technology area, and given the increasing tendency for the standard to use patented technology, the assertion of patent rights over essential patents is having a big influence on the market, so that the quest for an efficient licensing arrangement has become very important. From a theoretical perspective, there is a difficulty of coalition formation in which all those firms who hold essential patents could form a patent pool. In the research we had the participation of an economics professor Reiko Aoki, and law professors Yuko Yamane and Masako Wakui. Also participating were young researchers and graduate students. The result was published in October 2005 in a report entitled *"Technology Standards and Competition Policy -Focusing on Technology Standards based on Consortium-."*

In this research with the cooperation of the JFTC, we were able to visit the competition authorities at the US Justice Department and the EU Directorate-General for Competition, and we were able to carry out interviews on their basic thinking about the assertion of patent rights for indispensable patents for the technology standard (especially the holdup issue) and the application of competition law to patent pooling. It was just after the new EU guidelines for technology transfer were released in 2004 where a new consideration had been canvassed for patent pool. In the interviews with the competition authorities of Europe and the US, the economists and lawyers from these authorities responded to us as a group. In this project we also conducted case studies on DVDs, MPEG 2, 3G, and DRAMs.

In the report above we put forward the following proposals: (1) it is important that competition policy in Japan pay more attention to pool structures (in particular, patent complementarity and interchangeability, freedom to bypass, patent indispensability, or the establishment of a systematic mechanism for objectively valuing complementarity or indispensability of patents); (2) it ought to be welcomed by competition policy that the licensing terms for the bundles of patents necessary for technology standards are made clear by the patent holders ex-ante when the competition between standards exists and also before users of the standards make investments.

In June 2005, the JFTC released the '*Guidelines on Standardization and Patent Pool Arrangements'* which employed the thinking in proposal (1) above. It may not be that our report has had a direct influence, but it was fruitful that we were able to do this research project and at the same time to have an exchange of views with the JFTC staff responsible for the said Guidelines. Also, the latter proposal (2) above was a pioneering proposal in that the 'Letters of assurance'[1] was adopted later on in the 2007 Patent Policy of the IEEE, and received positive evaluation in the Business Review Letter of the US Department of Justice.

1.2 Research into multi-party licenses for intellectual property

In the second research project, we carried out research into licensing contracts such as cross license in which the conduct of multiple parties could be restricted by restrictive clauses in the contract (called a multi-party license in the report). These kinds of license agreements are more significant for competition policy than a simple license agreement because competition is restricted by there being mutual restraints placed on the firms' behavior, or there is the possibility of a restriction of market competition by exploiting the externality among the licensees. Contentious cases under the Anti-Monopoly Law of non-assertion of patent agreements between a dominant firm in a market and their multiple OEM firms (licensees) were a key motive for us to tackle the issue.

In this research the lawyers Masako Wakui and Takashi Ito participated. In the research, in addition to analysing the US court rulings in this area including the case against Intel, we constructed a database of agreements disclosed in securities filings and analysed the actual condition of cross-licensing agreements of Japanese companies, which was a new approach. It was released in a report entitled "*Multiparty Licensing and Competition Policy"* (December 2006).

In the report, the following proposals were put forward: (1) in analyzing license agreements, it is important that attention is paid to the mutuality of restraints and to the position of the agreement in the market as a whole; (2) in license agreements between OEM firms and monopolistic firms, competition between licensors (including potential ones) has the characteristic of a public good for every licensee, and thus the private incentives for protecting such competition is weak; accordingly it is important for a government to have appropriate regulation in place to avoid the use of exclusionary dealings and exclusionary grant backs as monopolizing

1 'Letters of Assurance,' translated as 'guarantee documents,' are statements regarding licence conditions of indispensable patents. Upper limits on royalties (including gratis cases) can be mentioned. Those firms and individuals belonging to the IEEE (Institute of Electrical and Electronic Engineers: the US Electric Society, the largest academic organization in the world for the electrical and electronics field), when holding a patent necessary to a standard, will file in advance this document with the IEEE before the adoption of the standard.

strategies.

1.3 Research into the innovation market

The third research project was on the innovation market. Innovation competition, in the context of the US anti-trust law, means research and development competition (race to the market) while the innovation market indicates a market in which competitive research and development happens. This market deserves our attention as there are cases of firms with already monopolistic position in a product market acquires firms specialized in R&D and thereby monopolising the R&D market as well. In such case, an approach with a sole focus on competition in a product market is not effective in dealing with the competitive situation.

The anti-trust agency in the US has been increasingly using the adverse effects of mergers on innovation as one of the reasons for their intervention. An adverse effect on innovation of a merger was cited in only 3% of merger transactions in early 1990's (1990-1994) against which the DOJ and FTC made challenged, while the citing increased to as much as 38% in early 2000's (2000-2003). More recently, the effects on innovation of a merger have been referred to almost without a fail in such industries as pharmaceuticals, software, chemicals, defence, etc. where R&D activities are very important（Gilbert（2007）).

Since the concept of innovation market has not been not adopted in Japan, the motives for the research project was to discover what sort of value it could add to competition policy as well as to obtain empirical knowledge regarding how much is understood about the R&D activities when applying the competition policy.

For this research topic there were again the participations of economics Professor Reiko Aoki, law Professors Masako Wakui and Takashi Ito, as well as business management Professor Tomoyuki Shimbo. Trying to understand the actual practices of reviewing business combinations mainly in the US, we visited and conducted interviews with the competition authorities in the US and Europe, in order to categorize and analyse the cases where an adverse effect on R&D activity as result of merger was cited by the DOJ or FTC as well as to examine what sort of information should be collected for such analysis. In addition, we conducted a survey of the developments in legal theory regarding the mergers and innovation competition in the US as well as case studies of the effects on innovation of mergers by using patent micro data.

The result is that, while one in four of all recent rulings by the US anti-trust regulator involved comments on the adverse effect on R&D of a merger, almost all of them touched upon the adverse effect on both R&D and on manufacturing and sales, and in many cases we understood that there was no detailed separate analysis of the adverse effect on R&D. Further, in this research we showed that it was possible to conduct specific verification of the synergy effects of mergers such as the extent of post-merger joint research, and also of their relationships with the movement of researchers and timeframe after the consolidation, based on the patent micro data. A report entitled "*Innovation Competition and Antitrust Policy: Focusing on Merger Regulation"* was published in March 2009.

As the relationship between R&D competition and R&D performance is sometimes strongly dependent upon the utility of the relevant R&D output, the analysis of merger effects requires a structural analysis that gets a grip on the special features of the individual case. Even in the US, however, it is difficult to say that the method and actual practice has been established. In such circumstances we could say that it is of primary

importance that research into the actual state of innovation competition be built upon henceforth.

2. Proposals for the CPRC henceforth

First of all, I believe that the CPRC has fulfilled a very meaningful function. It is vital that economic policy is implemented based on objective assessment of policy effects and of the changes in the actual economic situation, and that the policy improvement is sustained. In building mechanisms for the design and implementation of policy based on 'science', it is essential to have a forum for joint involvement in the research as well as for interaction between competition policy practitioners like administrative officers and scholars as well as the interaction between economists and lawyers, I believe the CPRC has achieved a useful function in providing that forum, and I have high expectations of its future development.

strengthen the attractiveness of the Center as a research platform and would be important in conducting the planning of competition policy.

The third is to strengthen the capacity for communicating with experts abroad. At present, most of the research output is published only in Japanese, and it would be desirable for such research output to be published in English. In future the participation of foreign scholars in the individual projects will be valuable.

In looking ahead I would like to make some more practical suggestions.

The first is to bolster the internal staff of the CPRC. Our projects were carried out basically by the researchers from outside sources such as universities in a limited time. To conduct deeper research in a more timely fashion it is necessary to have a proper number of internal staff with research competence.

The second is a systematic accumulation of data that can be used for the analysis of competition policy effects. For example, in examining policy effect of merger regulation, panel data on the industry sector that includes the merged firms is indispensable. The CPRC having the capacity for a systematic accumulation of such data would

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