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How does the European Union Raise Deterrence Effect on Cartels?

Implication for Institutional Development in
Republic of Korea

2013

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1. Introduction

The fundamental purpose of competition law is fostering social welfare by restricting anticompetitive activities and, therefore, enhancing competition in the market. Competition authority enacts and enforces competition law for that purpose. Competition law enforcement from competition authority has various forms of activities such as monitoring companies' actions, investigating violations of law, proving infringements, and punishing the parties in breach of the law. However, if the punishment does not have deterrence effect, the society will bear the administrative cost to correct anticompetitive behaviour in the future. For example, competition authority has to investigate and sanction firms in breach of the law and damaged civil takes lawsuit procedure. The cartel participants and the courts also have to bear the costs in the process. On the contrary, when the potential collusion participants do not take part in cartels for fear of punishment, above mentioned administrative costs and private lawsuit costs will be reduced. Therefore, it is essential for the government to keep in mind that law enforcement should have a deterrence effect in the future.

Anticompetitive activities include cartels, abuse of market dominance, mergers, unfair trade practices, etc. As a governmental official in competition authority (Korea Fair Trade Commission, hereinafter 'KFTC'), Republic of Korea, I have some experiences in dealing with cartel cases. Therefore, I would like to narrow down my paper to cartels. I am especially interested in how competition authority increases deterrence effect on cartels. For this purpose, I examine the regulation and its enforcement in the European Union. Sometimes I refer to the U.S. case for better understanding of the mechanism.

Cartel Concept Cartel is an agreement between two or more companies to keep or raise the prices of products, limit the amount of the products in the relevant markets, or allocate regions to sell the products in order to gain profits. For this purpose, firms take various forms such as price fixing, production limit, regional allocation, etc. Cartel is different from other anticompetitive activities in that it has no benefits at all. For example, a joint venture between firms has positive aspects such as technical innovation, while damaging competition in the relevant market. In this case, competition authority has to be cautious when determining the case and balance positive and negative aspects of it (Rule of Reason). However, in case of the cartel, as it has only negative trait, competition authority does not need to analyze it cautiously (Per se illegal). The cartel is very difficult to detect since firms do it secretly. That is why competition authorities try to introduce efficient tools to detect it (Swedish Competition Authority, 2001, p 14-15). In general it is said that the cartel has three characteristics. First, cartels typically involve secret agreements among participants. Second, the objective of these agreements is to secure pecuniary gains for participating firms. Third, the parties need to be creative enough to secure mutual benefits through the collusion which is the basis of maintaining the cartel (Avenett&Levenstein&Suslow, 2001, p14).

Harmful Consequence of Cartels Price is kept unchanged or increased, the amount of products is limited, and therefore, consumers are damaged because of the cartels. When cartels happen, consumers have no other option but to buy the products or pay increased prices and thereby transfer their money to firms in breach of law, without notice. Consumers get damages not only by increased price but also by exclusion from the market since their demand is decreased due to high price (so called ‘deadweight loss’). Cartel participants don’t need to try to control costs of the products or bother to innovate techniques to compete other firms. In the long run, cartels weaken the competitiveness of the participants and have a negative impact on employment rates. Overall economy can be damaged by the collusions. The EU eliminated national governments’ protectionism by liberalizing the economy and as a result, consumers enjoy benefits that come from the liberalization. This liberalization leads to more competition among companies and they need to innovate and achieve cost efficiencies to win over competitors. However cartels undermine those benefits of liberalization. Especially international cartel¹ threatens this integration and causes decreased benefits to consumers as well (OECD, 2002, p2, Combe&Monnier, 2011, p 246, Mihai, 2008, p1, Swedish Competition Authority, 2001, p 16, Evenett&Levenstein&Suslow, 2001, p2).

The Commission’s Legal Power and Case Dealing Process The European Commission (hereinafter ‘the Commission’), can regulate anticompetitive activities by authorization of the Treaty on the Functioning of the European Union (hereinafter ‘the TFEU’). Specifically, article 101 of the TFEU empowers the Commission to control cartels that affect trade between Member States. The DG Comp headed by a Commissioner is in charge of European Competition law enforcement. Under Regulation 1/2003 the DG Comp can investigate economic sectors, individual company, or trade associations. When it finds suspects in breach of article 101, the Commission can do dawn raids to a company to search evidences. However, the investigated company cannot access to the case file. The Commission issues to the relevant parties a Statement of Objections containing all the facts. The parties may request a hearing if they have some questions about it. The contents discussed in the hearings are confidential and the Commission can disclose only the documents needed for its administrative procedure and creating a defence. The Commission does not disclose the companies targeted by the Statements of Objections. However, the information often leaks or the firms acknowledge they are involved in the alleged collusion. The Commission makes a final decision which becomes public (Kelley, 2010, p702-704).

Section 2 deals with the concept of deterrence and general deterrence theory. In Section 3, two types of approaches (static and dynamic) are examined. Legal instruments such as fining policy, leniency program and settlement procedure in the EU are discussed and the need for international cooperation is examined. From the perspective of dynamic approach, the policy in EU is studied

¹ Collusion among firms affects economy of more than one country and accordingly, more than one national competition authority have jurisdiction over the collusion

in this section as well. In section 4, based on EU's tools and experiences of its implementation, implication for institutional development in the Republic of Korea is introduced. Finally I conclude in section 5.

2. General Deterrence Theory

2.1. Concept of Deterrence

Definition of Deterrence Deterrence can be understood differently since two types of deterrence exist; general deterrence and specific deterrence. General deterrence (ex-ante concept) means that the threat of high penalties can deter potential violators from doing infringements in advance. Specific deterrence (ex post concept) happens when a company violates the competition law and is punished by the competition authority and, therefore, it does not infringe the law ('punishment induced deterrence') (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p 4-5). 2006 Fine Guidelines in EU stipulates the meaning of deterrence as follows: "*Fines should have a sufficiently deterrent effect, not only in order to sanction the undertakings concerned (specific deterrence) but also in order to deter other undertakings from engaging in, or continuing, behaviour that is contrary to Articles 81 and 82 of the EC Treaty (general deterrence)*" (Article 4).

Various Ways to Deter Cartels If the probability of uncovering cartel is high and/or the expected fine is high enough, potential cartel participants will be hesitating to take part in collusion. Based on this idea, many scholars introduce various tools to deter cartels effectively and competition authorities around the world adopt them. Those tools can be categorized into two types: public law enforcement and private law enforcement. With regard to public law enforcement, there are leniency program, settlement, fine, criminal sanctions and so on. Under the leniency program, competition authority offers either full (100%) immunity or partial reduction in penalties that would otherwise have been imposed on cartel participants, in exchange for their voluntary disclosure of cartel information if the information falls within certain criteria. Under the settlement procedure cartel participants admit or do not contest illicit activities and the competition authority give them a partial reduction of the fine. Pecuniary sanction is a typical way of punishment against cartel participants to have a deterrence effect. Criminal sanction includes the imprisonment of high official at firms in breach of the law and this sanction can have a strong deterrence effect. It targets personal incentives to take part in collusion. Employees can get remuneration when they get high sales for the firm through the collusion. In this case, criminal sanction can have a stronger deterrence effect. However, according to the article of 101 of the TFEU, the Commission doesn't have a right to impose criminal penalties (Motta, 2007, p 2, 11, Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p9, Evenett&Levenstein&Suslow, 2001, p16, Ginsburg&Wright, 2010, p5, Buccirossi&Spagnolo, 2005, p23, Kelley, 2010, p706). Private law enforcement is mainly taken by damaged civil to recover the loss from cartels. For example, there is a treble damage system in the USA. When consumers or firms are damaged by

a cartel, they can enter a law-suit against the cartel participants. The damaged consumers or companies can get triple the amount of actual damages. In the EU, damaged civils file a lawsuit against the cartel participants in national courts. All these tools are argued to have a deterrence effect (Bloom, 2006, p 1, Wils, 2008, p 5). Mota, Geradin and Henry confirmed this argument by explaining that consumers of the relevant products of the cartel can significantly add the amount of the fine which cartel participants have to pay by filing a lawsuit, thereby increasing deterrence (Mota, 2007, p11, Geradin&Henry, 2005, p2). Deterrence effect may come out of the market structure itself. For example, price elasticity affects demand of the products. If price elasticity of demand is high enough, the potential cartel participants have less incentive to collude. That is because demand for the products will be decreased and the profits of the cartel participants will be reduced accordingly, when collusion raises price of products. There is an argument that sanction through the market is much bigger than fine from governments in deterrence effect. When the cartel activities become public, the participating firms will get bad image and as a result, the consumers will avoid buying the products of those companies. Or the share price of those firms can decrease since the market expects the firm's profit to drop (Motta, 2007, p6, Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p9, 12, Ginsburg&Wright, 2010, p14). Hans and Frank explain that cartels can break down due to market environments change such as entry, import penetration, innovation, discrete capacity expansion, replacement of management (Hans & Frank, 2008, p110). Competition authority's power of investigation is discussed as a way of increasing the deterrence effect. When competition authority is able to investigate private premises or wiretap the conversation, the probability of uncovering cartels can be raised (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p14). Whether the competition authority is independent from political or economic interests is also an important factor to affect deterrence. Deterrence effect can be raised from obtaining more balanced decision. In other words, when the investigatory institution is separated from the decision making institution about sanctions, deterrence effect can be improved (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p16, 17). The compliance program helps firms to find unlawful actions. If it is designed well and the companies are aware of illegal action, this tool is also increasing deterrence. At first compliance program prevents illegal action. When a firm has been already in breach of law, the compliance program helps the company to detect the violation early and to apply for leniency (Mota, 2007, p11, Swedish Competition Authority, 2001, p33). However, as I mentioned above, I focus on public legal institutions to deter cartels in EU and find some implications for institutional development in the Republic of Korea. Accordingly I examine the fining policy, the leniency program, the settlement procedure, and their enforcement in the EU. Also international cooperation as a way of raising deterrence effect in a general sense is added. Private law enforcement is examined to the extent which those legal institutions are related.

Deterrence Effects Competition law enforcement mainly focuses on general deterrence since the latter has many benefits for social welfare. When the competition authority perceives a possible collusion, it needs to investigate it, proves the infringement of the law, and punishes the participants after taking complex calculating process of sanction. It is possible that the

sanctioned parties have complaint of the infringement itself or the process of calculating the sanctions and appeal to courts. Also consumers or firms damaged by the cartel can file a lawsuit to recover their damage from the cartel. General deterrence can save huge costs for competition authority, sanctioned parties, damaged civil, and courts which are required in the process at each stage when above mentioned situation happens (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p 5).

Over-deterrence Problem When the sanction against violators is too high compared to the harm caused by the infringement, deterrence has a negative effect. This over-deterrence prevents firms from doing activities the positive aspects of which are larger than the negative aspects. Or it induces the companies to allocate too much resources on avoiding infringement which results in inefficiency. If the companies are under the threat of over-deterrence, they need to bear large costs to prevent from infringements such as too much monitoring and compliance costs. These costs can be transferred to consumers in the form of the high price of products. With regard to cartels, over-deterrence can exist when cartel participants get sanction not only from competition authorities but also from class action which damaged consumers file to recover the loss from the cartel (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p 6, Ginsburg&Wright, 2010, p 5).

2.2. General Theory

There are some mechanisms to be considered about how competition agencies can detect, investigate cartels, sanction the cartel participants, and, therefore, deter the anticompetitive acts efficiently in the future. According to standard 'Beckerian' cost-benefit methodology, a cartel can be deterred by breaking the balance between cost and benefit. In other words, the condition for cartel deterrence is: expected net gain from participating in a cartel should be lower than its expected cost.

In general, it is said that we can calculate the expected cost by multiplying uncovering probability by fine. If the uncovering probability and sanction probability are perfect (costless), the optimal sanction for deterrence is the same as the total harm of infringement. However, in reality the possibility of detection and punishment is not perfect because the cartel is done secretly. Therefore, the optimal sanction for deterrence should be calculated by the expected gain from the cartel multiplied by the inverse proportion of uncovering probability (Ginsburg&Wright, 2010, p 7). In other words the expected fine is different from the nominal fine. If the probability of detection is one out of five, the discount is one fifth and accordingly the expected fine is only one fifth of the nominal fine. This nominal amount of the fine must be increased at least five times larger than the expected gain to have a deterrence effect. In this way the minimum fine for deterrence can be calculated. If expected benefit is ' $\Delta\pi$ ', uncovering probability of cartel 'p' and expected fine 'F', we can manipulate the formula as ' $\Delta\pi < pF$ ' (Motta, 2007, p5, Veljanovski,

2011, p912, Friederiszck&Maier-Rigaud, 2008, p97, Evenett&Levenstein&Suslow, 2001, p15, Wils, 2006, p12, Conor, 2010, p12, Buccirossi&Spagnolo, 2005, p12, Ascione&Motta, 2008, p4).

Theory Development Stigler further explores the general theory in detail by noting the conditions for successful cartel formation and maintenance. There are two conditions for cartels to be successful. One is called participation constraint. Under the participation constraint condition, the expected gains would be positive by entering a cartel. The other is called incentive constraint. Cartels are successful only when participants have an incentive to stick to the agreed collusive market conduct, rather than to steal other participants' business by secretly undercutting the agreed cartel price. The expected gain by deceiving other cartel members unilaterally should be smaller than the expected loss from being punished by partner cartel members in the future if detected cheating. In my understanding, high fining policy focuses on participation constraint, while leniency program on the incentive constraint. Both conditions should be satisfied simultaneously for the cartel to be successful. However, even though the amount of fine is not high enough to have a deterrence effect in terms of participation constraint, Leniency programs can deter cartels by ensuring that the incentive constraint is not satisfied (Buccirossi&Spagnolo, 2005, p26-27). However, as discussed in detail later, if the amount of fine is not high enough, there is not a strong incentive for companies to report the collusion to competition authority. In practice, the amount of the fine should be high enough for the leniency program to be effective. With regard to incentive constraint, Sama explains: "*cartel means maintaining prices at an agreed minimum level, while cheating stands for selling under this last, stealing rapidly consumers and profits from other cartel partners... Cartel participants face dilemma, composing of a trade-off between two options: to opt for collusion, replying a coordinate monopolistic regime that consents the joint profit maximization, or to opt for competition, rising the own net income and market share to detriment of adversaries*" (Sama, 2008, p7).

Ways to Measure Deterrence Deterrence means the reduced number of cartels as a result of competition law enforcement. However, it is almost impossible to measure this effect because determining the actions that the company would have undertaken without competition law enforcement can be done in a hypothetical world. However, we can examine how many cases of breaching antitrust law have come out over a certain period especially after the introduction or change of institutional tools to deter cartels. If a company is afraid that there is a high possibility of detecting a cartel or getting a huge amount of fine by the government after the introduction of new tools or revision of them, it is more likely to report the collusion in exchange for immunity. In this way we can reasonably judge the deterrence effect of institutional tools. Miller also used an alternative way by drawing deterrence effect from different numbers of cartel detection. He shows that after leniency program revision in 1993 the number of cartels increases (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p18, Veljanovski, 2011, p912, Swedish Competition Authority, 2001, p196, Sauvagnat, 2010, p3).

Expected Cost instead of Expected Gain To find out the expected gain, we need to know how much firms raise the price through cartels, compared to the price in competitive situations (the so-called ‘but for’ price). Unfortunately, it is very difficult to calculate the ‘but for’ price, especially in long-lasting cartel cases. And as collusions are arranged often to prevent the decline in prices and sales, it is even more difficult to determine the ‘but for’ price. Also, we need to know the price elasticity of demand. If the cartel participants raise the price of certain products of which price elasticity of demand is high, the demand of the goods will decrease. In this case, expected net gain is smaller than that calculated by only comparing the increased price and ‘but for’ price (Combe&Monnier, 2011, p247-248, 250, 252, Veljanovski, 2011, p904). However, potential cartel participants would hesitate to form collusions if expected costs were significantly high enough, even though they don’t know the expected gain. Based on this assumption, I would like to focus on the expected costs.

3. Two Types of Approach: Static and Dynamic

3.1. Static Approach

The formula ($\Delta\pi < pF$) implies there are two combinations of policies to have deterrence effect: First, the combination can be very high fines with a low uncovering probability. This combination is mainly about fining policy. Second, there is a combination of lower fines and a high uncovering probability. This is focusing on policies of raising the probability of detection such as leniency program and settlement procedure.

3.1.1. Increasing Fine

A. Consideration of Theoretical Aspects

Positive Effects of High Fines It is obvious that if fines are high enough, the potential cartel participants will hesitate to be involved in collusions. The expected costs become higher than the expected benefits. As discussed in the general theory, high fines break the balance between expected gain and cost and accordingly cartel participants are under the danger of prosecution and financial sanction. According to Rubinfeld, high fines are related to low enforcement costs: “*for risk-averse parties (which likely characterizes the behaviour of many company individuals) high penalties and a low probability of detection can achieve appropriate deterrence with even lower enforcements costs. The reason is that the uncertainty of detection creates risk, and the risk-premium that individuals would be willing to pay to avoid that risk creates additional deterrence without any enforcement expenditure*” (Rubinfeld, 2008, p3). High fines raise the cost of establishing and running cartels by using aggravating or mitigating circumstances. Forming and maintaining cartels require efforts and various roles of different participants. For instance, cartel participants need to agree the price and the amount of productions. They need to make a mechanism to prevent cartel members from cheating unilaterally to gain profits. For this purpose,

a party should be in charge of arranging a meeting. Other members need to calculate the price and the amount of production. Some members should monitor possible deviators. In this process, someone may take an active role while others may be comparatively passive. Competition authorities need to impose high fines on companies establishing and maintaining the cartel, while applying leniency for passive members (Wils, 2006, p11, 25-26).

Side Effects of High Fines According to the general theory, if the uncovering probability is one tenth, the nominal fine should be more than ten times of the expected gain to have deterrence effect. Adding to that, the amount of fines can be even more high if we calculate administrative costs by the competition authority and the courts. If this huge fine is imposed, various social costs may happen. First, the sanctioned company may face bankruptcy. Many people can suffer from the bankruptcy such as high level staffs and employees of the company, investors, etc. Government also can be damaged by way of reduced tax. Competition itself can be decreased. As the sanctioned companies go into bankruptcy, the number of competitor decreases and accordingly, competition in the relevant market becomes worse. It is also possible for consumers to bear the high fines since punished companies try to recover from pecuniary sanction by increasing the price. It is difficult for the company to invest in profitable projects after a company pays a high fine. Overall the society can be damaged by high fines (Motta, 2007, p2, Ginsburg&Wright, 2010, p5, Wils, 2006, p19, Buccirossi&Spagnolo, 2005, p13). As discussed in the section of over-deterrence, extremely high fines can cause inefficiency in the firms such as allocating too much resources on monitoring or avoiding infringements.

However, if the financial sanction is too low and therefore, the deterrence effect becomes weak, the social cost is higher than the cost of bankruptcy of firms. Also, sound companies can be established through efficient bankruptcy procedures and therefore, competition can be restored again. Argument of consumer damages caused by increasing the price to recover from the fines is contradictory to common sense. It does not make sense if prices increase after a cartel breaks down. There is a possibility that competition in the relevant market is weakened because of a decreased number of competitors. However, the effects of strict sanctions cannot be limited to the relevant markets. For example, it can be a warning in other industries and have deterrence effects in those industries at the same time. The purpose of competition law enforcement in the EU, general deterrence can be understood in this context (Motta, 2007, p2, 11-13, Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p10-11, Buccirossi&Spagnolo, 2005, p14).

B. Regulation and Enforcement in EU

Prior to 1998 When companies are in breach of Article 81(1) or Article 82 EC, the Commission may punish them with pecuniary sanction. The maximum amount is 10% of the turnover of the previous business year (Article 15 (2) of Regulation 17/62²). The Commission explicitly shows the meaning of 10% ceiling in the Pioneer case, 1979. The 10% ceiling includes the 10 % of total

² Council Regulation 17/62 of 16 February 1962 implementing Articles 81 and 82 of the Treaty

(worldwide) sales of all products, not limited to the relevant sales of the collusion (Geradin&Henry, 2005, p4). In this period, the Commission was criticized for vague criteria in determining fines. For example, the Commission does not disclose the relevant turnover and no explicit criteria are shown about adjustment of the fines. The Commission does not explain why a violator is exempted from a sanction (Geradin&Henry, 2005, p7).

1998 Guidelines The 1998 Guidelines targeted transparency and impartiality in the process of fine setting while the Commission enjoys wide discretion under Regulation 17/62. Wils has translated the various steps contained in the 1998 Guidelines for calculating fines in this simple formula: $[x + y] \times [(100 + i - j) / 100] \times [(100 - k) / 100] = f$, x = amount determined for gravity, y = amount determined for medium or long term duration, i = percentage figure reflecting any aggravating circumstances, j = percentage figure reflecting attenuating circumstances (other than co-operation under the notice of 18 July, 1996), k = a percentage figure reflecting the application of the 1996 leniency notice, f = final figure of the fine. Gravity and duration have three stages respectively. Then according to the aggravating or mitigating factors, the Commission can reduce or increase the fines. If a firm is entitled to get immunity or reduction of fine by a leniency program or in the inability to pay for the fine, the Commission takes it into account. Finally the Commission checks whether the final fine is within 10 % of the world-wide turnover (Geradin&Henry, 2005, p11). Ex-commissioner Monti appraised this guidelines as effective in terms of coherence, transparency, and high amount of fines (Swedish Competition Authority, 2001, p18). However, there is some criticism about the vagueness of start amount of the fine. For example, in the Amino Acids case, the Commission takes worldwide turnover into account without considering the size of the cartel's effect on the EEA lysine market while assessing the gravity of the infringement (Geradin&Henry, 2005, p14).

2006 Guidelines

The fine setting scheme in 2006 Guidelines³ is composed of two procedures: calculating Basic Amount and adjustments to the Basic Amount. Then the Commission considers a limit of maximum fine, leniency, and firm's inability to pay.

Basic Amount First a percentage (maximum 30%) of a firm's value of sales⁴ is multiplied by the number of years of infringement. By adding Entry fee to this amount, the Basic Amount is calculated. If the period is less than six months, it is considered as half a year. If the period is longer than six months, it is counted as a full year. The entry fee is 15-25% of the value of sales (2006 Guidelines article 19, 21, 22, 24, 25, Veljanovski, 2011, p874).

³ Guidelines on the Method of Setting Fines Imposed Pursuant to Article 23(2) of Regulation No 1/2003

⁴ Sales in the last full business year of the firm's participation in the cartel and before tax of goods and services affected by the infringement (Veljanovski, 2011, p874).

Adjustments As a second step, the Commission takes into account aggravating or mitigating circumstances or specific increase for deterrence. Aggravating circumstances include recidivism⁵, refusal to cooperate with or obstruction of the Commission's investigation, the role of an undertaking in forming the cartel such as leader, coercing or retaliating other participants to keep the cartel. Mitigating circumstances include termination of the infringement as the Commission intervenes, negligence, passive involvement, cooperation with the Commission, administrative guidance, etc. If undertakings have a particularly large turnover beyond the sales of goods or services to which the infringement relates, the Commission will increase the fine for specific deterrence (2006 Guidelines article 28, 29, 30, Veljanovski, 2011, p874).

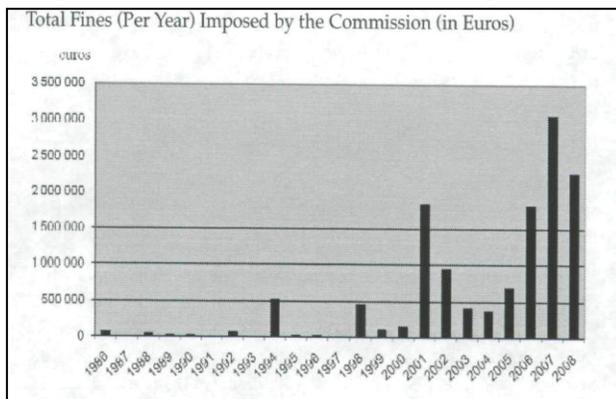
Additional Reduction (10% Cap, Leniency, Inability to Pay) The final fine cannot exceed 10% of the total turnover in the preceding business year of the undertaking or association of undertakings. The Commission gives full or partial immunity of fines by adopting the leniency program. Under 2002 Leniency Notice, if an undertaking is a whistle-blower and not a leader of the cartel, it can get full immunity for the Commission. The second applicant can get immunity of 30-50% while the third can get immunity of 20-30%. The rest applicants can get up to 20% reduction. In exceptional cases, the Commission may take account of the 'undertaking's inability to pay' in a specific social and economic context. The condition for this is that the imposition of fines would irretrievably jeopardize the economic viability of the undertaking concerned and cause its assets to lose all their value (2006 Guidelines article 32, 35, 2002 Leniency Notice, Veljanovski, 2011, p875).

Benefits of the 2006 Guidelines

Increased Fines to Deter Cartels The EU revised the fining guidelines in 2006 is characterized by the high amount of fine. For example, there are Entry Fee (Additional Amount), a link between the fine and the duration of the infringement, specific deterrence increase, etc in the 2006 guideline. Director General for Competition, European Commission, Alexander Italianer sent a clear message about the background of revised 2006 Guidelines in American Bar Association Section of Antitrust Law Spring Meeting in 2010: *"As regards the fines and the level of our fines, it is true that the level has increased quite substantially since we introduced new fining guidelines a couple of years ago. We recognized that the level of our fines was clearly not deterrent beforehand, so we had to increase it in order to increase the deterrence. I would say that the absolute level of the fines may sound astronomical, but it is not so important per se because we are very often looking at quite a large group of offenders with very large turnovers. So I think that has to be related to the turnovers of the companies."*(Conor, 2010, p3). Comb & Monnier analyzed 64 cartels sanctioned by the European Union over the period 1975-2009 to show the relationship between the rise of detections/fines and change in European antitrust policy.

⁵ If an undertaking repeats same or similar infringements before under the Competition law of EU or Member States, the fine will increase up to 100%

<Figure 1>(Combe&Monnier, 2011, p239)



<Figure 2>(Combe&Monnier, 2011, p241)

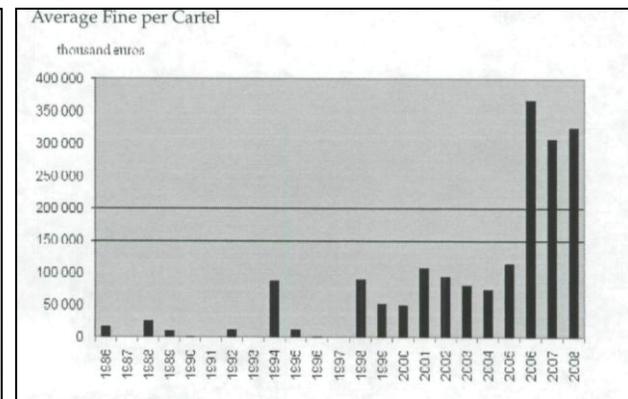


Figure 1 shows how much the Commission increased the fines recently. It is notable that increased fines are prominent since mid-1990s and largest fines from 2000s. The high rate of detection leads to high amount of fines. 75 cartel cases were detected over the period 1996-2008 with the average of 6.25 detections per year, while only 35 cases were detected in 28 years before 1996 with 1.4 detection averages per year (Combe&Monnier, 2011, p239). However, the rise of fines is not from the increased number of cartel agreement, but from increased fines imposed on each cartel. Figure 2 illustrated that the average fine per cartel is larger than 300 million Euros since 2006, while it was seldom above 100 million Euros before 2000. These increased fiscal sanctions can be attributed to the Commission's effort to deter cartel formation through change in European antitrust policy (Combe&Monnier, 2011, p241, 243).

Proportionate to the Duration The 2006 Guidelines improve the duration of infringement in the fine setting mechanism. Under the 1998 Guidelines three types of infringements were established. When the infringement is less than one year, basic fine does not increase. If the violation lasts between one and five years, fine increase can be up to 50%. When the period of infringement is longer than 5 years, the fine will increase 10% per year. This mechanism was not reasonable from an economic viewpoint since the longer cartels benefit from a lower relative fine. For example, participants of 4 year cartel can get more illegal gain than participants of one year cartel while fine rate was the same. However, the fine is proportionate to the cartel duration under the 2006 Guidelines (Combe&Monnier, 2011, p264).

Different Sanction based on the Role The Commission and the courts established well how to deal with different participants with different roles in forming and maintaining cartels. Ringleader or instigator or the one taking retaliatory measures against cheating members falls in the category of aggravating circumstances and therefore having 50% increased fine, while passive participants are treated as an attenuating circumstance (Wils, 2006, p26).

Bos&Wandschneider analyzed the decisions and press releases about cartels from January 1, 2000 to January 1, 2011 to find out the Commission's application of ringleader as an aggravating circumstance. The increased fine rate against ringleaders is from 30% to 85% (average 42%) (Bos&Wandschneider, 2012, p8).

Limits of the 2006 Guidelines

Inconsistency and No Exclusion Period in Recidivism Under the 2006 fine guidelines, the maximum penalty can be increased by 100 percent for each prior violation. However, there is no firm imposed more than 100 percent even though it has repeated the collusion several times before (Veljanovski, 2011, p889). The Commission also does not mention or consider prior violations under Member State's national laws even though many firms had violated before. Connor argues the Commission has too much discretion about recidivism. Sometimes the Commission doesn't count past infringement or it does not take account of infringements in national government (Connor, 2013, p 63-64). There is no limit to the range of prior infringements (exclusion period). If the Commission takes into account very old violation case, the justice and deterrence effect of the sanction can be argued. To avoid this question, the exclusion period is 7 years in the U.S. The Commission lacks consistency in dealing with prior infringements. For example, in *Car Glass Case*, Saint Gobain received a 60-percent increase for the past infringements decided in 1984 and 1998 but the Commission did not take into account prior infringements decided in 2007. Even worse, the average fine decreased as prior infringements increased. For instance, 50 percent was surcharged for one prior infringement, while 30 percent for two to three prior violations and 25 percent for more than four prior cartel participants (such as Akzo in *Calcium Carbide*) (Veljanovski, 2011, p893).

Other Unclear Procedures of Fine Setting Under Article 22 of the 2006 Guidelines, the Commission considers four aspects in deciding the proportion of gravity. However, the Commission does not explain the background of the percentage gravity or the reason of not choosing the maximum (30%) (Veljanovski, 2011, p882). The basic information for calculating fine such as affected sales or market share of the cartel participants is not open in Europe. According to Connor, the Commission does not make the affected sales or market shares open mainly because this relates to confidential information of corporations (Connor, 2013, p63). However, Velajnovski criticized the fine setting procedure as being neither transparent nor predictable and therefore the deterrence effect is doubtful since the potential cartel participants cannot calculate the possible penalties against them when they take part in a collusion. This limitation in fine setting is shown from frequent redacted material from the Commission (Veljanovski, 2011, p902).

3.1.2. Increasing Uncovering Probability (P)

Keeping in mind the side effects of high fines such as undesirable social costs, some scholars argue the combination of low fine and high uncovering probability. This strategy is targeting incentive constraint. Experts and competition authorities take note of companies' cooperation with cartel investigation as a way of raising uncovering probability. If cartel participants cooperate in the process of competition authorities' investigation, the burden of taking administrative and judicial procedures will be lessened significantly. Otherwise, competition authorities and courts should go through the entire administrative and judicial proceedings.

Wils explains two effects of decreased fine followed by firms' cooperation. First, with corporation's cooperation the administrative resources can be saved and reallocated to other possible cartels, thus increasing uncovering probability. Second, when there is cooperation from cartel participants, the antitrust violation ends early, thus decreasing expected gain for the would-be cartel participants. This leads to decreased fine (Wils, 2006, p23).

Generally the leniency program and settlement procedure are mentioned as mechanism of getting firms' cooperation with the investigation.

3.1.2.1. Leniency program

A. Consideration of Theoretical Aspects

As discussed before, cartel detection is intrinsically very difficult since it is done secretly based on trust among cartel members. This implies if competition authority can weaken the trust among cartel participants (incentive constraint condition), it is more likely for competition authority to detect the cartel. Cartels are inherently unstable because strategic interaction between cartel members happens and it is possible to create a prisoner's dilemma situation among cartel participants by adopting an effective institutional mechanism. In prisoner's dilemma situation, cartel participants have strong incentives to confess the collusion.

Prisoner's Dilemma This theory is often introduced to support some mechanism to weaken cartel participants' trust. Suppose that there are two players (A, B) and they must select to cooperate or defect. They don't know the other player's selection and their selection happens simultaneously. There are four combinations of selection and the preference ordering for the players is as follows: DC(my defection, counterpart's cooperation) > CC(both parties' cooperation) > DD(both parties' defection) > CD (my cooperation, counterpart's defection). This explains the best option for a player is to defect while the other player cooperates. In Figure 3, this option is lower-left cell for player A, upper-right cell for player B. The second-best option is cooperation for both players. After that mutual defection comes. The worst combination is to cooperate while the other defects. The ordering of payoffs is 4 > 3 > 2 > 1. Now examine what each player will select.

<Figure 3>(Powner, 2009, p26)

Player A Choices		B	
		Cooperate	Defect
A	Cooperate	(3, 3)	(1, 4)
	Defect	(4, 1)	(2, 2)

Player B Choices		B	
		Cooperate	Defect
A	Cooperate	(3, 3)	(1, 4)
	Defect	(4, 1)	(2, 2)

[Player A] If player B cooperates, A would defect because 4 is better than 3. When player B defects, A would still defect since 2 is better than 1. In any case, defection is better for player A (upper part in Figure 3).

[Player B] If player A cooperates, B would defect because 4 is better than 3. When player A defects, B would still defect since 2 is better than 1. In any case, defection is better for player B (lower part in Figure 3).

Ideologically mutual cooperation (3.3) is best for both players, but they select to defect (2.2) after strategic reasoning respectively (Powner, 2009, p26, 27). Cartel participants would have the same dilemma when competition authority offers leniency. In the case of a cartel, above mentioned cooperation is a denial of infringement since the cooperation is between players while defection is cooperation with competition authority. With the same strategic calculation, they prefer defection to cooperation. Leniency program is basically based on this prisoner's reasonable psychological calculation.

Benefits of Leniency Program Under the leniency program, cartel participants can get full or partial immunity of fines from the relevant competition authorities, if they report the collusion voluntarily before the competition authorities investigate, or cooperate with the agencies in the process of investigation. Therefore, the leniency program encourages cartel participants to whistle blow antitrust action to get fine immunity or reduction (Motta, 2007, p8, Geradin&Henry, 2005, p2). According to Sama, fighting process against cartels has four stages (prosecution, detection, desistence, and deterrence) and historically competition authorities have been weakest in collusion detection process. Successful cartel depends mainly on trust level among participants. The leniency program makes it possible to reduce and undermine this trust among cartel participants by offering them some incentives to cheat on each other and this contributes to detection (Sama, 2008, p11).

Leniency program has the same effect on the internalized costs for cartel participants as discussed in Positive Effects of High Fines (Section 3.1.1.A). Wills argues that as uncovering probability increases by the introduction of leniency program, cartel participants make efforts to set up and run cartels; agreement of price and amount of products, monitoring and punishing system, etc. The costs of maintaining cartels become higher due to the weakened trust among the participants. The weakened trust among cartel members comes from the leniency program since the leniency program gives strong incentives for cartel participants to deviate other members for the immunity of high fines and therefore, makes it more difficult to maintain the cartels (Wils, 2006, p8, 27). Leniency program has a strong point in that it can remind potential cartel participants of the high possibility of detection through frequent detection by the competition authority. Even if the competition authority imposes high fines on companies for cartels to deter future cartel firms may forget those sanctions and the deterrence effect will fade as time goes on (Wils, 2006, p9). Considering this reminding effect, leniency program may be better in terms of deterrence.

Conditions for Successful Leniency Program (Single Informant Rule) The purpose of the leniency program is to raise uncovering infringements. For this purpose, the leniency program offers full immunity to one firm, the first whistle-blower. If there is more than one who can get full immunity, firms are likely to wait till the cartel will be disclosed instead of reporting it first. They have no urgent incentive to report the collusion and therefore, the deterrence effect will be decreased. However, it is still useful to give some incentives to the second and subsequent

reporters to approach the competition authority for fine reduction. Otherwise, the infringers are not likely to apply for leniency as time goes on by considering they are not the first whistleblower. In this situation, raising uncovering probability, the purpose of leniency program can be damaged (Zingales, 2008, p 25). Therefore, in most leniency programs, the second and subsequent reporter can get partial immunity under some conditions. This is because competition authority can condemn the cartel participants by obtaining a lot of strong evidences (Sauvagnat, 2010, p22). Bloom also explains the single informant rule as a condition for the successful leniency program, adding other criteria to that: The reduction gap between the first runner and subsequent reporter should be large enough so that firms have strong incentives to whistle blow. Applicants can be sure of the outcome of applications in advance (transparency and certainty), firms can apply for leniency even after the investigation of competition authority starts, and competition authority should guarantee the confidentiality of the applicants (Bloom, 2006, p2).

B. Regulation and Enforcement in EU

1996 Leniency Notice The EU introduced the leniency program for the first time in 1996. Under this notice, the reductions can be between 10 percent and 100 percent. If a firm is the first to provide the Commission with decisive evidence and satisfies some criteria, it can get a fine reduction between 75 and 100%. According to the degree of cooperation, leniency applicant can get a substantial reduction (between 50 and 75%). The firms still have a chance to get reduction of fine between 10 and 50%, if they cooperate with the Commission. (Veljanovski, 2007, p68, Geradin&Henry, 2005, p15-16).

Evaluation It looks that EU staffs appraise the 1996 leniency notice as successful. According to them, the notice has led to a substantial increase in the number of cartels because a lot of companies have filed a leniency application since the introduction of the 1996 leniency notice (Swedish Competition Authority, 2001, p17, Bloom, 2006, p5). However, there is an argument that there is some deficit in regulation itself and enforcement procedure. The Commission's inconsistency or vagueness about the application of the notice is pointed out. For example, in some case such as Dalmine in the Seamless Steel Tubes and Srintzis in Greek Ferries, the Commission awarded a 20% reduction for not contesting the facts, while it gave only 10 % reduction in other instances such as James Brown in Zinc Phosphate without explaining about the rationale (Geradin&Henry, 2005, p44-45). Some notice the lack of certainty in the regulation. As the Commission has the discretion about granting immunity, the firms cannot be sure of getting the immunity. The meaning of new and decisive evidence is also too abstract. The firms cannot be sure whether their evidences are new and decisive (Geradin&Henry, 2005, p16). Applicants can get maximum immunity only before the Commission starts to investigate. Blum&Steinat&Veltins eloquently argued an aspect of the failed leniency notice in 1996. Most leniency applicants come forward after the Commission already started investigation or the case is already initiated by the U.S. competition authority (Department of Justice, hereinafter 'DOJ').

This leads to the revised 2002 Leniency Notice, making the leniency program more effective and attractive for companies to cooperate (Blum&Steinat&Veltins, 2008, p213).

2002 Leniency Notice

Under this notice, a whistle-blower can get complete immunity if it is not the ‘ringleader’ of the cartel. Even though a firm is not whistle-blower, if it provides the Commission with ‘value added’ evidence, the applicant can get partial reduction of fine; when the firms satisfy certain criteria for partial immunity, the first runner can get a 30-50% reduction in fines while the second will receive a 20-30% reduction, and subsequent companies up to 20% (Veljanovski, 2007, p68, Geradin&Henry, 2005, p17-18).

Benefits of the 2002 Leniency Notice 2002 Leniency Notice is characterized by transparency and legal certainty. When a leniency applicant satisfies immunity conditions, the Commission gives the applicant conditional immunity in writing and do not consider other applicants until it decides the existing application status (Geradin&Henry, 2005, p18). Under this notice, the most notable is that firms can apply for immunity even after the Commission has investigated an alleged cartel (Zingales, 2008, p 28). The strong point of this system can be confirmed from the experience of the U.S. where the number of immunity application following the investigation of competition authority is around one half of all immunity applicants (Geradin&Henry, 2005, p19). The Decisive evidence requirement under the previous notice is replaced with value added evidence in the 2002 Leniency Notice. With regard to the ring-leader concept, the 2002 Leniency Notice makes it more clearly by changing ‘instigator’ and ‘determining role’ into ‘coercing other undertakings to participate in an infringement’ (Stephan, 2009, p21). Motta also confirms the increased uncovering probability through 2002 Leniency Notice. 104 firms applied for immunity from February 2002 to end-December 2006 and the Commission allowed immunity for 56 infringements. The Commission could not investigate all the cartel cases due to limitation of resources but still a lot of cartel cases were investigated by the Commission (Mota, 2007, p4). Forrester’s analysis on statistics shows the effect of 2002 Leniency Notice: “*the Commission adopted 11 cartel decisions from 1992 to 1995, 8 from 1996 to 1999, 26 from 2000 to 2003, and 36 since then*” (Forrester, 2011, p187).

Limit of the 2002 Leniency Notice The 2002 Leniency Notice does not protect leniency applicants from civil lawsuits. For example, when the damaged civil from the cartel can get access to corporate statements submitted by leniency applicant, the leniency applicant is in the face of huge amounts of fine from civil lawsuit in the U.S. Therefore the incentives to whistle-blow or cooperate with the Commission can be significantly reduced. The 2002 Leniency Notice stated that “*the granting of a waiver or a reduction of the fine does not affect the consequences a company has to face under civil law if these consequences result from an action based on its participation in a violation of antitrust law*” (Blum&Steinat&Veltins, 2008, p214). Under the 2002 Leniency Notice, leniency applicants have to quit the infringement when they cooperate

with the competition authority. However, this provision has serious drawbacks with regard to successful investigation. According to this provision, if the leniency applicant withdraws from the collusion abruptly, other cartel members are afraid that the infringement might be disclosed. When other cartel members destroy cartel evidences for fear of that, it is very difficult for the Commission to launch an investigation (Stephan, 2009, p20-21).

Improved Leniency Notice in 2006 With the introduction of marker system, legal status of leniency applicants can be secured under the 2006 Leniency Notice. By revising the requirement of immediate stopping infringement under the 2002 Notice, the 2006 Notice allows a leniency applicant not to quit the infringement immediately if it helps the Commission's investigation (Stephan, 2009, p21). Under the 2002 Leniency Notice, leniency applicants are not protected from damages which might be caused by civil lawsuits. This would discourage cartel members to apply for immunity. However, the 2006 Leniency Notice adopts a procedure to protect statements made by the companies under the leniency notice from being made available to claimants in civil damage proceedings. This will be discussed in more detail in Dynamic Approach section (Sandhu, 2007, p148).

Limits of the Leniency Program in EU The reduction amount of fine in EU leniency policy is argued to be too generous. If the reduction is too large, deterrence effect will be damaged (Zingales, 2008, p 27). Veljanovski analyzed 30 fully reported cartel decisions published by the Commission at the end of June 2006. The average fine per cartel was 161.7 million Euros which were decreased to 96.4 million Euros after the leniency program application. Even worse, when parties appeal to the European Court of First Instance (hereinafter 'CFI'), the average fine will be decreased by 22.7% (Veljanovski, 2007, p69-71). Connor&Miller also point out the negative effect of large reduction of fine from leniency program. As discussed in condition for successful leniency program, successful leniency program depends on the balance between full immunity and partial reduction. When the competition authority uses the leniency program by habitually reducing a large amount of fines for second and subsequent reporters, the effectiveness of leniency program can be damaged (Connor&Miller, 2009, p15). Also, under the leniency program, firms who have prior infringements received a reduction disproportionately. For example, the Commission exempted four of the fourteen firms from fine. They (Bayer in Chloroprene Rubber cartel, Shell in Candle Waxes cartel, Akzo Nobel in Calcium Carbide cartel, and Sairstahl in Prestressing Steel cartel) are repeated offenders but it is strange that Akzo also received full immunity in Calcium Carbide case despite being involved in four previous cartels. It looks the Commission does not take account the recidivism in this case (Veljanovski, 2011, p894, Conon, 2010, p10-11).

<Table 1: Comparison of leniency program> (Stephan, 2009, p22)

	1996 EC	2002 EC	2006 EC	1993 US
Immunity available after investigation is open	NO	YES	YES	YES
Standard necessary to qualify for immunity	'first to adduce decisive evidence of a cartel's existence'	'first to submit evidence which in the Commission's view may enable it to... carry out an investigation' or 'which... may enable it to find an infringement'	Guidance is provided as to what information needs to be provided. 'first to submit information and evidence which in the Commission's view will enable it to carry out a targeted inspection in connection with the alleged cartel' or 'find an infringement'. Can be in 'hypothetical terms' initially.	First to 'report illegal antitrust activity'
When applicant must end its involvement in the infringement	'no later than the time at which it discloses the cartel'	'no later than the time at which it submits evidence'	'immediately following its application except for what would, in the Commission's view, be reasonably necessary to preserve the integrity of the inspections'	'prompt and effective action to end its participation in the activity'. Participation can continue with DOJ's approval. ⁷⁹
Exceptions for immunity	'compelled another... to take part'.... 'instigator' or 'played determining role'	'take steps to coerce other undertakings to participate in the infringement'	'took steps to coerce other undertakings to join the cartel or to remain in it'	'coerced another party to participate in the illegal activity or clearly was the leader in, or originator of, the activity'
When party learns level of leniency granted	Final Decision	Immunity confirmed in writing once it has been determined that evidence submitted meets conditions	Marker protects place in the queue. Can be 'hypothetical' to initially secure marker. Immunity confirmed in writing once it has been determined that evidence submitted meets conditions	Marker protects place in the queue. Assistant Attorney General makes final decision once application has been considered
Discount available to subsequent firms?	YES – up to 50%	YES – up to 50%	YES – up to 50%	NO – but reductions for cooperation can in effect be negotiated at plea bargain

3.1.2.2. Settlement Procedure⁶

Background of Settlement Introduction When leniency program is successful, a number of cases are significantly increasing due to the leniency applicant. On contrary to the limited resources in the Commission, the increased cases entail a lot of time consuming tasks such as requests for information, witness statements, confidentiality reviews, etc. In Europe, it takes more than 3 years from the moment a leniency applicant first reports the infringements to the Commission to the time the Commission make a decision. A lot of resources of competition authority are used during this period which would otherwise be useful for revealing much collusion when saved. As a result, serious administrative inefficiency happens. For example, the Commission could not finish the cases reported under the 2002 Leniency Notice by September 2005. On the part of firms, they normally wait for 5 years to know final pecuniary sanction. When the appeal process follows, both of the competition authority and the parties have to burden huge amount of costs. Settlement is a mechanism to reduce this administrative and judicial cost for competition authority and firms. This is the background of introducing settlement procedure in the EU (Kelley, 2010, p708, Stephen, 2007, p5).

There are two types of cartel settlement system. One is found in a criminal enforcement system such as plea system in the U.S. The other works in an administrative enforcement system such as settlement procedure in the EU.

In U.S. system a company losing the race to full immunity can apply for leniency by cooperating the investigation of the DOJ. The competition authority gets substantial assistance from the company while investigating the cartel and allows partial immunity according to the timing and contribution to the investigation. The competition authority promises not to bring further charges while the firms promise to waive their procedural rights such as the right to appeal. In this system settlement procedure is not different from leniency program.

However, in EU system settlement procedure is different from the leniency program in that the procedure starts only when the Commission investigates the case and obtained enough evidence to prosecute the cartel participants. In the settlement procedure, the parties are allowed to see the evidence and can know the possible maximum fine. At this point, the parties can waive procedural rights such as access to the file, a formal hearing, and a translation of decision in return for fine reduction. In this way, various costs for both the Commission and the parties are saved (Kelley, 2010, p709-710). Obrien stresses the purpose of settlement procedure in the EU as obtaining procedural efficiencies, not seeking cooperation or securing momentum in the competition authority's investigation. Therefore, parties' cooperation is related to waiver of procedural rights, not to effective investigation (Obrien, 2008, p7).

⁶ Commission Notice on the Conduct of Settlement Procedures in View of the Adoption of Decisions Pursuant to Article 7 and Article 23 of Council Regulation (EC) No 1/2003 in Cartel cases

Settlement Procedure in EU

A. Consideration of Settlement

The settlement procedure starts once the Commission's investigation is at the stage of drafting Statement of Objections (Article 9). The Commission enjoys a lot of discretion in the process of settlement. When the Commission decides the settlement procedure, determining factors include the likelihood of achieving procedural efficiencies and the possibility of setting a precedent (Kelley, 2010, p710). Meth and Centella add more factors which the Commission takes into account as follows: "*the number of parties concerned, the number of parties which have not applied for or will not obtain a leniency reward, the number of parties having spontaneously declared their readiness to engage in settlement discussions, the foreseeable divergences in their relative positions and contradicting interests regarding the attribution of liability, the predictable margin for argument, etc.*" (Mehta&Centella, 2008, p13).

B. Settlement Discussion

When the Commission considers settlement discussions to be appropriate, it will set a time-limit of no less than two weeks to receive a written declaration from the parties of an intention to engage in 'settlement discussions' (Article 11). During the settlement discussion, both parties talk about the contents and types of collusion, the gravity and infringement year, liability, the scope of potential fine, etc. During this discussion, access to the Commission's file is allowed (Article 17, Stephan, 2007, p39-40). However, the existence of an infringement of Community law and appropriate sanction is not allowed to negotiate (Article 2).

C. Settlement Submission

If there is an agreement to take steps of settlement procedure, the firms will send a written settlement submission, containing: (1) liability, main facts, parties' role and participating duration of the cartel; (2) acceptable maximum amount of fine; (3) confirmation of being sufficiently informed of the objection the Commission pursues and being given sufficient opportunity to voice their views; (4) waiver of procedural rights such as access to the file and oral hearing; and (5) agreement to receive a Statement of Objections and final decision (Article 20). There is no procedural problem with regard to waiver of access to file or hearing. This is because the Commission already gave the parties opportunity to voice their views during the settlement discussion (Stephan, 2007, p40).

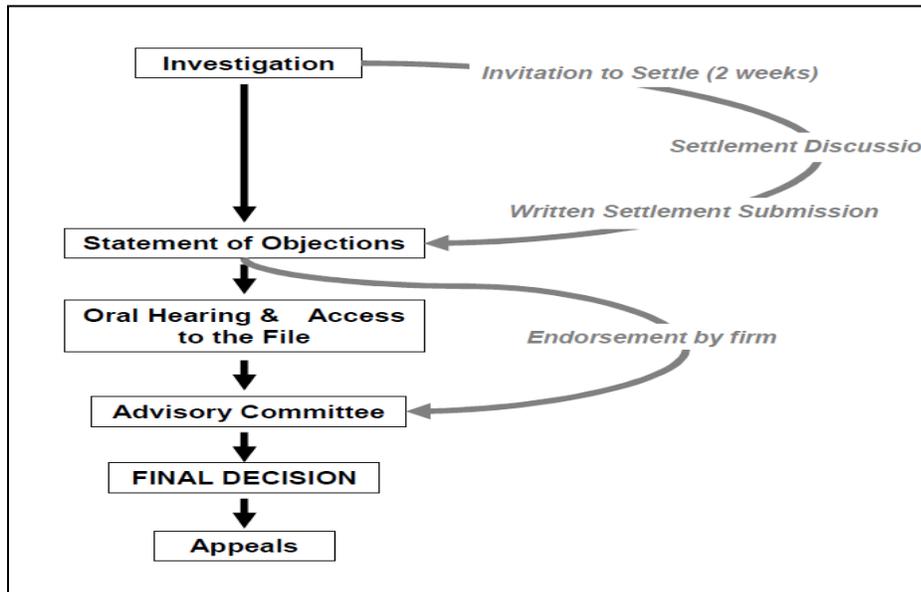
D. Issuance of Statement of Objections

The Commission issues Statement of Objections containing the contents of settlement submission. If the Statement of Objections reflects settlement submissions, the parties reply to it by simply confirming that the Statement of Objections corresponds to settlement submissions and that they remain committed to follow the settlement procedure (Article 23, 26).

E. Final Decision

The Commission delivers its final decision, after consulting with the Advisory Committee (Article 28). If a company agrees to settle and serve for procedural efficiency, the Commission will give the firm 10% fine reduction. This reduction comes after 10% cap rule is applied. When specific increase for deterrence is needed, it cannot exceed a multiplication by two. And the Commission will reduce the same proportion for all the relevant parties in settling the case (Article 32, Veljanovski, 2011, p877, Mehta&Centella, 2008, p12).

<Figure 4: The European Settlement Procedure> (Stephan, 2007, p42)



The Parties' Right When the Commission issues the Statement of Objections, the recipients are entitled to see and reply to it. If the Statement of Objections does not reflect the contents in settlement submission or the fine is exceeding the range of the amount of fine agreed by the party, the party is not restricted to the settlement procedure and the party's approval in the procedure cannot be used against the parties (Mehta&Centella, 2008, p14). The parties may request a hearing by due process of law whenever it is needed.

The Commission's Right The Commission can stop the settlement procedure whenever it wants. For example, when the Commission judges the settlement procedure cannot accomplish the goal as it intended, it can take normal procedure with the argument based on the Statement of Objections which does not include the parties' settlement submission contents.

Conditions for Successful Settlements The competition authority must have enough ability to disclose infringement and punish the cartel participants and the potential cartel participants need to recognize the competition authority's ability. The competition authority can take the settlement procedure when it investigates the case and obtains the evidence enough to take normal procedure (Wils, 2008, p14). Even though the Settlement Notice explicitly regulates that

the Commission cannot use the acknowledgement of the parties against them, the parties are afraid that the Commission can break the settlement after obtaining important cartel information. The parties can be secured that the Commission will not withdraw from the settlement procedure only when there is a strong incentive for the Commission to keep the procedure such as procedural efficiency (Ascione&Motta, 2008, p6). As long as settlement procedure is to secure procedural efficiency, transparency in calculating fine is crucial for a successful settlement. The Commission offers possible range of fine and the parties agree with the maximal fine in settlement discussion. However, the parties can appeal to the CFI after getting final decision from the Commission in case they have some complaints about it and they have taken this procedure in practice. In most cases, the appeal is related to the amount of fine, not the infringement itself. Therefore, the Commission should notice that transparency in fine calculation is an important factor to prevent the firms from appealing (Mehta&Centella, 2008, p12, Ascione&Motta, 2008, p6).

Benefits of Settlements In settlement procedure, the cartel participants can get additional immunity if they do not contest their infringement actions. Settlement procedure can save resources, time and energy used in the long process leading to a Decision and competition authorities use them to detect cartels (European Commission, 2011, p1). Firms also save both legal and consulting costs. Ascione&Motta point out the managerial distraction costs. When a firm is related to cartel case, managers of the company are distracted and this causes indirect costs to the company. By adopting settlement and securing a shorter decision, managers can focus on their activities for the company (Ascione&Motta, 2008, p4). Stephan explains savings yielded by settlement procedure in two aspects. First, the time span between Statement of Objections and the final decision can be reduced meaningfully when firms waive procedural rights such as access to the file or a formal hearing. Secondly, a Commission's Statement of Objections reflecting the parties' agreement in settlement submission could be shorter than the Statement of Objections in the normal procedure. In other words, the Commission can save resources who otherwise would be used for drafting the Statement of Objections (Stephan, 2007, p40-41). As examined above, high amount of fine can lead to firm's insolvency and bankruptcy. As a result, the competition in the market decreases. However, 10 % reduction of fine with settlement procedure can prevent this unintended consequence from happening.

Limits of Settlements Before taking the settlement procedure, the Commission already investigated the case fully and the decision is imminent. In this context, if the Commission allows settlement, the parties have financial benefits unfairly. Unfairly getting lower fines from the settlement procedure may decrease the deterrence effect. Brankin argues reduction amount should be large enough to have an attraction of settlement to cartelists. 10% reduction through settlement is not a generous one by international standards. UK competition authority reduced the amount of fine by 35% in recent settlements. In the US, the parties get a fine reduction of 30% to 50% from the bottom of the sentencing guidelines. Considering the average reduction of 19.3% in appeals to CFI from 1998 to 2007, only 10% reduction looks quite ungenerous (Brankin, 2011,

p6, 8, O'Brien, 2008, p8). The cartellists are also escaping from civil damage lawsuit. Even worse settlement procedure cannot achieve its efficiency goal unless all parties apply for settlement procedure (hybrid case). This is because the Commission should take normal investigation and litigation procedure against non-settling parties. In deciding which cases were suitable for settlement, the Commission had indicated its intention to take account of the prospect of achieving procedural efficiencies. This implied the Commission would be reluctant to pursue so-called 'hybrid' cases, in which some but not all firms are prepared to settle. This, in turn, can reduce the incentive of parties to settle (Brankin, 2011, p5, O'Brien, 2008, p11). Kelley points out the uncertainty problem caused by the Commission's large discretion. When a firm uses its resources to seek a settlement and knows later the settlement will not be accepted because other firms don't want to settle, the firm will not be pleased and its counsel may advise against engaging in the settlement procedure when representing future clients (Kelley, 2010, p715). As the settlement procedure doesn't require infringing firms to waive their right of appeal, firms are free to appeal to CFI or the European Court of Justice (hereinafter 'ECJ') to get a more fine reduction. Adding to this procedural inefficiency from appeal, the firm can give their voice against the Commission during the settlement discussions. Therefore the goals of settlement procedure, resource gains through shortened proceedings and a reduction in the number of resulting appeals cannot be obtained (Stephan, 2007, p39, 43, 44).

3.2. Dynamic Approach

3.2.1. Inter-relation between Public Law Enforcement

3.2.1.1. Fine Policy and Leniency Program

Fine policy is not isolated from the tools for raising uncovering probability. If the fine is high enough, cartel participants would have more incentives to report the cartel to relevant competition authorities to get immunity or reduction of the fine. Accordingly uncovering probability becomes high and deterrence is more effective. With a combination of high fine policy and leniency program, deterrence effect can be more powerful.

However, there is a trade-off between the amount of fine and uncovering probability. When a leniency program is introduced to raise uncovering probability, it reduces the amount of fine at the same time. Deterrence effect would decrease as final fine is reduced by leniency program.

This possible side effect of leniency program can be avoided by considering the single informant rule when establishing the leniency program. Several scholars explain about this combination as follows: "*If expected fines are low, the incentive for applying for leniency is low, cartel defections slow, and the likelihood of detection is lowered. Therefore, increasing penalties will make cartels more fragile and increase detection rates.*" (Connor&Miller, 2009, p6).

European competition authorities also acknowledge the relationship between pecuniary sanction and leniency program by explaining that offenders have strong incentive to apply for leniency only when the amount of fine is high enough (ECA working group, 2008, p1, Bloom, 2006, p2, Brenner, 2006, p29). Mota argues that the fine reduction from adoption of leniency program would decrease the deterrence effect and therefore, a high fining policy might be a useful complementary measure to be taken after the leniency program is introduced (Vives, 2009, p127).

3.2.1.2. Fine Policy and Settlement Procedure

The high pecuniary sanction would lead to a more effective settlement procedure. Parties are invited to cooperate with the competition authority with reduced fine incentives. If settlement procedure is taken, the resources of competition authority can be saved and reallocated for other cartel cases and thereby, deterrence can be improved. The combination of high fine policy and settlement procedure can raise the deterrence effect.

However, if the final fine is significantly reduced by settlement procedure, this can affect negatively on deterrence effect. Furthermore, if firms are allowed to appeal after getting final decision from competition authority, deterrence effect will be seriously damaged since large legal costs of competition authority are entailed. Efficiency, the goal of settlement procedure, cannot be possible anymore and deterrence effect is worsened. Ascione and Motta suggest settlement with harsher sentencing as a way to solve reduced deterrence effect resulted from reduction of fine (Ascione&Motta, 2008, p3).

In the EU, parties' appeals are mostly related to the calculation of fine, not the violation of law itself. Transparency in fine setting can be a solution to the procedural inefficiency from appeals. This will reduce a number of appeals, free up resources to process more cases and clear the backlog.

3.2.1.3. Leniency Program and Settlement Procedure

The leniency program cannot be isolated from settlement procedure. Competition authority has limited time and resources. If the competition authority adopts a leniency program to raise the deterrence effect and the leniency program is successful as the competition authority planned, there might be a lot of leniency applicants which actually happened in the U.S. and Europe. Compared to the number of leniency applicants, resources in competition authority are limited and this might lead to problems in terms of efficient enforcement. This is the background of introducing settlement procedure. Settlement procedure can free up the resources which otherwise would be allocated to the normal procedure. Settlement procedure can solve this problem by reducing the time span between Statement of Objections and final decision, resulting in procedural efficiency. In this way settlement procedure cures for the side effects of leniency program. Damaged deterrence caused by leniency program can be improved by settlement procedure. Stephan explains this combination as follows: "*Plea-bargaining strengthens the*

corporate leniency policy by providing a quick and certain way for a firm to settle its public liabilities, rather than waiting in limbo for a number of years, overshadowed by the possibility of having fines imposed of an uncertain magnitude” (Stephan, 2009, p6). Mota argues that the combination of leniency program and settlement procedure can reduce the time span between starting point of investigation and final decision. The competition authority can reallocated the saved resources to monitor and detect the possible collusions (Mota, 2007, p9-10).

However, there might be a negative relationship between leniency program and settlement procedure. If fine reduction by settlement procedure is high enough, this will affect negatively on leniency program. The potential whistle-blower may not run to the competition authority to get immunity from leniency policy but take ‘wait and see’ strategy. Therefore, the maximum fine reduction from settlement should be set not to prejudice efficient leniency program.

3.2.2. Inter-relation between Public Law Enforcement and Private Law Enforcement

3.2.2.1. Fine Policy, Leniency Program, and Private Law Enforcement

■ Positive Impact of the Private Law Enforcement

Increased Deterrence Private law enforcement has a strong deterrence effect by causing a large amount of fines to cartel participants. In the U.S., infringement companies have to pay for the civil damages (treble damage) after getting fine from DOJ. In the EU, the number of civil lawsuits is growing and the EU itself encourages the private lawsuit to increase the deterrence effect on the cartel. The ECJ recognized that the successful enforcement of competition law against cartel can be secured when the damaged civils can claim their damages from the cartel (Bulst, 2008, p 82, ECN, 2012, p 2).

Protection of the Consumers’ Right Even though the purpose of competition law is to foster social welfare, the competition authority cannot accomplish that purpose without civil proceedings. Civil damages cannot be recovered by the public law enforcement. When the context of follow-on action is considered, the competition authority’s enforcement can be helpful for the damaged civil indirectly. However, the public law enforcement is principally targeting to punish the cartel participants and to obtain deterrence. Keeping in mind the protection of the consumers’ right, the ECJ repeatedly confirmed the importance of individual rights of claiming damages through judgement such as Courage, Manfredi, and Pfleiderer case (Bulst, 2008, p 82).

■ Negative Impacts of the Private Law Enforcement

Less Cooperation However, private law enforcement has negative impacts on public law enforcement. As private law enforcement is increasing nowadays, the firms might be under a tremendous fine imposed by the competition authority and civil damage lawsuit as well. Parties are not willing to whistle-blow or cooperate because of the tremendous fine from civil lawsuit.

Under the discovery procedure, companies are obliged to reproduce the information before the courts which was already submitted to competition authority to get immunity or reduction of the fine. Many lawyers for damaged civil seek to obtain access to leniency applicant's statements through discovery provisions in the USA. In this way they can find a way to claim treble damages against the leniency applicant. Therefore, would-be leniency applicants are at the risk of getting huge amounts of fines by civil lawsuit if they submit their statements as a way for leniency application and thereby, they might be hesitant to apply for leniency.

More Damage for Leniency Applicant The Commission introduces oral statement procedure to prevent the leniency applicant from discovery risk. If the leniency applicant offers oral statement to the Commission, the former is not in a position to be damaged by the civil lawsuit since it doesn't have the evidence and therefore it cannot submit it when the civil litigator (customer damaged by the cartel) asks it by means of discovery devices. However, Sandhu explains that damaged civil can obtain transcripts of oral corporate statement from the Commission in a civil lawsuit against the leniency applicant, especially where the Statement of Objections from the Commission contains detailed contents. Many potential applicants will be hesitant to apply for leniency for fear of this. There is also a possibility that a leniency applicant is placed in worse position compared to that of other collusion members. For instance, a whistle-blower can face claims by US civil litigants who proffer as evidence the leniency applicant's admissions contained in a Statement of Objections. However, other cartel members who do not cooperate with the Commission would be in a much better position compared to that of the leniency applicant in the same civil proceedings because they do not provide any incriminating evidence to the Commission (Sandhu, 2007, p155-156). Furthermore, it is possible that cartel participants can use the leniency program strategically to hedge against possible follow-on actions. Compared to the first whistle-blower seeking for full immunity by providing all the evidences and cooperating fully, second and subsequent reporters can be better off when facing the civil actions since they only offered enough evidence to gain a fine reduction (Bulst, 2008, p 88). If the potential whistle-blower is hesitant to report the collusion, it means that the leniency program itself is not effective. It looks that above examined single informant rule and safeguard needs to guarantee to prevent from this strategic leniency applicant.

Rationale for the Protection of Leniency Applicants Private lawsuits depend on mostly the information coming out of the competition authority's decision. And in many cases the competition authority deals with cartel successfully with the information submitted by leniency applicants. European Competition Network also acknowledged that most follow-on actions depend on public law enforcement which is supported by effective leniency program (ECN, 1012, p 2). This shows the leniency applicants' contribution to civil lawsuits. Therefore, the leniency applicants' liability to the damaged civil needs to be reduced (Kersting, 2008, p2).

Safeguard for cooperating companies In Europe, damaged civil from cartels can file a civil proceeding to recover the loss from the cartel in national courts. The Commission prepared a safeguard against possible decreased deterrence resulted from active civil lawsuits.

- **Access Regulation** The EU introduced a procedural safeguard⁷ (hereinafter “Access Regulation”) against the discovery device. The aim of Access Regulation is to reduce the likelihood and prospects of discovery of transcripts and tape recordings in litigation. Article 3 of this Access Regulation stipulates that access is granted to the parties to whom the Commission has distributed a Statement of Objection. However, internal documents are not allowed to be accessed (Article 12 of Access Regulation). Access Regulation stipulates that *“access to the file is granted on the condition that the information thereby obtained may only be used for the purpose of judicial or administrative proceedings for the application of the Community competition rules at issue in the related administrative proceedings. Should the information be used for a different purposes, at any point in time, with the involvement of an outside counsel, the Commission may report the incident to the bar of that counsel, with a view to disciplinary action”*(Article 48 of Access Regulation).
- **Safeguard in 2006 Leniency Notice** With regard to access to its file containing corporate statements, the 2006 Leniency Notice also has some procedural safeguard. It is not allowed to copy by mechanical or electronic means of any information in the corporate statement to which access is being granted (Confidentiality) (Article 33). The information thereby obtained may only be used for the purposes of judicial or administrative proceedings for the application of the Community competition rules at issue in the related administrative proceedings (Limited use) (Article 34). Sandhu evaluates each of these steps serves to reduce the risk of discovery issue particularly in the USA, explaining as follows: *“As a practical matter, these proposed rules may also thwart the ability of courts to compel production of mechanical copies of oral statements in the Commission’s file, since only the Commission possesses those transcripts and recordings. These procedures would also greatly reduce the possibility that transcripts of oral statements would be subject to indirect means of discovery in US litigation. Indirect discovery could result from requests that counsel disclose what he or she learned in reviewing the Commission’s file. Under the proposed amendments, however, obtaining indirect discovery of oral statements found within the Commission’s file in this manner would face substantial, likely preclusive hurdles”* (Sandhu, 2007, p157).

ECJ Judgement However, ECJ judged that the safeguard can be applied in the proceedings in the EU but is not binding on Member States in Pfleiderer case. As the Treaty and Regulation no 1/2003 have no common rules about access to leniency documents, national governments need to establish and apply that rule. The ECJ ruled that establishment of safety net is up to national

⁷ Commission Notice on the rules for access to the Commission file in cases pursuant to Articles 81 and 82 of the EC Treaty, Articles 53, 54 and 57 of the EEA Agreement and Council Regulation (EC) No 139/2004

governments. When national governments try to establish and apply the rule, they need to weigh the benefit of public law enforcement and private law enforcement.

- ***Pfleiderer judgement by ECJ*** Regulation 1/2003 regulates that it is possible for national courts to ask the Commission for cartel relevant information and the Commission can submit written observation to the national courts when the national courts have jurisdiction over anticompetitive case. *“In proceedings for the application of Article 81 or Article 82 of the Treaty, courts of the Member States may ask the Commission to transmit to them information in its possession or its opinion on questions concerning the application of the Community competition rules”* (Article 15(1)). *“Competition authorities of the Member States, acting on their own initiative, may submit written observations to the national courts of their Member State on issues relating to the application of Article 81 or Article 82 of the Treaty. With the permission of the court in question, they may also submit oral observations to the national courts of their Member State. Where the coherent application of Article 81 or Article 82 of the Treaty so requires, the Commission, acting on its own initiative, may submit written observations to courts of the Member States. With the permission of the court in question, it may also make oral observations”* (Article 15(3)). The critical issue in these regulations is whether the national courts have the right to ask disclosure of leniency documents from national competition authority and the Commission and whether the latter have an obligation to follow the former’s order. The ECJ made an important judgment⁸ about this issue in 2011. Bundeskartellamt (German national competition authority) made a decision about a cartel on 21 January, 2008. Pfleiderer as a purchaser of the cartel products seeks full access to all the materials in the file including leniency documents to take civil proceedings for damage and Bundeskartellamt rejected the application and restricted access to the leniency documents (C-360/09, para. 9-12). Pfleiderer brought an action before the Amtsgericht (Local Court) Bonn against the decision. The Amtsgericht Bonn refers to the ECJ for a preliminary ruling by asking whether damaged parties by a cartel can be given access to leniency documents (C-360/09, para. 13, 18). The ECJ explained that there are no common rules on leniency or common rules on the right of access to documents relating to a leniency program of Member States in the Treaty or Regulation 1/2003. Furthermore, the Commission’s notices are not binding on Member States (C-360/09, para. 20-21). At this point, there is a limit of safeguard above mentioned. The ECJ explicitly explained that as there is no binding regulation under European Union law on the access to leniency documents, Member States need to establish and apply national rules (C-360/09, para. 23). When it comes to this issue (establishment and application of national rules regarding access to leniency documents), national courts must reconcile the objective and utility of leniency programs and the right of damaged civil to seek redress, actions for damages (C-360/09, para. 25-27, Commission observation, 2011, para. 14).

⁸ ECJ, C-360/09, Pfleiderer AG v Bundeskartellamt

■ The Importance of Balance

At first it looks that public law enforcement has conflicting interests with private law enforcement. If above mentioned safety nets work efficiently, public law enforcement will be successful. In this case, there is a negative impact on private law enforcement and civil damages cannot be recovered. However, private law enforcement is very difficult without the information of the case issued out of public law enforcement. This is why the civil lawsuits is called 'follow-on suits'. Therefore, it is very important to balance between public law enforcement and private law enforcement.

One example of balancing way between public law enforcement and private law enforcement can be a situation where cartel ring-leaders can apply for leniency program and/or settlement procedure. It is normal ringleaders exist in cartel the role of which is organization of initial meetings, collection of data, ensuring a safe and repeated communication between the cartel members, etc (Herre&Rasch, 2009, p2).

Cartel ring-leaders can misuse the leniency program. As actively participated to form and/or maintain through various activities, they can keep the crucial evidences away from other participants. When they consider they achieved their original goal through the cartel, they can report the collusion to the competition authority to get full immunity as a first whistle-blower. Cartel ring-leaders' exclusion from the leniency applicant is based on this rationale (Zingales, 2008, p 30). However, the issue of ring-leaders exclusion needs to be considered more cautiously for the purpose of cartel detection and deterrence.

On the part of opponents of ring-leaders' exclusion, it is important to increase detection probability and thereby, decrease the sustainability of collusion. If ring-leaders are excluded, the uncovering probability will be lowered. This, in turn, leads to more collusion. This opinion is on the side of public law enforcement. However, as discussed above, strengthening public law enforcement does not necessarily mean weak private law enforcement in that civil lawsuit itself depends on the information coming out of public law enforcement (so called 'follow-on suit').

On the contrary, ring-leaders' exclusion can contribute to cartel break up. Cartel ring-leaders face higher expected sanction than that of ordinary collusion members when they are excluded from leniency. In this case, ring-leaders want to make up for the danger with increased share of collusive profit. However, if the profit is reallocated as ring-leader argues, ordinary members will be against it and therefore the sustainability of collusion will be decreased. This opinion can be on the side of private law enforcement. The competition authority takes this option only when they have enough ability to discover cartels. This option can be adopted by the competition authority, only when it does not need to depend on ring-leaders' cooperation. Therefore, this option does not damage the effectiveness of public law enforcement since detection ability is already secured.

Considering this mechanism, Herre and Rasch explain two optional situations about policy towards ring-leaders. One situation is allowing ring-leaders the chance to apply for leniency when the competition authority's ability to review the industry is limited. In this situation, the competition authority can get additional evidences from ring-leaders and efficiently investigate and successfully prove the infringement and as a result, deterrence effects can be raised. However, when the competition authority has relatively high detecting power, ring-leaders should be excluded from leniency applicants. This is because ring-leaders face a higher expected fine and ask for compensation by other cartel members. This asymmetry among cartel participants makes it difficult to sustain the cartel (Herre&Rasch, 2009, p40).

3.2.2.2. Settlement Procedure and Private Law Enforcement

As there is no formal decision, a slimmer case file, or an agreed Statement of Objections in settlement procedure, private damage claimants would find it hard to bring claims if there is no obligatory regulation about disclosures similar to those in U.S. (Schinkel, 2010, p10, Bloom, 2006, p22). The 2008 Settlement Notice explicitly prohibits the dissemination of settlement documents to private complainants. However, third party still has some possibility to know the facts since sometimes the companies can admit their involvement in the cartel and their liability for it. If there is a mechanism to limit liability against companies that participate in settlement procedure, the settlement program would be more attractive than litigation. Considering the Commission's promotion and increasing tendency of private action, the introduction of that kind of protection mechanism is more urgent. This is the background of adopting safety net in settlement as will be discussed below.

Safety Net Settlement submissions are accessible only within the Commission's premises and the parties can't copy them mechanically in hybrid cases. According to a Cooperation Notice⁹, settlement submissions cannot be transmitted to national courts (Mehta&Centella, 2008, p15).

However, as discussed about Pfliderer judgement by ECJ, the Commission's notice is not binding on Member States. Therefore, it needs time to see whether settlement is efficient due to the safety net.

Two key issues are related to settlement procedure and private law enforcement. One is about the Statement of Objections issued by the Commission. If Statement of Objections contains detailed information of infringement, it is much easier to file civil lawsuits since detailed information about cartel become public. In this case, huge fine for damaged civil will lead to raising deterrence effect. However, the settlement applicant will hesitate to cooperate with the Commission for the same reason. Then the Commission cannot achieve procedural efficiency by taking settlement procedure. In this case, deterrence effect will decrease. The other issue related

⁹ Commission Notice on the cooperation between the Commission and the courts of the EU Member States in the application of Articles 81 and 82 EC, OJ 2004 C 101, p 54, recital 26

to company's appeal to the courts. In the EU settlement procedure, the parties have a right to appeal the case to CFI or ECJ after getting final decision from the Commission. Experiences show that the main reason to appeal is to get an additional reduction of the fine. The companies are complaining about the process of calculating the amount of the fine. If the number of appeal increases, the Commission has to allocate lots of resources to defend itself in the process of appeal. In this case, it is very difficult to achieve procedural efficiency through settlement and deterrence effect will be damaged.

There is an argument that the Statement of Objections might be more detailed than that in the U.S. even though the contents of the Statement of Objections are limited and it is needed to make the Statement of Objections shorter to protect the settling parties. However, Stephan argues that it is not needed to make Statement of Objections shorter in the EU since the parties are not required to waive procedural rights. In the U.S. the settling parties are required to waive those rights and the companies' statements should be extremely short so that they are protected by private law enforcement. The statements contain only the infringement and sanctions. However, in the EU, the parties can appeal later, there is no need to protect the companies from civil lawsuits by making the Statement of Objections shorter. Instead of noticing on Statement of Objections, Stephan argues the Commission needs to focus on appeal since it entails costly and time consuming legal defence. In the EU, US system where the defendant's rights of appeal are waived is not possible by virtue of Article 230 EC¹⁰. Many of the appeals are related to the way in which the fine or leniency is calculated. Therefore, costly appeals can be avoided by making the calculation of fines more transparent and predictable (Stephan, 2007, p48, 52, 56, Mota, 2007, p 10). At this point this issue pertains to Section 3.2.1.2 because this issue is related to the relationship between fine policy (transparency in fine calculation) and settlement procedure.

It looks Stephan is focusing on raising deterrence effect in both ways of private law enforcement and public law enforcement. Detailed Statement of Objections instigates private law enforcement. Settlement system can be successful by making a fine calculation more transparent and predictable.

Stephan has a point that unlike US system, as the parties have a right to appeal after getting final decisions, there is no need to protect parties from civil lawsuits when making Statement of Objections. And the deterrence effect will be raised through a detailed Statement of Objections on which private lawsuits depend. However, the parties will hesitate to settle for fear of private lawsuit if the Statement of Objections has detailed information. In this case deterrence effect will be damaged. Furthermore, private law enforcement largely depends on the information issued out of public law enforcement; a successful private lawsuit is difficult if competition authority cannot disclose a cartel case without efficient settlement procedure.

¹⁰ The Commission would not be able to adopt a system of direct settlement that forces infringing firms to waive those (appeal) rights

3.2.3. International Cooperation

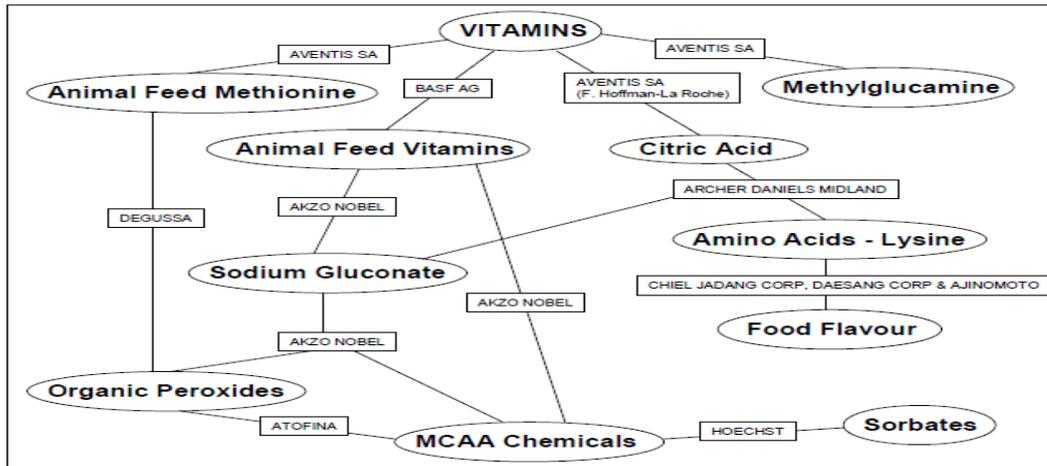
High Competition and Increasing International Cartels Trade liberalization which is characterized by increasing competition in formerly protected national markets give incentives firms to participate in collusion (Evenett&Levenstein&Suslow, 2001, p2). As the economy becomes more globalized, it is common that the coverage of companies' action is not limited within national boundaries and accordingly it affects the economy of other countries. Recent notice and strict competition law enforcement about international cartel from global competition authorities reflect this phenomenon. For example, more than 90 percent of recent fines for antitrust violations are imposed against international cartels' participants in the United States (Ginsburg&Wright, 2010, p32).

Various Needs for Cooperation among Competition Authorities As we noticed the international cartels have economic effects on various countries and therefore, various competition authorities have jurisdictions over the same cartel case, it is essentially needed to cooperate among concerned authorities to deal the case effectively. We can easily confirm this by considering a simple situation of investigation process among various agencies. For example, suppose that an international cartel case is related to country A, B, and C. It is common for competition authorities to investigate an alleged cartel case in secret at first. When the competition authorities have sufficient evidences, they initiate the investigation publicly. Otherwise, the alleged cartel participants will hide or destroy the relevant evidences so that they can hinder the authorities from uncovering the case. Suppose that the competition authority in country A has enough evidence to initiate the investigation openly, while the competition authorities in country B and C are still in need of more evidence. If the news of investigation in country A becomes open, the alleged cartel participants in country B and C will try to destroy the relevant evidences. Then the competition authorities in country B and C will have difficulties to investigate the case. That is one of the reasons why the relevant competition authorities need to cooperate in the process of investigation. Another example of getting difficulty to get evidence is export cartel. Firms in a country agree to allocate the exporting countries or fix prices in the export markets and this cartel does not affect the domestic market where the firms exist. In this case, the competition authority in the inflicted country needs the cooperation of the competition authority of the nation where the firms exist to get the related evidence (Evenett&Levenstein&Suslow, 2001, p3). Much part of cartels detected around the world is international cartel. For example, in 100 corporate crimes three of top four criminals and six out of the top ten was Multi-national Corporation participating in international cartel. Accordingly new regulations and investigative mechanism are adopted, record-breaking fines are imposed, and the importance of international cooperation among competition authorities stands out (Swedish Competition Authority, 2001, p30-32, Ginsburg&Wright, 2010, p4). The effect of the leniency program in a nation can be seriously limited due to the fact that a leniency applicant in a country would be under the danger of large penalties in other jurisdiction. This can be understood as an indicator of decreased uncovering probability. This is one of the reasons why cooperation among competition authorities is

essential to deter international cartel (Evenett&Levenstein&Suslow, 2001, p17, 18). The ex-commissioner Mario Monti also emphasized on the need of cooperation with other competition authorities, pointing out that there is no national boundary for international cartels and world policeman either (Swedish Competition Authority, 2001, p20).

Inter-relation between Cartels Firms in a cartel can also be involved in other cartel cases. In this case there is a strong incentive for a firm to divulge other cartel cases to competition authority to get immunity and use this opportunity to weaken other cartel participants (competitors). Companies have been colluding in one specific product or geographic markets are more likely to have participated in, or at least to know about, cartel activities in other adjacent markets. As multinational companies run several business areas, several cartels can be interrelated in one company (Roux&Ungern-Sternberg, 2007, p2). Stephan shows a good example of the links between the chemical cartels.

<Figure5: Links between cartels in chemical industry>(Stephan, 2009, p 13)



In Figure 4, Aventis S.A. (formerly F.Hoffman-La Roche) and Akzo Nobel are involved in several cartels. The Commission decision shows that detection of Methylglucamine and Animal Feed Methionine case owes to the investigations of the Vitamin cartel. As Aventis S.A. is involved in all three cartels, cartel members were worried about the possibility that both cartels would be detected. This situation makes Merck KgaA and Aventis S.A. approach to the Commission to self-report the infringements. In a similar way, the Vitamins investigation has led to detecting the Choline Chloride case since BASF AG, a member of Choline Chloride case, was investigated for participating in the Vitamin cartel (Stephan, 2009, p13-14).

Powerful Effects of Close Relationship between Competition Authorities Above mentioned Vitamins case was active in Western Europe and North America. The cartel participants investigated by DOJ were afraid that the cartel information in the premises of DOJ might be

transferred to the Commission. This makes them to rush to apply for leniency in Europe (Brenner, 2006, p24).

Competition authorities around the world acknowledge the importance of international cooperation and adopt various means such as recommendations and agreements through multi-lateral and bi-lateral meetings.

Multi-lateral Efforts In 1998 the OECD Council adopted a Recommendation concerning Effective Action against Hard Core Cartels. Member nations are recommended to adopt anti-cartel laws as a way of raising deterrence of the cartel. The Recommendation especially stressed on the importance of cooperation among antitrust authorities (Evenett&Levenstein&Suslow, 2001, p21). The OECD also published ‘BEST PRACTICES FOR THE FORMAL EXCHANGE OF INFORMATION BETWEEN COMPETITION AUTHORITIES IN HARD CORE CARTEL INVESTIGATIONS’ in 2005 and ‘Improving International Cooperation in Cartel Investigations’ in 2012. In the ‘Improving International Cooperation in Cartel Investigations’, OECD points out the hurdles of cooperation as follows: ‘different legal systems underpinning enforcement, diversity of competition agencies seeking to work together, confidential information. OECD recommends adopting successful cooperation of other policy area such as tax and anti-bribery’ (OECD, 2012, p1). Activities of International Competition Network (ICN¹¹) are notable. The ICN held a Roundtable on Enforcement Cooperation on March 29, 2011 in Washington, DC for the purpose to discuss enforcement cooperation in depth among the member countries (ICN, 2011, p1). ICN holds Cartel Workshop Conference annually where national competition authorities’ staffs and Non-Governmental Advisors attend and discussion focuses on effective strategies to investigate cartel conduct. ICN holds Conference call every other week where staffs of worldwide competition authorities discussed about regulation and enforcements of the respective member states.

Bilateral Agreements Cooperation among competition authorities actively happens through bilateral agreements on anti-trust matters. The parties assist each other by exchanging evidences or taking various procedures to obtain evidence. In this way they can save a lot of resources, time, and energy that otherwise would be used to secure the evidences. For example, “*the Australian authorities requested and received case materials from the U.S. on the vitamins conspiracies-saving the former considerable time, effort, and expenditures*” (Evenett&Levenstein&Suslow, 2001, p20).

Agreement between the European Union and Republic of Korea On 23 May 2009 Korea and the European Union signed ‘Competition Agreement¹²’. The Competition Agreement deals with

¹¹ “The ICN's mission statement is to advocate the adoption of superior standards and procedures in competition policy around the world, formulate proposals for procedural and substantive convergence, and seek to facilitate effective international cooperation to the benefit of member agencies, consumers and economies worldwide” (<http://www.internationalcompetitionnetwork.org/about.aspx>)

¹² Agreement between the European Community and the Government of the Republic of Korea Concerning Cooperation on Anti-competitive Activities

cooperation on anti-competitive activities, competition law and policy in the parties, etc (Baier, 2011, p40). With regard to cooperation of competition authorities, Competition Agreement has significant important articles such as enforcement cooperation, coordination of enforcement activities and consultation. Enforcement cooperation is about providing information which affects the counterpart competition law and enforcement negatively. Coordination of enforcement is that the parties can coordinate their enforcement activities with regard to related matters. According to the consultation provision, one party asks the other party at least once a year to discuss about the implementation of the Competition Agreement (Baier, 2011, p42, Competition Agreement Article 3, 4, 8). The European Union and the Republic of Korea also signed Free Trade Agreement (hereinafter 'FTA') in 2010. The parties in the FTA are the EU, Korea, and Member States in EU while the parties in Competition Agreement are the EU and Korea. The competition pact is in Chapter 11 of the FTA and requires the contract parties to “undertake to apply their respective competition laws so as to prevent the benefits of the trade liberalization process in goods, services and establishment from being removed or eliminated by anti-competitive business conduct or anti-competitive transaction” (Baier, 2011, p42-43).

3.2.4. Examination of EU Policy

Two Aspects of Sanction When competition authorities sanction cartel participants, it has two aspects: backward looking aspect and forward looking aspect. Backward looking aspect is related to proportionality since the punishment should be proportional to the harm caused by the cartel. Forward looking aspect of sanction notes on deterrence in that the competition authority warns against future infringement by punishing the current cartel participants (Calvino, 2006, p 1, Connor&Miller, 2009, p 6). However, these two aspects are interrelated to each other. When the punishment is not proportional to the damage from cartels, over-deterrence or under-deterrence problem happens. If the degree of sanction is too low, the warning message against potential cartel participants is too weak to have a deterrence effect and the costs of the competition authority for investigation and punishment such as time and efforts are meaningless (under-deterrence problem). On the contrary, if the degree of sanction is too high, it causes inefficient costs for firms as discussed in the section of over-deterrence problem (Calvino, 2006, p 13-14). Over-deterrence happens when cartel participants face a claim for damage in civil proceedings after being punished by the competition authority. Fine calculation in civil proceedings is based on ‘but for’ price since the fine is compensatory. However, a pecuniary sanction in criminal (administrative) proceeding is based on the company’s affected sales since the purpose of sanction is to achieve deterrence. As both sanctions have different characteristics, it can be justified when firms get measures from civil and criminal proceedings for the same infringement. However, on the part of firms, they face too severe punishment and therefore, over-deterrence problem happens (Zingales, 2008, p 18).

Importance of Well-designed Combination of Deterrent Tools However, deterrence and proportionality do not necessarily go together. Even though the proportionality is satisfied and there is no under-deterrence or over-deterrence problem, there is still a problem of an efficient

way to deter cartels. Deterrence tools against cartels include administrative pecuniary sanctions against firms, fine against individuals, imprisonment of individuals, and civil damages action. A well-designed combination of those deterrent tools are required to achieve efficient deterrence. For example, pecuniary sanctions against companies has limited effect on cartel deterrence. This is because the punishment is only against the shareholder of the companies in the end, not the participating individuals (Calvino, 2006, p 10). When cartels happen between competitive corporations, in reality the collusion is done by individual employees or high level managers of the companies. Individual employees have personal incentives to do the infringements since they can get remuneration from the company for their accomplishment of high sales. In this case, even though the cartel is initiated by personal profit incentive, ultimately the company gets gain in the form of profitable sales. When competition authority detects the cartel and punished the individual, the higher level manager can decide to pay for the individual's fine from the company's budget because the individual contributes to the profit of the company. The personal profit incentive justifies the necessity of criminal sanction against individuals. However, as there is still pitfall in the sanction against individuals when considered the possibility of manager's advocacy for the individuals, the imprisonment of high level managers is needed to have effective deterrence (Buccirossi&Ciari&Duso&Spagnolo&Vitale, 2009, p 9). Development of private law enforcement is also important to deter cartels. Criminal (administrative) proceedings do not guarantee the compensation for the victims. Class actions for damages are required for the compensatory justice. This civil proceeding also has a strong deterrence effect on cartels since cartel participants have to bear additional huge amounts of fine after getting punishment from the competition authorities. Therefore, the Commission encourages the damage actions as a way of balanced measures and the ECJ repeatedly backed the civil proceedings by several judgements (the Commission's White Paper, 2008, p 2, Bulst, 2008, p 88).

It is said that there is a significant difference in cartel deterrence mechanism between the U.S. and the EU (the largest competition authorities in the world).

U.S. Sanction Mechanism Penalties against cartel participants in the U.S. are fines against the firm and individual and imprisonment of managers in the firm (Connor&Miller, 2009, p12). The powerful effect of deterrence can be achieved by an effective combination of various tools as discussed above. Cartel deterrence can happen with criminal sanction including imprisonment and active civil proceedings against the cartel participants, let alone pecuniary sanction. Many scholars agree that the substantial deterrent effects come out of prison sentences and treble damages by private actions (Vives, 2009, p 127, Mota, 2007, p 10, Calvino, 2006, p 12). The U.S. leniency program is well designed in that it effectively protects the leniency applicants including individuals. When a firm gets full immunity, the individuals in the firm are also free from pecuniary sanctions and imprisonment (Connor&Miller, 2009, p14). This gives a strong incentive for the managers to self-report the collusion to avoid imprisonment and therefore, raise deterrence effect. The firm also gets financial advantages in private damage lawsuits when it is allowed to get full immunity in return for whistle-blowing. For example, it can pay for one damage while other cartel participants have to pay for treble damages ("de-trebling-damages

rule¹³) (Zingales, 2008, p 15). In this way the coordination between public law enforcement and private law enforcement can be achieved.

EU Sanction Mechanism As discussed in the section of Increasing Fine, regulation of pecuniary sanction and its enforcement in the EU are characterized by a high fine against companies. Unlike the U.S., the Commission can use only pecuniary sanctions against companies. The Commission has no authority over fines or criminal sanction including imprisonment against individuals (Connor&Miller, 2009, p 20). In the EU, private lawsuits to recover the loss from cartels have not so well developed until now (Connor&Miller, 2009, p 21, the Commission's White Paper, 2008, p 2). Considering all these factors, the Commission's high amount of fine is justified to have a deterrence effect on cartels (Mota, 2007, p11, Geradin&Henry, 2005, p 2, Connor&Miller, 2009, p 7).

Proportionality in the EU Until recently high amount of fines against firms have been justified in the EU as examined above. However, Regulation 1/2003 allows the national competition authorities and national courts to enforce the competition law in the EU. Accordingly the courts in Member States are increasingly in charge of private lawsuits to recover damages caused by cartels. The EU itself confirms the importance of private enforcement of competition law to raise the deterrence effect on the cartel. And the ECJ also supports the damaged private's right to recover from the loss caused by the cartel through several judgements (Mota, 2007, p 11, Connor&Miller, 2009, p 21). If this recent change is taken into account, there is a possibility of over-deterrence problem in the EU, as discussed in the section of Over-deterrence Problem. Zingales introduces two options to solve this problem: low fine with high civil lawsuits burden or high fine from competition authority with low civil lawsuits burden. If the compensation for the damages is too high in civil proceedings, the Commission needs to reduce the fines in its discretion. In this sense, it can be argued that the current high fine policy should be reconsidered. If the competition authority's sanction is too high, some institutional tools to lessen the burden of civil damages should be established. For example, when damaged civils file a class action in the U.S. after the Commission punishes cartel participants, they are under de-trebling damage (Zingales, 2008, p 15). However, the Commission does not establish some effective safeguard for cooperating companies in the EU (refer to section 3.2.2.1., 3.2.2.2.). Furthermore, when the cartel participants are under the civil proceedings in the U.S., after being punished by the Commission, the sanction against cartel participants are severely disproportionate and there is a high possibility of over-deterrence problem since the "de-trebling-damages rule" is only applicable to US leniency applicants (Zingales, 2008, p 9).

Deterrence in the EU As discussed in the first part of this section, even though the proportionality condition is satisfied, there is still a problem of efficient way of deterrence,

¹³ "The Antitrust Criminal Penalty Enhancement and Reform Act stipulates an exception to the rule of treble damages making recoverable only the single damages from a first confessor qualified for amnesty" (Zingales, 2008, p 15).

namely effective combination of various deterrent tools. The Commission can use only pecuniary sanctions against firms. No pecuniary or criminal sanction against individuals are available. The combination of deterrent tools itself looks not possible in the EU. Therefore, in terms of the effective combination of various deterrent tools, it is difficult to think that the EU's sanction policy has had a successful deterrence effect on cartels. The increasing private lawsuits are explained as a positive direction towards raising deterrence effects. However, even though the Commission and the ECJ supports the private civil lawsuits to raise cartel deterrence effect and some cases happen in reality, the long-term development of private lawsuits is not guaranteed if the traits of follow-on suits are taken into account. As long as there no safeguards for cooperating companies, the cartel participants do not have a strong incentive to whistle-blow or cooperate with the Commission's investigation and therefore it is difficult for the damaged civil to get the information.

4. Implication for Institutional Development in Republic of Korea

With regard to deterrent tools in EU and Republic of Korea, there is a big difference in fining policy while the leniency program is not that different. For this reason I would like to examine the difference in fining policy in detail. As the Republic of Korea does not have a settlement procedure, the need of introduction of settlement procedure is examined. In leniency program, ring-leaders' exclusion is discussed. And as Republic of Korea has a Third Party's Rewarding System, the way to make the system effective will be added.

4.1. Fining Policy

■ Fining Guidelines in Republic of Korea¹⁴

Fining Guidelines in Republic of Korea stipulates 4 stages to calculate the amount of the fine.

First, Basic Surcharge is an amount determined according to the criteria for the degrees of violation of the respective types of violation after classifying each violation as weakly significant violation, significant violation, and highly significant violation depending on - among mitigating circumstances under Article 55-3 (Monopoly Regulation and Fair Trade Act, hereinafter 'the MRFTA') – the nature and extent of the violation (Article II.1). If it is highly significant violation, the imposition rate is between 7% and 10%, significant violation between 3% and less than 7%, weakly significant violation between 0.5% and less than 3%. The basic surcharge shall be computed by multiplying the imposition rate of the respective violation significance to the relevant sales turnover (Article IV.1.C.(1).(A)).

¹⁴ Announcement on Detailed Standards, etc. for the Imposition of Surcharges

Second, Obligatory Adjustment Surcharge refers to the adjusted basic surcharge amount determined upon consideration of - from among the mitigating circumstances under Article 55-3 of MRFTA – the duration and frequency of violation as well as the amount of unjust enrichment from violation. If the duration of violation is short-term (within one year), the basic surcharge should remain unchanged. If the duration of violation is between one and two years, the fine increases by 10%, and two and three years 20%. If it is a long-term violation (exceeding 3 years), an amount of 50% of the basic surcharge shall be added (Article IV.2.A). If a firm takes measures (warning and above) at least three times over the past three years and at least five penalty points accumulated, up to 20% of the basic surcharge shall be added. When a firm gets measures (warning and above) at least four times over the past three years and at least seven penalty points accumulated, up to 40% of the basic surcharge shall be added. If a firm takes measures (warning and above) at least five times over the past three years and at least nine penalty points accumulated, up to 50% of the basic surcharge shall be added (Article IV.2.B).

Third, Optional Surcharge refers to the obligatory adjusted surcharge increased or reduced based on factors that affect each of the mitigating circumstances under Article 55-3 of MRFTA, such as the violating enterpriser's (including violating enterprisers' organizations) willfulness or negligence, nature and circumstance of violation, financial circumstances and market status. Aggravating circumstances include leading role, sanctioning deviating cartel participants, refusing/interfering with/avoiding the KFTC's investigation, high-level executive's participation, etc. Mitigating circumstances include non-implication of the agreement, passive participation, cooperation in KFTC's investigation, government's motivation, self-correction, negligence, non-performance of contracts, design and operation of compliance program, etc. The exact rate is dependent on each circumstance; however, overall the reduction or addition range is up to 30%. The addition or reduction of surcharge due to factors of the committer shall be determined by increasing or decreasing the obligatory surcharge by an amount computed by multiplying the obligatory adjusted surcharge with the rate resulting from each reason's respective additional rate less the respective reduction rate. However, the resulting additional or decreased amount must be within a range of 50% of the obligatory adjusted surcharge (Article IV.3.B-C).

Lastly, Imposed surcharge refers to the imposed optional surcharge after it is reduced (or waived) in consideration of the violating enterpriser's realistic ability to pay, the effect of the violation on the market, and cases where the surcharge is excessive because other markets or economic circumstances were not sufficiently taken into account. The reduction amount is up to 50% of optional surcharge. Surcharges may be waived if as of the hearing day, the debt situation of the violating enterpriser is in a situation of non-payment or ceased payment according to the "Bankruptcy and Debtor Rehabilitation Act," or, if the cartel participants cannot pay the surcharges due to reasons such as debt exceeding assets on financial statements of the year prior to the hearing day (Article IV.4).

■ Comparison of fine calculation between EU and Republic of Korea

<Table 2>

Component		EU	Republic of Korea
Maximal Gravity		30%	10%
Duration		Multiply sales by year (no limit)	50%
Entry Fee		15-25% of relevant sales	none
Aggravating Circumstances	Recidivism	Up to 100%	Up to 50%
	others	No limit	Within 30% for respective circumstances
Mitigating Circumstances		No limit	Within 30% for respective circumstances
Specific Deterrence Increase		10%	none
Maximal Fine		10% of world-wide turnover of all products	10% of relevant sales

To find out how much the actual amount of fine will be different in real case, I would like to examine a hypothetical case. Hypothesis; 10% of a multi-national firm's total (worldwide) sales of all products are 4,000million Euros. The value of sales of the company within the EEA is 300million Euros. Cartel duration is 5 years.

A. Fine when EU guidelines applied

Steps	Component	Application	€ (millions)
1	Basic Amount(BA) Relevant sales Gravity Duration Entry fee	300 16% (regulation: up to 30%) Multiplication 5 16% (regulation:15-25%)	278.4 (300*16%*5+1*16%)
2	Adjusted Basic Amount(ABA) Aggravating Circumstances(AC) Recidivism Interfering with investigation Mitigating Circumstances(MC) Passive role Compliance Program	30% (1 time) 25% 10% none	403.68: (ABA=BA+AC-MC) (278.4+278.4*30%+278.4*25%-278.4*10%)
3	Specific Deterrence Increase(SDI)	10%	431.52: (ABA+SDI) (403.68+403.68*10%)
4	Maximal Fine	10% Cap of world-wide turnover	431.52<4,000
5	Leniency	Non leniency applicant Second reporter (50% reduction)	431.52 215.76
6	Inability to Pay	none	0
Final Fine		Non leniency applicant	431.52
		Second reporter	215.76

B. Fine when South Korean guidelines applied

Steps	Component	Application	€ (millions)
1	Basic Surcharge(BS) Relevant sales Gravity Entry fee	300 7% (highly significant violation) none	21 (300*7%)
2	Obligatory Adjustment Surcharge(OAS) Duration Recidivism	50% increase(long-term violation) None(less than three times)	31.5 (BS+BS*increasing rate) (21+21*50%)
3	Optional Surcharge(OS) Aggravating Circumstances(AC) Interfering with investigation Mitigating Circumstances(MS) Passive Role Compliance Program	5% (regulation: up to 30%) 5% (regulation: up to 30%) 5% (regulation: up to 20%)	29.93 (OAS+AC Total-MS Total) (31.5+31.5*5%-31.5*10%) *the reduction/addition amount is within a range of 50% of OAS
4	Specific Deterrence Increase(SDI)	none	none
5	Maximal Fine	10% of relevant sales	29.93<30
6	Leniency	Non leniency applicant Second reporter (50% reduction)	29.93 14.97
7	Inability to Pay	none	0
Final Fine		Non leniency applicant	29.93
		Second reporter	14.97

The amount of fine calculated by EU guidelines is 431.52 million Euros while 29.93 Euros by South Korean guidelines if there is no reduction by leniency program. If the firm is leniency applicant and get 50% fine reduction as a second reporter, it will be fined 215.76 million Euros by the Commission while 14.97 million Euros by the KFTC. The amount of fine by the Commission is more than 14 times larger than that by the KFTC.

Recommendation Based on the general deterrence theory, the expected cost for a firm is very low if fined by the KFTC and accordingly, deterrence effect is low. Republic of Korea has a leniency program. As discussed in Dynamic Approach section, the amount of fine should be high enough to make a leniency program effective. In this sense the amount of fine in Republic of Korea should be raised again. However, the degree of civil lawsuit possibility should be considered as well as discussed in section 3.1.1. consideration of law fine and private enforcement. As Ginsburg and Wright point out, low uncovering probability leads to under-deterrence and increased fine is required. At the same time, the competition authority must need to be careful lest the amount of fine be greater than required to deter infringement (Ginsburg&Wright, 2010, p8).

4.2. Settlement Procedure

As I examined in Dynamic Approach section, settlement is a very important procedure to raise the deterrence effect. When the settlement procedure is combined with leniency program and/or high fine system, the deterrence effect will be increased significantly. However, there is no settlement procedure in the Republic of Korea. And the amount of fine is comparatively low in Republic of Korea. Therefore, it is needed to introduce settlement procedure in the Republic of Korea while raising the amount of fine at the same time to raise the deterrence effect.

However, the MRFTA stipulates that the KFTC has to charge a case to the Prosecutor's Office under certain condition and that the Public Prosecutor General can ask the KFTC to charge the case if it fits the condition (Article 71(2) and 71(3), Lim, 2008, p531). Therefore, the KFTC needs to consult with the Department of Justice, Republic of Korea to adopt settlement system.

4.3. Coercer's Exclusion and Third Party's Rewarding System

Coercer's Exclusion Enforcement Decree of the MRFTA (hereinafter 'the decree') stipulates that a firm coercing other party to participate in or not to withdraw from the cartel is not allowed to apply for leniency (Article 35(1)). When the decree was revised in 2005, a firm leading and/or coercing could apply for leniency to foster leniency program. However, only coercer is excluded from leniency application in the 2007 revision because the meaning of leader is ambiguous and it is very difficult to prove in practice (Lee, 2011, p237).

Recommendation Coercer may be allowed to apply for leniency to raise uncovering probability in Republic of Korea. Cartel deterrence tools in Republic of Korea are fining policy and leniency program. However, as we discussed above, the amount of fine is comparatively very small and therefore there is no powerful effect of combination between high fine and leniency program. Even worse there is no settlement procedure. Considering this overall structure, the deterrence effect can be low. Therefore, deterrence effect may be increased by allowing coercers to apply for leniency.

Third Party's Rewarding System Third parties refer to employees, buyer's complaints, or local agencies which are not directly related to the object and subject of a sanction. There is Individual Leniency Program in the US which encourages internal whistle-blowing. Buyers' complaints such as the graphite electrodes and the stainless steel cartels led to the investigation of DOJ. South Korea adopted the Informant Reward System in April, 2005 which recompenses those who report competition law breaches. In two months after the introduction of that system, South Korea rewarded firstly an anonymous person providing crucial evidence in a welding rod manufacturer's cartel (Sauvagnat, 2010, p7, KFTC Press release, 2005). However, Buccirosi&Spagnolo argued that this system has to protect the whistle-blower since the informant is under a lot of threats from such as former business partners, peers, and the business community. This might be the reason why US False Claim Act offering very high expected

rewards can be effective when directed at individuals (Buccirossi&Spagnolo, 2005, p35). If the DOJ prosecutes the alleged infringement successfully, the informant can get 25% of all sums the government get from the fines. When the DOJ does not prosecute, the whistle-blower may take the filing process. In this case, the maximum reward is 30% of the funds recovered (Bloom, 2006, p20).

Recommendation However, as Buccirossi and Spagnolo point it out, the amount of rewards in South Korea is too small compared to the danger which the whistle-blower can face (Buccirossi&Spagnolo, 2005, p35). The rewards for whistle-blower should be increased enough since this system can be effective only when the benefit (rewards) is higher than the cost (harsh sanction argued by Buccirossi and Spagnolo).

5. Conclusion

The cartel is an agreement to limit output with the objective of increasing prices and profits. To achieve this purpose, various forms are used such as price fixing, allocation of the amount of production or sharing of geographic markets or product markets. The cartel has various harmful effects on consumers and companies. Detering cartels not only solve those harmful effects but also save costs required for competition authority, courts, and potential cartel participants. However, if the sanctions to deter cartels are too high, there is a possible over-deterrence problem. There is a mechanism to detect and deter cartel effectively. If the expected gain from cartel is lower than expected cost, potential cartel participants will not take part in collusion. If fine from competition authority is high enough or uncovering probability is high, the expected cost will increase and the deterrence will take place. It is said that leniency program and settlement system is useful for detecting cartels and therefore raising uncovering probability. There are two approaches to combine policies to raise the deterrence effect. A static approach is increasing fine or uncovering probability to have a deterrent effect. However, Dynamic approach notes on the inter-relationship among policies. If the fine is high enough, leniency program and settlement system are effective since firms have strong incentive to reduce their fine by whistle-blowing the case or cooperating with the investigation of competition authorities. Settlement procedure can clear the backlog from the efficient leniency program. When a cartel becomes public after decision of competition authority, the civil damaged by the cartel wants to recover the loss through private lawsuits. Potential whistle-blower or cooperative companies are hesitant to cooperate with the competition authority because of the high amount of the fine due to this civil lawsuit. In 1998 EU first established fining guidelines and revised it in 2006. The amount of fine is increased due to the revision even though there are some limits to get over such as inconsistency, no exclusion period, or non-application of recidivism. Leniency program was adopted in 1996 for the first time in the EU. After two times of revision (2002, 2006), the EU introduced an efficient leniency program. However, there is an argument of habitual too much reduction as a limit of the leniency program in EU. The EU also introduced a settlement procedure in 2008. Settlement can save the resources of competition authority but still has some

negative effect on efficiency in Europe. To operate those cartel deterrent tools, the EU has prepared some safety net for the discovery risk such as Access Regulation. However, ECJ judged the safeguard is not binding on Member States and it is up to national governments to establish and apply the safeguard by reconciling the benefit between public law enforcement and private law enforcement. There is a kind of trade-off effects between public law enforcement (leniency program, settlement) and private law enforcement (civil lawsuit). If public law enforcement with a strong safety net, private law enforcement becomes weak since it is difficult for the civil to get cartel information flowed out of the competition authority. When private law enforcement is strengthened, public law enforcement can be damaged since the potential whistle-blower or cooperative companies are hesitant to report to or cooperate with competition authority. However, as the civil needs cartel information from competition authority to enter a lawsuit, successful investigation of competition authority must be secured at first. Therefore, the balance between public law enforcement and private law enforcement is essential to have efficient deterrence effect. Flexible policy about ring-leaders' in leniency policy can be a good example of that balance. Trade liberalization which is characterized by increasing competition in formerly protected national markets give incentives firms to participate in collusion. Accordingly a lot of international cartels emerge. However, it is very difficult for a competition authority to get evidences abroad. Therefore cooperation among competition authorities is very important to have a deterrence effect on international cartels. International cartels may be related to other cartels and the cooperation of competition authorities is more powerful in this situation. Competition authorities around the world acknowledge the importance of international cooperation and adopt various means such as recommendations and agreements through multi-lateral and bi-lateral meetings. The Republic of Korea and EU also signed bi-lateral agreements such as 'Competition Agreement' and 'FTA'. High fine policy has been justified in the EU since sanction mechanism in the EU has depended only on fines against firms. However, the Commission's high fine policy needs to be reconsidered, otherwise recent changes in sanction mechanism can cause the issue of over-deterrence. The amount of fine is comparatively low in the Republic of Korea. Settlement procedure is not established in the Republic of Korea yet. As a result, deterrence effect may be comparatively low. Raising the amount of fine may be a way to raise the deterrence effect in Republic of Korea while introducing settlement procedure at the same time. The private law enforcement is also considered at the same time to have efficient deterrence effect on cartel in general.

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