

Sanctioning pursuant to the Norwegian Competition Act

English translation of parts of a report
from a Committee appointed by the Norwegian Competition Authority

Oslo, 25 March 2001

The official report was written in Norwegian and was entitled “Sanksjonering – er det verdt prisen? Om sanksjonering under konkurranse-loven”. It was published in the Norwegian Competition Authority’s publication series “Skrifter fra Konkurransetilsynet 1/2001”.

The full report consists of the following parts:

Preface

Part I: Summary of Committee’s report

Part II: Main report

1. The Norwegian Competition Act
2. Cartels and efficiency
3. An optimal sanctioning system
4. Optimal sanctions
5. Calculating gain
6. Civil sanctions
7. Leniency and immunity
8. Institutional issues

Only the Preface, the Summary, Chapters 5 and 7 have been translated to English¹ and are included below.

¹ Lasse Ekeberg and Jason Hoida translated the preface and summary of Committee’s report from Norwegian to English. Jason Hoida translated chapters 5 and 7.

Preface

During the summer of 2000, the Norwegian Competition Authority appointed a Committee consisting of the following people:

- Research Fellow Erling Hjelmeng, University of Oslo, Faculty of Law
- Attorney Nora Lund Lefdal, Vesta Forsikring
- Professor Kjell Erik Lommerud, University of Bergen, Department of Economics
- Assistant Professor Tone Ognedal, University of Oslo, Department of Economics
- Assistant Professor Christian Riis (Chair of the Committee)

The Committee's mandate can be summarised as follows:

“The Competition Authority requests that the Committee:

- Identify the limitations in the Competition Authority's use of policy instruments regarding an applicable sanction system. The limitations may be practical, legal or political. The Authority is particularly interested in the limitations associated with using leniency programs and private enforcement in competition cases.
- Assess whether the policy instruments should be amended in the long term for social, economic, or legal reasons.
- Identify sanction systems that preserve the Competition Act's objectives to the greatest extent possible, given the policy instruments' limitations. For example, it would be desirable for the Committee to recommend which sanctions should be used for particular violations and to discuss the effects of various sanctions on the incentive to violate the Competition Act (i.e. the sanctions' deterrent effects).
- Suggest methods for calculating gain and meting out punishment based on the objective of promoting economic efficiency. Based on legal and economic considerations, the Competition Authority is interested in which conception of “gain” it should use.
- Consider economic, administrative and other significant effects of the Committee's proposals.”

Summary of Committee's report

The Committee's mandate is twofold. The Committee was asked to assess whether the Competition Act could be enforced more efficiently. In addition it was asked to submit proposals for possible legal and institutional reform which could strengthen the Act's ability to deter anti-competitive behaviour.

Economic literature concentrates on cartels in the form of "tacit collusion", i.e. restraints on competition that are established without direct communication between the firms. These cartels are based on a common understanding and are supported by the threat of price competition.

Sanctioning pursuant to the Competition Act requires evidence of direct contact between the parties involved. The Committee is of the opinion that little is gained from examining how indirect the contact might be. That is an evidentiary question.

Both formal and informal cartels depend on the firms' self-interest in sustaining the cartel, which makes them vulnerable. A participant in a cartel must weigh an uncertain share of future cartel gains against a certain gain associated with increased market share in the short term. Generally, policy regarding sanctioning should exploit this vulnerability. The Committee believes that sanctions that can be implemented quickly should shorten the expected lifetime of cartels more efficiently.

The present sanction system

The Committee has discussed principles that are important for an efficient sanction system and has focused on improvements that can be made to the present legal rules and institutional framework. It has not explicitly considered the amount of resources that should be devoted to sanctions or how strict the penalties should be beyond what follows from the proposals for the sanction system.

Optimal sanctions

As a starting point, the Committee has assumed that the main aim of sanctions is general deterrence, i.e. deterring actors from violating the Competition Act. Based on this assumption, it looked at the most important principles with respect to levying fines and other sanctions. The Committee has also considered special problems related to the design of sanctions, such

as unequal costs of risk or firms' lack of ability to pay. In addition it briefly discussed some institutional amendments that could lead to more effective sanctions and possibilities for other types of penalties besides fines.

The Norwegian Competition Act is quite clear regarding what type of collaboration is prohibited². The main objective of sanctions should be to deter such collaboration. The most important principle for levying fines is that expected loss from violating the law should exceed the gain. Since there is no general relationship between the gain from illegally collaborating and the economic loss to society, a relationship between optimal punishment and economic loss does not necessarily exist. The Committee's conclusion is therefore that a firm's expected gain from illegally collaborating, as opposed to the economic loss to society, is central for determining and levying fines.

The Committee is also of the opinion that sanctions should not be contingent on inequalities in actors' risk assessment.

Illegal collaboration is difficult to achieve because the single firm may have strong incentives to break out of the collaboration. As a result, even mild sanctions, such as breaking up the collaboration or levying fines that are considerably lower than the economic gain, might be effective.

Calculation of gain is crucial for sanctioning policy for two reasons. First, according to the penal code, gain arising from criminal acts shall be confiscated. Second, gain should be used as a starting point when estimating optimal sanctions. The Committee finds that the sanction system would be more effective if more weight were placed on calculating gain in competition cases than is currently done. In addition, granting the Competition Authority the opportunity to use more mechanical methods for calculating gain in smaller cases where the actual gain is hard to measure should be considered.

² The Act prohibits price fixing, market sharing and any form of collusive tendering. The prohibitions reach any kind of concerted action and any understanding regardless of whether it is meant to be legally binding or merely informally suggestive to the parties themselves.

Calculating gain

Article 6-5 of the Competition Act gives the Competition Authority the authority to issue fines in order to relinquish gain³. Gain may also be confiscated under Article 34 of the Penal Code. The method for calculating gain applied in a well-known case (“the corrugated cardboard case”) is discussed in Chapter 5 below.

The Competition Authority has not yet used its authority to relinquish gain. One reason may be that collecting information consumes too much of the Competition Authority’s time and resources. The Committee therefore discusses how to deal with the information problem in light of the fact that the Authority has limited resources. This requires systems for calculating gain that are uniform and resilient to the manipulation of information.

There are two main problems with respect to the application of Article 6-5. The first has to do with the collection of the necessary information for calculating gain. The other problem, which has received less attention, has to do with determining what conception of “gain” should be used in the calculation. According to the Committee there are several possible ways to measure gain. Thus, the need for discretion is not only due to a lack of information but also to the fact that there is a choice between definitions.

The Committee finds that calculating gain should be based on a long-term perspective, i.e. the basis for making comparisons should be a market situation with normal competitive conditions. It defines normal competitive conditions as the intensity of competition conducive to the prevailing cost and demand structure in the sector, often in the form of limited or oligopolistic competition.

In the view of the Committee, the gain that would have been realised by the firms had they not colluded should not be deducted in the calculation of gain. There are several reasons for this view. An economic justification is that it is reasonable to assume that the gain under more normal competitive conditions would have been a normal return on the resources in the long term independent of whether these resources would have been utilised to increase production

³ The Competition Act section 6-5: ”Where a gain has been achieved by infringement of this Act or decisions pursuant to this Act, the undertaking which has made such a gain may be required wholly or partly to relinquish it. (...) Where it is impossible to establish the size of the gain, the amount shall be determined approximately. (...) The Competition Authority may issue a writ giving an option of relinquishment of gain in accordance with this section.”

or for other uses. A legal justification is that it should not be the court's duty to consider what gain a person who violates the law would have received had he not violated the law. In addition there is a lack of information required to calculate such elasticities. One final point is that the Committee's proposal for calculating gain would be easy to compare to the confiscation principles established in other countries and the European Union.

Critical for calculating gain is estimating the alternative price, or the price that would have been established if the illegal collaboration had not taken place. The Committee recommends that the Competition Authority apply benchmarking as the chief method for calculating the reference price (the alternative price). One example of such a procedure is to use the prices for products in similar sectors in other countries (measured in the same currency) as a foundation for making comparisons. Standard procedures may be applied to adjust for differences in cost levels.

The Committee believes that differences resulting from different levels of intensity of competition between countries should not be taken into consideration. Its point is that calculation of gain is more credible when the price levels abroad for similar products are defined as a *reference level*, which will establish a firm basis for the calculations. Furthermore, the method does not depend on information collected from the firms, which makes it less subject to influence.

Civil sanctions

The Competition Act allows several types of civil sanctions. The Committee has concentrated on liability for damages. Violations of the competition laws and compensation can be described and assessed using economic models. Since economic models are based on economic efficiency goals, they are particularly interesting in relation to the Competition Act, (see the objective of the Act, Article 1-1).⁴ The efficiency goal is relevant both in consideration of what the Act protects against and in consideration of sanctions as such.

The Committee believes that compensation pursuant to the Competition Act should first and foremost be justified by deterrence. This consideration should ideally guide the design of compensation as a sanction, but it is not clear to what extent such a goal can be realised *de*

⁴ Section 1-1: The objective of the Act is to achieve efficient utilisation of society's resources by providing the necessary conditions for effective competition

lege lata. Furthermore, the deterrent effect of the compensation is uncertain and difficult to measure. In addition, compensation is difficult to attain in practise. When it comes to the type of actions prohibited by the Competition Act, private persons will normally be dependent on evidence collected by the Competition Authority, which makes the issue of the Authority's ability to share information more relevant. The scope of this ability is somewhat uncertain. Independent of legal barriers, the Committee feels that the Authority should undertake a thorough assessment in order to avoid a possible confusion of roles. Finally, the Committee believes that even though article 3-10⁵ does not allow private actions, enforcement might benefit from a more thorough definition of the duties and possible rights already in the intervention decision.

Leniency and immunity

Leniency programs are being employed to fight cartels in more and more countries. These involve penalty discounts, whereby the authorities offer relief from fines or other punishment in return for information or confessions in price fixing cases or other competition cases.

Leniency programs have been discussed in connection with various types of law enforcement, but competition cases are unique because they concern organised crime where one actor's confession may incriminate many others. Furthermore it can be expected that internal control of a cartel can be difficult to maintain, resulting in a real possibility that individual members of a cartel might want to break out of it.

The Committee recommends that a research project aiming to establish a leniency program in Norwegian competition legislation be initiated. Based on literature and practical experience from other countries, it has tried to formulate how such a program could be designed.

First the Committee highlights the importance of making reliable promises for leniency. This may be problematic in a system where the Competition Authority is responsible for the investigation, the prosecuting authority⁶ is responsible for indicting, and the court system is responsible for the conviction. Leniency programs that take the form of a percentage discount of a fine are often associated with systems where the competition authorities have the right to

⁵ Section 3-10: The Competition Authority may intervene by individual decision or regulation against terms of business, agreements and actions where the Authority finds that these have the purpose or effect of restricting or are liable to restrict competition contrary to the purpose of section 1-1 of the Act.

⁶ The National Authority for Investigation and Prosecution of Economic and Environmental Crime in Norway.

levy fines. This is not possible under the current Norwegian system. Assuming the basic structures of the current system are maintained, the Committee believes that reliability considerations demand that leniency programs involve full immunity. It is easy to test whether one in fact has received immunity, while it may be difficult to determine whether one has received a 10% or 50% discount on a fine, considering that determination of the penalty is within the court's discretion.

Leniency programs might expose actual, existing cartels but also promote the establishment of new cartels since the expected punishment for the individual cartel member is reduced. A leniency program must weigh these factors in such a way that the expected punishment does not appear to be too low. This may be adjusted by increasing the punishment level generally in cartel cases.

The original US leniency program concerned spontaneous confessions. Under the current US arrangement, the authorities can grant leniency when confessions come after the initiation of an investigation. The EU system also stipulates that both types of confessions can be rewarded but that spontaneous confessions receive larger penalty discounts. The Committee is of the opinion that leniency should also be granted in cases where an investigation has already been initiated. It is precisely in those cases where the probability of the cartel's survival is reduced that a leniency program has the greatest chance of inducing a confession.

Foreign leniency programs typically contain rules that specify who is entitled to a discount, e.g. only the first person to confess will be awarded a discount or immunity or the instigator of a cartel can not be rewarded for confessing. The Committee discusses the extent to which such rules can be grounded in economic theory. There are certain unresolved issues, and the Committee finds that valid arguments can be presented to justify this type of delimitation. On the other hand, such delimitation is too restrictive when it comes to the competition authority's ability to buy relevant information from cartel members, which is the entire purpose of leniency programs. The Committee therefore recommends that one should exercise caution when placing restrictions on those that are able or not able to be granted leniency. If an institutional system enforces full immunity as a means rather than penalty discounts, the expected leniency will be too great if too many cartel members are granted immunity. In such cases the Committee finds that it is more meaningful to have first-to-confess-rules and other delimitation rules.

The Committee has concentrated on incentive-oriented argumentation, i.e. it has focused on how the sanction system influences the incentives to enter or break out of a cartel. When the leniency program is designed, it will also be important to take non-economic arguments into consideration. For example, one should consider issues such as when does unequal treatment of cartel members run contrary to the general population's sense of justice and what do different institutional systems associated with a leniency program mean for the risk of judicial corruption.

Institutional issues

The present situation where violations of the competition rules are sanctioned under the ordinary criminal law will be challenged in the future. The issue is of current interest with respect to the discussion of leniency programs and the assessment of how to strengthen the deterrent effects of the Competition Authority's use of policy instruments.

The Committee raises the question of whether a special court should be established, possibly in the form of a court-like administrative body. A special court could have several advantages. A sharper division between institutional tasks could increase the credibility of the sanction system. By vesting a special court or the Competition Authority with the right to levy fines, a more reliable system for the use of penalty discounts could be established. The fact that the court will be more specialised would also lead to greater predictability.

The Committee understands that counter-arguments regarding such a solution exist. A court system with a limited field of responsibility will be expensive, and it can be difficult to recruit judges to courts that only handle specific types of cases. Furthermore, to the extent the members of the court come from a small group of professionals, the court's legitimacy and independence can also be called into question.

In this respect, the Committee does not make any special recommendation. It merely points out that this issue can not be separated from the issue of what form the sanction regime should take. Rather they must be assessed together.

The Committee has also considered the need to grant the Competition Authority increased influence over case handling, which is a prerequisite for a leniency program to function. In

other words, the Competition Authority must have the authority to prosecute for the arrangement to be credible. Fully utilising the leniency program therefore requires considerable change in the fundamental aspects of the relationship between administrative bodies and the courts.

However, this proposal represents a breach with Norwegian legal thinking. It is problematic to grant the authority to prosecute to too many bodies, since it makes that authority less transparent. In addition it might be incompatible with the principle in Norwegian criminal law that the prosecution authority shall be objective, unbiased, and neutral. These arguments must be weighed against the advantages of such a solution.

Chapter 5 – Calculating Gain⁷

Article 6-5 of the Competition Act gives the Competition Authority the power to issue fines in order to relinquish gain. Alternatively, it can hand the case over to the prosecuting authority, which can issue a claim for confiscation pursuant to article 34 of the Penal Code. The wording of Articles 6-5 and 34 is analogous.

Confiscation of gain pursuant to Article 34 has only been used in one competition case known as the “Corrugated Cardboard” case. In that case, the Supreme Court delivered a judgment in 1995 that led to the confiscation of 8 million kroner from four companies. The case is important for several reasons. First, the Supreme Court delivered a judgment in a case involving both confiscation and punishment. Second, the Court asked two experts (Professor Victor Norman from NHH and Director Olav Magnussen from NHO) to submit a report to the court that quantified the socio-economic and corporate-economic effects of collusion. Their report, “The Effects of Collusion in the Corrugated Cardboard Industry”⁸, represents a possible method for calculating gain, which is discussed in more detail below.

Confiscation is not considered punishment. Confiscation pursuant to the Penal Code can only take place when both a violation of the law and subjective guilt are present. The evidence requirement with respect to the calculation of gain is more easily met since it can be roughly calculated. In addition, pursuant to Article 6-6 of the Competition Act, it is not possible to confiscate under the Competition Act and pursue a criminal case for the same offence.

The first Competition Law Committee⁹ originally suggested using confiscation as a civil instrument to increase the efficiency and deterrence effect of the Competition Act. It was pointed out on page 209 of its report that “The Committee considers it important that the Competition Act has such a civil alternative to punishment.” In that Committee’s original proposal, it did not draw a sharp line between confiscation of gain on the one hand and sanctions or punishment on the other hand. On page 209 of its report “...the Committee propose[d] that the Competition Act’s confiscation rules should not be exclusively tied to the concept of ‘gain’. It will be difficult to determine the amount of gain in concrete cases. The amount of gain achieved will not always reliably indicate when a particular violation requiring

⁷ Jason A. Hoida translated Chapter 5.

⁸ Report prepared for the Supreme Court by Olav Magnussen and Victor D. Norman, submitted 10 June 1995.

⁹ NOU 1991:27 (Norway’s Official Reports).

action has occurred either... The Committee propose[d] therefore that in the case of a violation, it shall be possible to confiscate up to 10% of the company's previous year's turnover in the market where the violation occurs or the gain attained as a result of the violation, whichever is larger." As in many other countries, it was thought that considerable discretion could be exercised when setting the confiscation amount. The proposed upper limit of 10% is also found in EU law as well as in competition law in many individual countries, e.g. England and Sweden.

The Competition Law Committee's proposal for confiscation as a civil law instrument was accepted. The amount that could be confiscated was, however, limited to gain the companies had attained. The Act refers to this as relinquishment of gain. The Competition Authority can use its discretion to determine the gain when it cannot be calculated, but in principal only the gain attained by the cartel members can be confiscated. This limitation in the Competition Authority's sanctioning opportunities makes establishing a more effective incentive structure more difficult, e.g. by actively using leniency programs.

In principal, one could imagine that confiscation could take place pursuant to damages law if the economic gain corresponded to a loss for another person. But in cartel cases, the gain often corresponds to a loss that is spread among a large number of individuals and companies. Besides, the loss can in many cases be transferred to a supplier or customer of the person directly affected by the collusion. If the excessive charge is transferred, the amount will normally be deducted from the loss. In such cases it is therefore important that the gain be confiscated.

Although the legal framework attaches importance to the border between confiscation and punishment, the Supreme Court is of the opinion that they ought to be co-ordinated. In the "Corrugated Cardboard" case, the Supreme Court stated: "In the present situation, gain in the amount of 8 million kroner will be confiscated. As mentioned, this must be taken into consideration when the fines are determined." In other countries, the difference between punishment and confiscation is not as prevalent. An example is the "gas cartel" case in Sweden where the gain the cartel participants attained was used as a reference for determining the "lower delimitation" of the fine's size.

The Penal Code's Article 34 was made more stringent in 1999 such that confiscation of gain shall now take place (the law only allowed for this earlier). Further, expenses are no longer deducted, and the concept of confiscation was expanded to allow, inter alia, assets to be confiscated if they are illegally obtained. Here the principle of reversed burden of proof applies, i.e. the perpetrator must demonstrate that the assets were obtained legally. The fact that Article 34 was made more stringent signals a desire to place more emphasis on preventing people from retaining gain associated with illegal activities. It is reasonable to take this as a signal that confiscation pursuant to the Article 6-5 of the Competition Act should also be given more weight. An important matter for the Committee is to indicate how the Authority can begin to use this Article.

Article 6-5 has not yet been used

The Competition Authority has not yet used its authority to relinquish gain. One reason may be that collecting information consumes too much of the Competition Authority's time and resources. The expert report in the Corrugated-Cardboard case illustrates this fact. The Committee therefore discusses how to deal with the information problem in light of the Authority's limited resources. This requires methods for calculating gains that are uniform and resilient to information manipulation. This requirement is emphasised in the Competition Authority's publication "Strategic Plan 1999-2001", where it states, "Use of relinquishment of gain as a means for sanctioning requires that the Authority has methods in place for calculating or establishing the gain that comes from illegal collaboration."

There are two main problems with respect to the application of Article 6-5. The first has to do with the collection of the necessary information for calculating gain. The other problem, which has received less attention, has to do with determining what conception of "gain" should be used in the calculation.

The problem associated with such calculations is well known internationally. The OECD report, "Hard Core Cartels"¹⁰, points out that "A number of countries have the possibility of imposing sanctions based on the amount of ill gotten gains, but this power is not often used because of the difficulty of making the calculation. However, all of the US' recent fines of more than \$ 10 million have been calculated on this basis, and it could be useful to find some

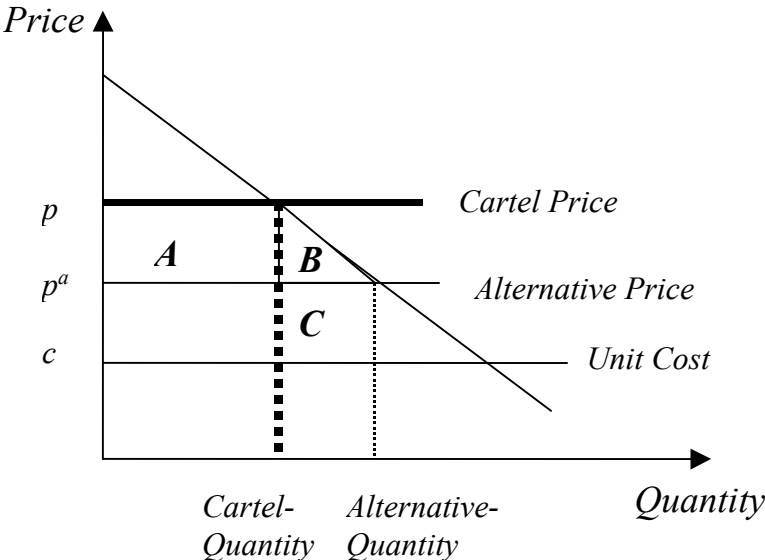
¹⁰ "Hard Core Cartels", OECD 2000, www.oecd.org. As of 25.05.2001, the report could be found at: http://www.oecd.org/daf/clp/CLP_reports/hcc-e.pdf.

way to ensure that there is co-operation with respect to the highly specialised but important issue of calculating ill gotten gains.”

Definition of gain

Every calculation of gain involves comparing an actual situation, the market situation resulting from the collusion, with a hypothetical situation, the market situation had the collusion not occurred. In Norman and Magnussen’s report, this is illustrated by the following figure:

Figure 1. Cartel gains and welfare loss as a result of restrictive business practices



The gross cartel gain is expressed by area *A*, which is equal to the difference between the observed cartel price and the hypothetical alternative price, multiplied by the turnover affected by the collusion. In the alternative situation, the companies would produce more. In the figure this is indicated as “alternative quantity.” If the alternative situation were characterised by limited competition, the companies would have attained a margin on the sale as indicated by area *C*. Norman and Magnussen calculate the net gain as the difference $A - C$.

The collusion results in a welfare loss equal to the net value of the demand that the illegal collaboration displaces. This net value is expressed as the difference between the buyers’

willingness to pay as it is reflected by the demand curve and the producers' marginal cost. The total costs to society are therefore the areas $B + C$.

There are significant challenges associated with calculating the net cartel gain ($A - C$). In the figure, the observable volumes are reflected by bold lines – cartel price and cartel quantity, respectively. Calculating A requires an estimate of the hypothetical “alternative price.” Calculation of C raises further challenges in that it also requires an estimate of the demand curve's slope.

What is a rational measure of gain?

Such calculations raise many questions. A crucial question is what will be held constant in such an analysis. If the collusion had not occurred, would the actors in the market (suppliers as well as buyers) have faced other market conditions? That would have influenced not only short-term business decisions by companies in the industry, but also long-term adaptation through investments and establishment and winding-up decisions. In addition, companies' exposure to competition will influence efficiency.

One principle for calculation could be to regard all investment decisions as constant and attempt to describe the adaptations that would have taken place in the product market in the absence of the collusion, given the production and sales capacity the individual company controls. This definition would capture short-term gain. This procedure can be seen as reasonable if the cartel is a pure marketing cartel. Problems arise, however, if the collusion influences corporations' longer-term decisions. There are two main problems, which will be discussed in more detail below. The first is that the time perspective as such is significant for calculating gain. The second is that investment decisions are often optimised with respect to the cartel, i.e. the companies would have a different cost structure if they had competed normally.

Short-term vs. Long-term Perspective

Let us first look at the main difference between short-term and long-term behaviour. The first point is that demand tends to be more elastic in the long term than in the short term. High prices motivate substitution, i.e. cutting costs by refocusing demand towards cheaper alternative products. Such refocusing of demand is often a slow process, which is delayed by habits and by the fact that the structure of demand is often locked-in as a result of previous

investment choices. Alternative solutions can require new investments that are only profitable if price changes persist.

Over time adaptation to new price conditions, which when seen in isolation tend to reduce the gain that cartel participants can get out of the collaboration, occurs. At the same time, however, the consumer (and therefore society) have higher adaptation costs, which means the welfare losses as a result of collusion can exceed the dead-weight loss illustrated in Figure 1 as areas $B + C$.

Another point is that collusion can influence industry structure itself. Collaboration can lead to new business start-ups and possibly prevent the shutting down of activities that under more normal competitive conditions would have suffered losses. Collusion makes otherwise unprofitable activities profitable. That would suggest that gain associated with price collusion would be reduced. But it is not obvious that price collusion leads to new entry in the industry since collusion can also be used to deter entry. Implementation of entry barriers is a local *collective good* since all the companies in the market enjoy the benefits. But, as with every collective good, a co-ordination problem arises, i.e. the individual company profits from the other companies' bearing the costs associated with engaging in entry deterring activities. A cartel can function as a co-ordinating mechanism. It can more efficiently co-ordinate actions to protect the market from intruders than companies that do not collaborate.

A third aspect is that collaborating companies become less efficient as a result of weaker exposure to competition. That can reduce the cartel participants' monetary gain resulting from the restrictive trade practice. But it should be noted that the companies have arranged that the gain from price collusion is partially taken out in the form of increased organisational slack. This gain is not captured by the calculation of gain if the calculation is undertaken using the cost data from the companies, but it is captured if "benchmarking" is used. Benchmarking is the method the Committee recommends.

These aspects illustrate how the areas A and B appear to be completely different depending on whether we emphasise a long-term or short-term perspective. Since the cartel is established with a certain duration for the collaboration in mind, it seems reasonable to emphasise a long-term perspective in calculation of gain.

Strategic Behaviour in Cartels

The other complication is that companies have incentives to arrange themselves in such a way that the cartel becomes stronger. Cartels are vulnerable by nature. They are vulnerable to individual companies that increase their market position as a result of the cartel's efforts to keep prices up.

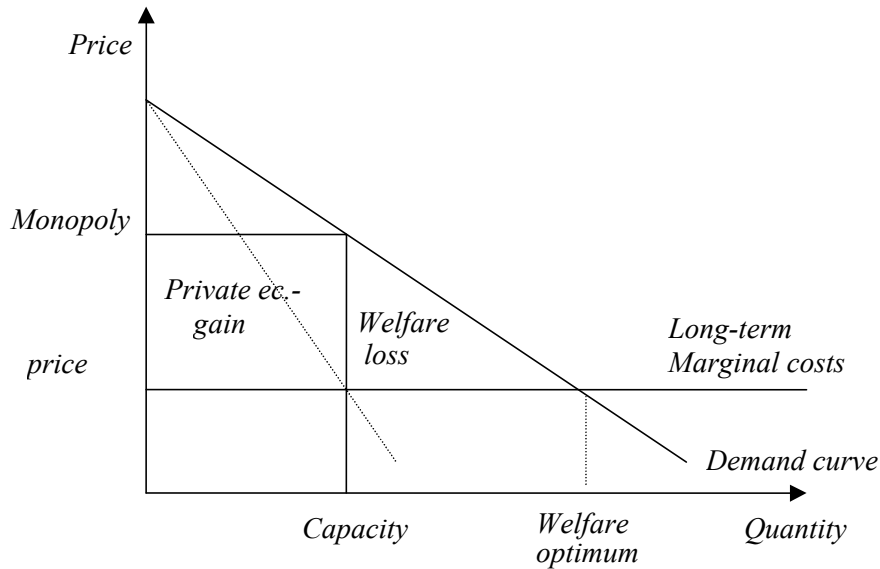
In principle, companies can maintain high prices through tacit collusion. If the companies that exit the collaboration can be disciplined through price wars, the temptation to exit and gain short term gains is outweighed by the loss that would follow from stronger future competition.

The fact that cartels often co-ordinate their behaviour more actively than the theory of tacit collusion would indicate demonstrates that cartels are vulnerable. But the companies can reduce this vulnerability through strategic behaviour. The collusion can be supported in this manner. One example would be a cartel agreement that consists of the participants establishing sales channels in each other's "home markets." Another example is agreements between companies regarding mutual reduction in production capacity in order to support the cartel price.¹¹ The purpose is to prevent the companies from become free riders, simply by limiting the companies possibilities to take on such a roll.

An example showing how collusion can be supported is given in Figure 2 below.

¹¹ This is known as "capacity collusion", i.e. "...a collective limitation of the amount of productive capacity in a particular market: either existing capacity is closed down or an expansion of capacity which would be efficient under competitive conditions is suppressed", Kantzenbach et al (1995), cited in OECD, "Oligopoly", 1999, <http://www.oecd.org/daf/clp/Roundtables/oligo00.htm>.

Figure 2: Capacity constraints as a means of supporting collusion



The figure illustrates a market with constant long-term marginal costs. The welfare optimum is characterised by production and the appurtenant capacity, where price reflects the long-term marginal costs. The figure illustrates how the companies can co-ordinate the decisions regarding capacity in such a way that the cartel is supported, in this case that it behaves as if it were a monopoly. The market situation resulting from monopoly occurs where the dotted marginal return curve crosses the marginal cost curve. If the cartel is successful in limiting the companies' production capacity to this level, two things are achieved.

First, the cartel becomes more resilient with respect to “escapees” simply as a result of the fact that none of the companies have the capacity to increase their market share since all capacity is exploited in the market situation resulting from collusion¹².

Second, there is no welfare loss in the short term. Given the limited capacity in the industry, the monopoly price simply coincides with the price in welfare optimum in the short term. But capacity limitations result in a long-term efficiency loss. An increase in capacity yields

¹² This requires that the companies are not threatened by new entrants in the industry, something that will of course vary to some degree.

welfare gains, which if taken out yield a collective profit equal to the indicated triangle – the increase in production which the market values at a price that exceeds the long-term marginal costs.

The purpose is that a calculation of gains based on the companies actual costs identifies no actual gain in this instance, and hence no foundation for confiscation, *unless* choice of capacity is defined as part of the collusion.

The figure is unique but illustrates an important point: A correct concept of gain does not exist. This has the following implications:

The requirement for discretion is not only a result of imperfect information but also a result of the fact that there is a choice between many sensible measures of gain.

The Committee is of the opinion that calculating gain should be based on a long-term perspective. That is, the alternative price should reflect the price that would have been established over time under normal competitive conditions. It defines normal competitive conditions as the intensity of competition the industry allows, often in the form of limited or oligopolistic competition. In the example above, it seems clearly reasonable to define gain as the earnings the companies attain above what they would have attained in a long-term equilibrium, i.e. an equilibrium where the sales network and capacity was optimised in relation to the competition situation.

Gains firms could have realised should not be deducted

A factor that complicates the calculation of companies' gain upon cartel formation is related to handling hypothetical income and costs. Figure 1 illustrates a normal approach to the problem of calculating gain. As mentioned, a normal measure of the collusion's net gain is the area *A* minus area *C*. *C* represents the earnings the companies would have obtained as a result of the increase in production in the hypothetical case. The condition that *C* is positive is based on the assumption that the companies would attain pure profit even if the cartel did not exist, something which is a consequence of limited competition.

The calculation of area *C* requires information regarding demand structure. The demand's price sensitivity has a direct effect on how great turnover will be at a given alternative price. It

has indirect significance for the price that can be generated under competition. Calculation of area *C* is associated with significant uncertainty, something that is in and of itself a reason for choosing a measure of gain that excludes this area. The Committee finds it most important, however, that there are principal and practical arguments for overlooking this gain or possibly including it in a more mechanical way.

The Committee's understanding is that the gain the companies would have realised if they had not collaborated should not be deducted in the calculation of gain. Without collaboration the companies would have produced more and possibly (depending on the intensity of competition) would have attained a margin on this sale, or they could have channelled the resources to other activities (and attained positive margins on it). There are several reasons why such hypothetical gains should not be deducted.

An economic reason is as follows. Generally, earning under normal competitive conditions will lead to a normal return on resources at least in the long term. That is, the income that cartel participants give up when they limit turnover will tend to be a constant size, independent of the collusion as such. The question boils down to whether a normal return should be included in the reference price.

A legal justification is that it should not be the court's duty to consider what gain a person who violates the law could have received had he not violated the law. Put another way, it is the person carrying out the illegal action himself that should carry the risk that his actions displace other activities that potentially could have given him income.

Finally, another justification is that overlooking hypothetical income simplifies the process of calculating gains considerably. The increased income the companies could have received in the hypothetical situation (above and beyond the income it earned in the cartel) depends on the elasticity of demand. The informational basis for calculating such elasticity is weak. As a result, the estimate of gain will be very sensitive to the assumptions on which the calculation is based.

One final point is that the Committee's proposal for calculating gains would be easy to compare to the confiscation principles established in other countries and the European Union. If relinquishment of gain is undertaken through calculating a reference price, it can be

expressed as a percentage of turnover where the percentage is equal to the relative difference between the cartel price and the reference price.

Moreover, the Committee's proposal to overlook the gains that alternatively could have been realised coincides with the conclusion the Competition Authority's internal Committee came to in the report "Calculation of gain."

Since confiscation of gain has not yet been used as a civil instrument, there is no case law to build on. That gives the Authority the opportunity to assess the principles that application of confiscation as a civil means should be based upon.

The Committee's suggestion for the definition of gain

If we can overlook the income and costs concerning activities other than the production that takes place in the cartel solution, we are once again left with a very simple measure of gain. We shall use the following notation: Let p be the cartel price, p^a the alternative price, and x the cartel production. The gain can be expressed:

$$\text{Private gain} = (p - p^a)x = (1 - p^a/p)px = \text{relative gain} \times \text{turnover}.$$

We can consider the gain to be the turnover value multiplied by a factor that reflects the relative price mark-up that follows from the price collusion. Further, whether the collusion affects all of the company's activities or only a limited part must be corrected for. The estimate of the relative gain must be adjusted downward in relation to any such limitations. The formula is:

$$\text{Relative gain} = a(1 - p^a/p)$$

where a is the share of the turnover affected by the collusion. This measure is easily comparable with international practice for sanctioning, i.e. the establishment of the fine is associated with a share of the turnover. In our case, $a(1 - p^a/p) * 100$ becomes the percentage that, multiplied by turnover, establishes the confiscation amount. In principle there are no arguments for putting a ceiling on this percentage, e.g. to 10% as in the EU.

An alternative way to express the gain is as follows:

$$\text{Relative gain} = a(1 - \gamma c/p)$$

where γ is equal to the mark-up which expresses market price (here p^a) relative to marginal cost¹³ and c is marginal cost (which implicitly is assumed to be constant). In this case all three parameters a , c and γ must be calculated. The appropriate expression for relative profit will likely vary from case to case. The information basis that is available for the Competition Authority is of course of crucial significance. In the next sections, we discuss further the different procedures that can be used.

Methods for calculating alternative price

Roughly speaking, there are two different approaches that can be used. The first approach consists of utilising the available cost, price, and quantity information from affected companies to calculate a reference price in the market. The important elements in such an analysis will be how aggressive competition would have been if the cartel agreement did not exist, how much market power the individual company would have attained, and how an alternative adaptation would have influenced the cost structure. The other approach consists of calculating the reference price through benchmarking, where data from related industries, other markets, etc. is utilised, i.e. data that does not directly affect the companies that are involved in the collusion.

Obtaining industry and corporate data concerning the affected companies

The calculations that Norman and Magnussen carried out in the Corrugated Cardboard case are representative of this method. In principle, econometric methods or calibration can be used to simulate the market situation had the collusion not occurred and characterise the net gain based on data obtained from the affected companies. This requires estimating the cross-elasticities of demand and marginal costs and formulating hypotheses about the competitive conditions in the absence of collusion. In the Corrugated Cardboard case it was argued that a Cournot-model (quantity model) was the most appropriate means of describing the market.

Magnussen and Norman's analysis

The Corrugated Cardboard case is important for several reasons. There were four companies that took part in a limited price collusion. The Supreme Court's Committee on Appeals named Magnussen and Norman as expert witnesses. In the report, "The Effects of Collusion in the Corrugated Cardboard Industry,"¹⁴ they describe a numerical model that can be used to

¹³ The difference $1 - 1/\gamma$ in literature is known as "Lerner Index."

¹⁴ See supra note 8.

simulate the market situation resulting from collusion as well as the market situation had the collusion not occurred. The report gives a careful description of demand structure in the market and differences in price sensitivity between groups of buyers. On the basis of the material from one of the companies, marginal cost is estimated. Further, information on import prices and transport costs is used to establish a ceiling on market price. For the buyer groups where price sensitivity is low, this ceiling is also binding in the hypothetical competitive market situation. This means that the cartel price and the alternative price coincide in these cases. It is only for the buyer groups where price sensitivity is high enough that the competition presses the alternative price below the import price (and as a result below the cartel price). The share of buyer groups that have an adequately high demand elasticity is therefore critical for the calculation.

Magnussen and Norman make the calculation partly a theoretical question and partly an empirical question. It is theoretical in the sense that their choice of the Cournot model is based on a reference to an approximate assessment of competitive conditions which seem reasonable. It is empirical in that it utilises available demand studies and cost data to estimate price sensitivity (elasticity of demand) and marginal cost respectively.

The experts' task was to calculate the consequences of the price collusion on the companies, consumers, and society. The calculations of the welfare loss, together with the companies' net gain, require a comprehensive quantification of different parameters that characterise cost and demand functions. The analysis concluded with an "...estimate of the welfare loss of 0.6-0.8% of the turnover as a result of the collaboration, the gain for the companies of the same magnitude, and the loss of 1.3-1.5% for the consumers."

We shall now demonstrate how an approach in line with our recommendations would involve significant advantages in calculating while leading to practically the same conclusion as Magnussen and Norman while requiring less access to information.

We start with our definition of relative gain as the relative difference between cartel price, p , and alternative price, p^a

$$\text{Relative gain} = a(p - p^a)/p = a(1 - \gamma c/p)$$

where c is the unit cost, γ is the mark-up and a is the share of the turnover affected by the collusion. The mark-up γ reflects the intensity of competition. The coefficient is near 1 when competition is strong. Magnussen and Norman argued that a more moderate competition form, so-called Cournot competition or quantity competition, is more realistic for this industry. In that case, the mark-up is shown to be dependent on the price sensitivity of demand, e , and the number of competitors in the market, n , which is shown in the following equation (a crucial assumption for this equation is that the corporations have identical cost structures):

$$\gamma = ne / (ne - 1)$$

There can be dependence between the share of the activity that is affected by the collusion (parameter a) and the intensity of competition (parameter γ). The Corrugated Cardboard case illustrates such a connection. Since the cardboard packaging can be imported (at a relatively high price as a result of transport costs) the upper end of the cartel price is limited. In the market segments where demand is not very price sensitive (i.e. the quantity demanded is reduced little if the price increases), limited competition could entail the price at competition equilibrium coinciding with import price. Since the elasticity of demand influences the degree of market power and as a result the price under limited competition, the share of the total market affected by the collusion is decided endogenously.

Let us, as an illustration, incorporate the experts' estimates of the parameters. The experts' conclusion, as it was referred to above, is based on the following assumption regarding the share of the turnover directly affected by the price collusion and regarding the marginal costs (page 16): "4-5% of the customer base is in the price sensitive end of the distribution, and the marginal cost (during collusion) is 50-60% of price." Further, the number of firms, n , was set at 3 in the experts' report, probably because 2 of the 4 companies that were fined had a common owner. If we in accordance with these estimates add $a = 0.045$, $c/p = 0.55$, and $n=3$ into the expression for relative gain, we get the following estimate for relative gain and mark-up respectively, depending on the assumptions that are made about elasticity of demand:

Table 1: Relative gain (cartel earnings relative to turnover) and mark-up

Elasticity	0,9	1,1	1,3	1,5	1,7
Gain relative to turnover	0,57 %	0,95 %	1,17 %	1,32 %	1,42 %
γ	1,59	1,43	1,34	1,29	1,24

In the expert witnesses' analysis, the average elasticity of demand over customer segments was estimated to be 1.1%. The difference between the estimate 0.6-0.8% that the experts came to and our estimate of 0.95% reflects the fact that we have calculated gross gain (i.e. the area *A* in figure 1), i.e. the gains that would have accrued at a higher turnover level are not deducted.

We could take this point into account in a more mechanical way. As mentioned above, an argument against calculating area *B* in figure 1 is that the gain reflects an alternative earning that is generated under normal competitive conditions. That means that alternative cost in production must reflect this. If we include an increase in production of e.g. five percent in the calculation of marginal cost, it reduces the relative gain from 0.95% to 0.63% in the case where elasticity of demand is set at 1.1.

We see further that the assumption of competition intensity as it is reflected in demand elasticity, e , does not play a decisive role in and of itself. The value of γ (where $\gamma = ne/(ne-1)$) varies from 1.59 (at an elasticity of 0.9) to 1.24 (at an elasticity of 1.7), something that constitutes a very large interval in empirical studies of mark-ups. It can be mentioned here that in a comprehensive study, Martins et al.¹⁵ found an average mark-up in Norwegian industry of barely 1.2. For the industries that are dominated by relatively large companies, the mark-up increases to barely 1.25. If the calculations are further limited to industries with relatively differentiated products, it increases further to barely 1.3. In Magnussen and Norman's calculation, the average mark-up is estimated (over the relevant buyer groups, i.e. buyer groups that are directly affected by the collusion) at 1.37.

Our point is that a reasonable estimate of gain can be developed on the basis of much more limited information than that which was used in Magnussen and Norman's report. It can also be added that the parameters that are critical for the calculations in their report are relatively weakly founded in the data they had available. As Magnussen and Norman write in the report (about parameter *a*, page 15), "When it comes to the portion of the customer base with high price sensitivity, the foundation for the evaluation is very thin." They also write (about parameter *c*, page 15), "Based on the Glomma-material and the sparse information found in the invoices, it seems like the realised gross margin has been between 40% and 50% of turnover value. Consequently a realistic estimate for marginal cost can be between 50 and 60% of price.

In the next section, we take a closer look at an alternative method, which we call benchmarking.

Benchmarking in the calculation of gains

Establishing a reference price through benchmarking can occur in various ways depending on the characteristics of the relevant market. For cartels in markets where international standardised products are sold, market equilibrium in other countries can be viewed as reference markets. The price level in these markets can be used as a starting point for the calculation of reference price. Different methods can be used to filter out specific national conditions that influence the price level.

In markets where it is difficult to define an international reference market, other exogenous paths of price movements can be used. For example, the historic prices can be used as a starting point, or price and cost indexes from markets that have similar compositions can be utilised.

Let us take a closer look at the different alternatives.

¹⁵ J.O. Martins, S. Scarpetta and D. Pilat: "Mark-ratios in manufacturing industries: Estimates for 14 OECD countries", Economics Department, Working Paper NO. 162, OECD 1996, <http://www.oecd.org/eco/wp/online/wp.htm#1996>.

Benchmarking for calculation of alternative price p^a

A starting point for the calculation of alternative price is the prices for the products in corresponding industries in other countries (measured in the same currency). Products of comparable quality must be singled out. In addition differences in tax and duty systems must be controlled for.

A larger challenge is to correct for national differences in the level of costs. One can here calculate cost indexes that correct for these through standard methods. Existing indices could probably be utilised. In Norway these indices are calculated by Statistics Norway¹⁶. The Competition Authority should be able to utilise Statistics Norway's competence to correct for such cost differences.

The Committee is of the opinion that the differences between countries that result from different competitive conditions should *not* be taken into account. We feel that calculation of gain more credible if the price level in foreign countries for equivalent products is defined as a *reference level*, which gives a fixed basis for the calculations.

The Committee is also of the opinion that cost differences reflecting the fact that production takes place on different scales should not be taken into consideration either. In principle, one could imagine that a lower price level in a foreign country could be due to the exploitation of economies of scale. On the other hand, the fact that there are many producers in the Norwegian market is an indicator that the home market is large enough for scale economies to be exhausted. Moreover, economies of scale can involve competition limitations which result in the observed price levels in foreign countries not reflecting the unit costs, i.e. there are elements of exploitation of market power in these markets.

Markets with relatively standardised technology and products are obviously suited to utilisation of such a method.

But we find that the method could also be appropriately utilised in cases involving a differentiated range of products, as in the Corrugated Cardboard case. The method can actually have significant advantages in cases with differentiated products. As long as one can identify equivalent products in other countries, the method can contribute to solving some of

the calculation complications, which easily arise if the cartel consists of companies with a differentiated range of products. The Corrugated Cardboard case illustrates this point. The collusion affected certain products in a wide range of products. It is difficult to separate the portion of total costs relevant for estimating alternative price when only a limited number of a company's broad range of products are the target of competition limitations. The calculation of the costs in these cases is very difficult. Benchmarking avoids these difficulties.

Another possible starting point for calculating alternative price is historic prices for the relevant industry. By extrapolating price developments in an industry in the absence of collusion, the cartel gain can be calculated. One can either use the production cost indices or price developments in industries with similar compositions as a basis for the extrapolation.

Benchmarking for calculation of c and γ

An alternative procedure is to calculate cost level and competition intensity separately. Let us first take mark-up γ or the Lerner index expressed as $I - I/\gamma$. There are a number of studies that examine how the relationship between price and marginal cost (i.e. γ) depend on competition intensity and demand structure. A number of estimates regarding the mark-up have been developed, see e.g. Martins et. al (1996). It is important to note that such estimates vary relatively little across industries and across countries. Martins et. al (1996) estimate the average for 14 OECD countries to be 1.2, which represents the average for Norway seen in isolation. For Norway's part, two-thirds of these estimates across industries are found between 1.1 to 1.25. Klette (1999)¹⁷ estimates the mark-up for Norwegian industry based on Statistics Norway industrial statistics. These estimates are somewhat lower (between 1.05-1.1). Methodical differences explain part of this difference.

In addition to the mark-up, calculations of cost level must be performed. Statistics from Statistics Norway's can also be used here, e.g. industrial statistics, which yield data about variable expenses and turnover. The aggregation level that should be utilised is an assessment of variations in cost structure in the industry. The statistic as such is based on data from individual companies. Here different procedures for selecting the units that should enter into the calculation basis for unit costs could be imagined.

¹⁶ See <http://www.ssb.no/english/>.

¹⁷ T.J. Klette, "Market Power, Scale Economies and Productivity: Estimates from a Panel of Establishment Data", Journal of Industrial Economics, 1999.

Discussion of the methods

There are a number of objections that can be directed at benchmarking. Using data from other industries or other countries can be a source of incorrect estimates. On the other hand, realised costs in companies making up a cartel are not an adequate expression of cost structure for companies in a hypothetical competition situation. One reason is that the companies' investment and business decisions are influenced by the collusion as such. Another reason can be that the companies extract market power in the form of organisational slack, i.e. realised costs in the cartel equilibrium are more different from a hypothetical cost minimum than under more normal competitive conditions. It is a fundamental point that organisational slack is a gain that also should be confiscated.

Another problem is that cost data produces information about unit costs and not about the theoretically more accurate size, marginal costs. There is a problem whether one utilises cost data from affected companies or estimates costs through benchmarking. The objective does not affect the proposal about relating alternative price directly to the prices in foreign countries. The Committee finds this to be a strong argument for utilising this direct method to estimate alternative price.

The Committee's main recommendation is that the Competition Authority use benchmarking to calculate alternative price, p^a , directly. Our arguments for this recommendation can be summed up in the following points:

- i) In principle, benchmarking corrects for the adaptations that result from the strategic considerations associated with supporting the cartel, whether it is in the form of limited capacity or restricted sales channels. Theoretically benchmarking gives a more correct estimate of gain
- ii) The method is not based on information obtained from the companies, and the information is less vulnerable to influence. This can be significant in relation to companies' conduct after they become familiar with the fact that an investigation is underway.
- iii) The system has greater predictability. Companies that enter into collusion understand the principles for calculation.

- iv) The competence the Authority must build up is beneficial with respect to the Authority's continuing work with assessing the competition situation in the Norwegian market. Work with benchmarking that is currently underway indicates possible competition problems. It can also make market participants, firms, and consumers more aware of the degree to which companies operating in the Norwegian market attain unreasonably good income.

Chapter 7 – Leniency and Immunity¹⁸

In the United States and the European Union as well as in other countries such as Canada and the United Kingdom, leniency programs are part of competition policy. Competition authorities can grant leniency or immunity to corporations and their employees in exchange for confessions about participation in cartels.

The ability to grant leniency is a useful instrument for obtaining confessions in all types of criminal cases. Article 59 of the Penal Code provides a general rule granting the courts the ability to mete out milder punishments, even below the minimum established by law, if the perpetrator “*has turned himself in and given a complete confession.*”

In a recent bill¹⁹, a working group proposed to amend Article 59 so that confessions and other statements that play a significant role in solving cases could be given more weight during sentencing. The proposal was based on criminal policy and procedural considerations as well as consideration for the victim.

With respect to confessions, on page 39 of the bill, “*The working group propose[d] that the size of the reduction in the sentence or fine should be based on a concrete assessment in the individual case. First and foremost, weight should be placed on the confession’s significance for the victim and its impact on procedural efficiency...*”

“*The working group is of the opinion that the preparatory works should indicate a ‘normal level’ of reduction. According to the working group, ‘the normal reduction ought to equal 1/3 of the punishment that would have been given had the perpetrator not confessed’, but the court should be able to reduce the sentence or fine up to 50% in special circumstances. If the confession has been completely insignificant, however, the court should be able to ignore it during sentencing.*”

The discussion above indicates that the use and expansion of leniency in Norway is under development. Do cartel cases have certain characteristics that make the implementation of a specially tailored leniency policy more suitable for them than other cases?

¹⁸ Jason A. Hoida translated Chapter 7.

¹⁹ Odelsting proposition no. 81 (1999-2000). Odelstinget is the larger division of the Norwegian parliament.

Cartel cases by their nature involve many perpetrators committing crime together. A confession from one partner can incriminate many others. Furthermore, because illegal collusion concerns persistent illegal activity as opposed to isolated incidents, confession will both lead to the criminals' being punished, which will likely have a deterrent effect, and also put an end to the ongoing criminal activity. Cartel cases are a form of organised crime that would be easier to fight if the Competition Authority were able to offer amnesty.

Leniency with respect to collusion or other organised crime can be seen as a mechanism for encouraging informing, as opposed to individual confessions which involve self-incrimination. Leniency policy is therefore completely different than plea-bargaining or tax amnesty programs.

Before discussing leniency programs in more detail, we briefly highlight some features of the two most well known leniency programs. The United State's "Corporate Leniency Policy" or "Amnesty Program", which replaced an earlier program from 1978, dates from 1993. A more detailed description of this program can be found in Spratling (1999)²⁰ and OECD (2000)²¹. Before 1993, leniency could only be granted before an investigation was begun. The most significant revision made in 1993 was to allow leniency even after an investigation was underway up until the point incriminating evidence was collected.

After the revised program was announced, the total number of applications for leniency increased from one per year to two per month.²² It should be pointed out that the revision of the leniency program took place during the transition period between Reagan/Bush and Clinton administrations. The fact that it was more likely that the Democratic administration would enforce the cartel legislation more vigorously than the Republican administration could have been at least partially responsible for the increase in the number of confessions. It is worth mentioning that due to differences between the American and Norwegian economies, it is not likely that a well designed leniency program in Norway would lead to such a large increase in the number of cases.

²⁰ Spratling, G.R. (1999), "Making Companies an Offer They Shouldn't Refuse", US Department of Justice, mimeo.

²¹ "Hard Core Cartels", OECD 2000, www.oecd.org. As of 25.05.2001, the report could be found at: http://www.oecd.org/daf/clp/CLP_reports/hcc-e.pdf.

In the US, there are many conditions that must be fulfilled before leniency can be granted. For example, leniency can only be given to the first person or corporation to confess and not to the cartel's instigator or "ring leader." The antitrust authorities require full co-operation, and leniency for the employees of the confessing company is granted if the corporation itself qualifies for amnesty. That is, individual amnesty is connected to corporate amnesty.

Although the US leniency policy focuses on full criminal amnesty, we have the impression that reduced fines can be given to the second and third companies to confess if, in the course of the investigation, they produce information about a product that is unrelated to the one being investigated. Generally speaking, there appears to be room for discretion in enforcing American leniency policy. But it looks like the designation "leniency policy" is most often used to describe the policy of granting amnesty to the first person to confess and not the more informal policy of reducing fines in exchange for additional information.

The EU's system is relatively different. In competition cases in the EU, there is no sharp division between the investigators, prosecutors, and judges. In cartel cases, the European Commission can issue fines (but can not sentence to jail or prison). The leniency program originated in 1996, and is made up of three categories of leniency. First, a 75 – 100% reduction in the fine can be given for spontaneous confessions. Second, a 50 – 75% reduction can be given after an investigation is underway but before incriminating evidence is discovered. Third, a 10 – 50% reduction can be given for partial co-operation such as presenting additional evidence or stipulating to the facts that the Commission's charges are based on. The first person to confess is given more of a reduction, whereas the instigator and/or the "ring leader" of the cartel can not receive leniency. It appears that the American model has inspired the EU with respect to the conditions that must be met to receive amnesty.

Although leniency programs appear to play an important role in competition policy, economic research about programs' incentives and optimal design appears to be limited. Based on two unpublished articles by Motta and Polo (2000)²³ and Spagnolo (2000)²⁴, we now present some general observations about leniency programs.

²² International Competition Policy Advisory Committee, Final Report (2000), Chapter 4, <http://www.usdoj.gov/atr/icpac/finalreport.htm>.

²³ Motta, M. and M. Polo (2000), "Leniency Programs and Cartel Prosecution", European University Institute, Florence, mimeo.

²⁴ G. Spagnolo (2000), "Optimal Leniency Programs", Fondazione Eni Enrico Mattei, Milano, mimeo.

First it is important to emphasise that these articles envisage that confessions are *verifiable*, which requires that there is enough documentation regarding the confession to convict the other participants in the cartel. That means that many of the concerns about the American plea-bargaining system can be avoided. In the US, one can receive amnesty by pleading guilty. Although such a system can save the criminal system various costs, there is a risk that innocent parties might plead guilty to lesser charges in order to avoid being found guilty of more serious charges. That is not to say that this issue is irrelevant with respect to cartels, but the articles limit themselves to verifiable confessions, which consequently means that it is impossible to turn in yourself or someone else on false grounds. The very fact that one of the main purposes of leniency programs is to elicit confessions which incriminate others might make it natural to focus on verifiable confessions. But even with such a focus, one ought to take the possibility of false accusations seriously when designing and implementing a leniency program.

Motta and Polo (2000) feel that there must be a balance between *ex ante* and *ex post* incentives. *Ex ante* incentives refer to the incentives to enter into illegal price collusion, whereas *ex post* incentives refer to the incentives to break out of a cartel and confess to the competition authorities. Large penalty reductions will generally increase the incentives to confess but at the same time increase the incentives to enter into illegal collaboration. The cartel *as a whole* must therefore only receive *moderate* penalty reduction. In the extreme case, where all the participants receive nearly full amnesty, the deterrents for committing the crime will be almost completely removed. Once an investigation is started, the companies can avoid punishment by confessing. If the cartel remains undetected, the companies continue receiving cartel profits.

One can nevertheless choose between a framework where all the cartel participants that confess receive a low rebate or the alternative where full immunity (or even payment) for informing is only given to some of the co-operating companies. The only requirement that must be placed on a leniency program is that collective amnesty be moderate. Distributing the rebate among the cartel members can in principle be done in many ways. We come back to this issue later.

The literature supports the idea that confessions made after an investigation is underway should also be honoured. Assuming one grants full immunity for spontaneous confessions only, the company that confesses will not be punished but will lose out on the gain from illegal collaboration. In other words, that company will find itself in the same position it would have been in had it chosen to follow the law from the start. Because cartel participants have consciously chosen not to follow the law, a penalty reduction of even up to 100% can only induce confessions when something fundamental has changed since the participants entered into the collusive agreement. An example of a fundamental change is an investigation being started, which increases the risk of the cartel being discovered and makes continued collusion less lucrative. In such a case, a leniency program can tilt the incentives in favour of confession. This can explain why there have been more confessions in the US after the leniency program was modified to allow leniency after investigation was underway.

Another fundamental change could be that one of the companies in the cartel has become nervous. Individuals make corporate decisions, and newly hired leaders can have completely different views regarding illegal collaboration than their predecessors. For example, the case against Christie's and Sotheby's in the US arose because Christie's got new top management which immediately disclosed the collusion to the authorities.

Yet another potential change is that individual cartel members can become suspicious that one of the other members is going to disclose information. As discussed in Chapter 2, cartels are vulnerable to changes that can limit their life expectancy, since individual cartel members can realise a gain by breaking out instantaneously. We can consequently expect *some* spontaneous confessions before an investigation is started, but many more confessions will occur when cartel members feel that the risk of being caught has increased significantly. It seems therefore unreasonable to limit a leniency program to spontaneous confessions.

Now we come back to the question about whether leniency should be granted to all confessing cartel members or to only individual cartel members, e.g. the first to confess. The literature indicates that unevenly dividing punishment among cartel members will not have a positive effect, which is the opposite of what is practised in the leniency programs in existence today. The American guidelines state rather explicitly that collective confessions from a cartel will not be granted amnesty, and the first-to-confess rule must be interpreted in the same way.

The theoretical argument is roughly as follows. If the cartel as a whole – given the gain associated with collaboration, punishment level, possible amnesty and risk of being discovered – determines that the gain from continuing the illegal activity is positive, it can distribute the surplus to its members through its agreement in a way that encourages them not to confess. If the competition authorities are able to single out a specific company and offer it amnesty, the cartel can counteract these incentives by allocating a sufficient amount of the surplus to the tempted company.

In practice it is difficult to enforce detailed cartel agreements in a way that counteracts all the competition authorities' incentives resulting from the unequal division of amnesty among cartel members. However we do not currently have a good description of what exactly these contract difficulties are and what implications they have for designing an optimal leniency program. We mention a couple aspects nonetheless. First, the ability to redistribute cartel profits is limited, since the individual company must be guaranteed a certain income that makes it unprofitable to break out of the cartel to obtain a short-term gain. Second, distribution arrangements establish incentives for the individual company to position itself in such a way that it can claim a larger portion of the cartel profits. Such competition can be very damaging to the cartel as a whole.

One thing from the literature that is worth mentioning is that it is not very reasonable to think of cartel members as being in a situation where they are isolated and can be played against each other. Rather it is reasonable to expect that the cartel agreement itself takes into account the possibility that individual members will be vulnerable to pressure to confess and adjusts the possibilities for punishment and reward internally in the cartel accordingly. This can be done in much the same way that a well-functioning mafia creates a sanctioning and reward system to hinder individual members from falling for police incentives to confess. In addition, solidarity can be encouraged by threatening to sanction escapees *after* the cartel is dissolved. There are many reasons why such a threat can be effective. First, the remaining companies' market power is increased if access to customers or suppliers can be limited (e.g. through boycott). Second, in the situations where knowledge is developed in common arenas, escapees' access to technology and knowledge can be limited. Third, development in central areas of industry and commerce is characterised by an increasing degree of alliances and joint ventures, which increases the possibilities for establishing effective sanctioning mechanisms.

The literature in this area, however, is limited. We mention here a number of conditions that have not been addressed in the theoretical models which indicate that a policy based on unequal division of penalty reductions among cartel members could actually be reasonable.

In a situation where all companies desired to confess at the same time, yet only the first to confess would receive leniency, one could expect to see a “race to the courthouse.” This situation could be likened to holding a lottery among cartel members where the winner gets the entire reduction. Once the members of the cartel realise that one company has the incentive to confess, they all will run to the Competition Authority. For risk averse companies, such a structure can motivate confession more efficiently than when the reduction is distributed evenly among cartel members. A risk averse actor would rather get paid $1/n^{\text{th}}$ of the collective rebate than to have a $1/n^{\text{th}}$ chance of getting the entire rebate itself.

It is also possible to envision this situation as a timing game. Seen in isolation, a company has the incentive to confess when there is a sufficiently large probability that the cartel will be exposed. But when only the first company to confess receives amnesty, it is crucial to confess *before* other companies. The deciding factor therefore is one’s impression about the other companies’ inclination to confess. The other companies partake in the same timing game. The result can be that one or more companies confess very early. If the penalty reduction were even, the timing game would not occur.

The existing literature also treats the credibility problem associated with granting penalty reductions lightly. In legal systems where investigators, prosecutors, and courts are strictly divided, it is difficult for investigators to make credible promises regarding leniency. If the prosecutor promises a 50% fine reduction, for example, the court can easily increase the fine and render the promise worthless. The most credible promise within such a system is full immunity, since it is very easy to determine when such a promise is met or not. In addition, when full immunity is granted, the courts are not involved in the case at all since no case is initiated in the first place. It is perhaps symptomatic that full immunity appears to be a prominent means employed in practical leniency programs, possibly with the exception of the EU’s program. However, the EU does not have a sharp division between investigators, prosecutors, and courts. It should be pointed out that credibility regarding penalty distribution between various cartel members also should be possible to establish, such that a given

company receives a given percent of the total fine. Spagnolo (2000) mentions this, but this type of system does not appear to be implemented in practice anywhere.

Because of the characteristics of the current Norwegian legal system, a Norwegian leniency program ought to be designed more like the American model than the EU's model. Separation between investigators, prosecutors, and courts is the hallmark of the Norwegian legal system. If it is desirable to have a system more like the EU's, where the European Commission issues reductions between 10 and 100 percent, the Competition Authority as investigator must at a minimum be able to issue fines. Fines give competition authorities the possibility to make credible promises, since the case ends once the fine is accepted. In addition the accused has legal protection because the case can be taken to the courts.

If one chooses a model based on comprehensive use of full immunity, it is not possible to treat the cartel members equally. Full immunity to all cartel members would totally eliminate the incentives against entering a collusive agreement in the first place. It is too easy for a company to get out of the agreement without loss once it realises an investigation is about to be started. Limiting full immunity to one individual cartel participant, e.g. the first to confess, is understandable in the American system. We are more sceptical to the reasoning behind transferring these rules to the EU's program. The argument must be based on the belief that the race effect one can achieve, for example with respect to risk averse cartel participants or the timing mechanism described above, is considerable.

Until now we have discussed the reason for rules that only grant immunity from punishment to the first company to confess. In both the American and European system there are also provisions that prevent the instigator and/or "ring leader" of the cartel from receiving a penalty reduction. It is rather unclear what this means. In the US, if there is more than one instigator, one of these can for example still obtain immunity. The reason for such rules seems to be moral or legal. Klawiter (2000) claims that it would be impossible to get companies convicted in an American court for affairs where the "more guilty" party goes free. That is understandable, but carrying the argument that a penalty reduction should not be unfair to other parties to its logical conclusion would mean that leniency programs could not be used at all. The entire point of the programs is exactly to treat parties with fairly equal degrees of guilt differently. If this offends one's sense of justice, one ought to perhaps avoid leniency programs altogether.

The discussion above about the first-to-confess rule in leniency programs leads to a more general question about flexible as opposed to fixed, mechanical rules in such programs. One viewpoint could be that in reality these programs involve the buying and selling information and that each piece of information offered to the investigators should be priced according to the information's investigative value. We do not share that view, however. Information is a unique commodity. One can not negotiate a given piece of information's value without disclosing the information to a large extent. This characteristic of information would tend to indicate an advantage in employing mechanical rewards for confessions and co-operation.

The credibility problem through the legal system points in the same direction. It is a completely different issue whether a mix of fixed rules and discretion is optimal in the existing programs in different countries. The first-to-confess rule in the US grants full immunity to the first that fully co-operates. This perhaps ought to allow for rewards for less than full co-operation. It could be imagined that the second and third confession could bring valuable information that should also be rewarded. Rewarding for less than full co-operation is more like the EU's system, but as mentioned, such a system probably requires institutional changes in the enforcement of Norwegian competition cases. At a minimum, the Competition Authority must have the opportunity to issue fines.

A related question is whether leniency programs will influence actions for damages and confiscation cases following the investigation of a cartel case. Let us look at damages first. In the American system, immunity applies to punishment for an action and not liability for damages. In many ways, this seems logical. One can let a confessing cartel member remain anonymous, but it will oftentimes be easy to determine the identity of the confessing party based on the case against the other cartel members. Klawiter (2000) claims that actions for damages following collusion cases in the US are almost unavoidable and that the one that has received immunity is often pulled into the action. A cartel member that has confessed will nevertheless have certain advantages. For example, the fact that one receives immunity means that culpability is not established, which could have been relied on by the plaintiff in the damages case.

In Norway, this type of action for damages is less common, partly because of differences in the legal systems and partly due to cultural reasons. A leniency program's relationship to

private enforcement of cartel laws through actions for damages ought to be well thought out, however. Too much private enforcement makes the public sanction system, and consequently the leniency program, less important.

Confiscation to the State can be seen as falling somewhere between punishment and compensation. It has many similarities with punishment, but out of consideration for deterrence, total punishment must be at least as large as the gain from the crime. If one chooses to distinguish between punishment and confiscation, we do not see any problems with also allowing the penalty reduction to apply to the confiscation portion of the total punishment. Confiscation goes to the State, and a reduction of the confiscation amount will mean that the State is using public funds to buy information.

Related to the question about the relationship between leniency and compensation and confiscation is the relationship between penalty rebates and international co-operation between competition authorities. In an international world, the most damaging cartels are often international cartels, which makes the first-to-confess rule difficult to enforce. The first to come forward in the US will not necessarily be the first to come forward in the UK. Currently, very many different national competition authorities will often assert jurisdiction when international collusion is discovered. For example, the current leniency program in the US protects information given pursuant to a leniency agreement from other countries' competition authorities. But as information tends to leak out indirectly to injured customers during the criminal proceeding against the other cartel members', something equivalent can happen with respect to other countries' competition authorities. A first-to-confess rule can then be difficult to practice in the absence of international co-operation, but international co-operation agreements are being developed.

We have attempted to discuss some elements that we believe are important to be aware of when considering the possible introduction of a leniency program for competition cases, especially cartel cases, in Norway. We do not wish to make any strong conclusions but will nonetheless attempt to sum up the discussion here.

Do we even need a leniency program in Norway? We cannot be certain about how many confessions such a program will elicit in Norway. If the costs of introducing such a program in Norway are not too high, however, we would recommend that leniency programs be

introduced in order to gain experience with how they work. More and more countries appear to be introducing such programs, which means that increased international co-operation on competition cases can require that Norway, along with other countries, is able to grant penalty reductions. Taking the first steps towards introducing such a system already now could be advantageous.

Many leniency programs emphasise either granting or not granting full immunity. We are of the opinion that this first and foremost makes sense in a system where the investigating body's decisions are not binding on the court. Ideally, one would like to have more flexibility to reward confessions based on the information's value, but that requires that the competition authority is able to make credible promises to companies under investigation, e.g. by writing out fines. In a system with credible promises, we see less reason for not granting a penalty rebate to all cartel members that stop their illegal activities. This is contingent of course on the rebate's not being too large, such that the incentives to enter into illegal collaboration become too strong.

When it comes to the relationship between penalty rebates on the one hand and actions for damages and confiscation on the other, we refer to what we have written about compensation and confiscation in other parts of this report. We emphasise here only that confiscation is so similar to punishment that there is in principal nothing wrong with also granting penalty rebates with respect to confiscation. This would correspond to getting more than a 100% rebate in relation to the actual punishment, which can be desirable when one aims to buy information. Penalty rebates can not restrict injured parties' rights to sue for damages, so a system with comprehensive private enforcement of cartel provisions through actions for damages will probably not damage a leniency program's effectiveness.