Fine and Punishment:

How to effectively fight cartels in the EU in the absence of prison sentences?

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I hereby declare and confirm that this thesis is entirely the result of my own work except where otherwise indicated. I acknowledge the supervision and guidance I have received from Prof. Oren Gazal-Ayal. This thesis is not used as part of any other examination and has not yet been published.

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Summary

This paper seeks to contribute to the debate regarding the effective tools of antitrust sanctioning in the European Union. It presents the theory behind the optimal antitrust sanctions and within this framework, based on the data available for competition law enforcement, finds the optimal antitrust sanction at the level of 200% of the company's annual turnover in the products concerned by the violation, much higher than the current level of fines in Europe. Because of the possible under-deterrence resulting from this fine level discrepancy it discusses the individual antitrust sanctions as possible complementary tools of competition law enforcement, focusing the analysis on director disqualification orders. Statistical analysis conducted in the empirical part of the paper, confirms absence of market reputational sanctions for the managers of the companies infringing the EU competition law. As a consequence, it finds that any future regulation introducing the director disqualification orders at the EU would not be superfluous.

Key words: competition law, cartels, antitrust sanctions, optimal deterrence, director disqualification orders.
# TABLE OF CONTENTS

1. Introduction .................................................................................................................. 6

2. Classical deterrence theory and the optimal cartel penalties ................................. 8
   2.1 The theory of the optimal sanction ......................................................................... 8
   2.2 Classical deterrence theory and the optimal cartel penalties ............................ 10
      2.2.1 The threat of over-deterrence ....................................................................... 10
      2.2.2 The trade-off between determinants of the fine amount ............................ 11
   2.3 Calculating the optimal sanction level ................................................................. 13
      2.3.1 The probability of detection ........................................................................... 13
      2.3.2 The price increase from price-fixing ............................................................. 17
      2.3.3 Cartel duration ............................................................................................... 19
      2.3.4 Optimal fine calculation .................................................................................. 20
      2.3.5 Critique of the result ....................................................................................... 20

3. Are fines alone enough to deter firms form price-fixing? ......................................... 22
   3.1 The current enforcement in the EU ......................................................................... 22
   3.2 The methodology behind the fines ...................................................................... 25
   3.3 Current level of fines versus optimal antitrust fine ............................................. 26
   3.4 The profitability of price-fixing – other arguments .............................................. 27
   3.5 The answer - the further increase of fines .......................................................... 29

4. The case for individual sanctions ................................................................................ 32
   4.1 The rationale for individual sanctions ................................................................. 32
      4.1.1 Theoretical arguments ................................................................................. 33
      4.1.2 Empirical arguments ..................................................................................... 35
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>The case for imprisonment</td>
<td>37</td>
</tr>
<tr>
<td>4.3</td>
<td>Prison sentences in US</td>
<td>39</td>
</tr>
<tr>
<td>4.4</td>
<td>The problems of prison sentences at the UE level</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Director disqualifications – an empirical analysis</td>
<td>44</td>
</tr>
<tr>
<td>5.1</td>
<td>Director disqualification orders in UK</td>
<td>44</td>
</tr>
<tr>
<td>5.2</td>
<td>CDOs as individual sanctions</td>
<td>46</td>
</tr>
<tr>
<td>5.3</td>
<td>Empirical study</td>
<td>48</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Introduction</td>
<td>48</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Database and methodology</td>
<td>50</td>
</tr>
<tr>
<td>5.3.3</td>
<td>Results</td>
<td>49</td>
</tr>
<tr>
<td>5.3.4</td>
<td>Critique</td>
<td>51</td>
</tr>
<tr>
<td>5.4</td>
<td>The incompleteness of the enforcement system</td>
<td>52</td>
</tr>
<tr>
<td>6</td>
<td>Conclusion</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Appendix - Database</td>
<td>60</td>
</tr>
</tbody>
</table>
1. Introduction

In his famous speech in 2000, Mario Monti, the current prime minister of Italy and the then Competition Commissioner, declared that “*cartels are cancers on the open market economy, which forms the very basis of our [European Union]*”\(^1\). Following its convictions, European Commission has put the fight against cartels on the top of its priority list. The more aggressive enforcement resulted in the substantial increase in the total amount of corporate fines imposed. The average corporate fine increased from EUR 2 million in 1990-1994 to 46 million in 2005-2009, to drop slightly in the last period 2010-2012 to 35 million\(^2\).

Alongside increasing the fines, the Commission sought to encourage private enforcement of the competition law by trying to make easier for private parties – victims of the price-fixing – to bring damages actions against the cartel participants before the national courts of the member states.\(^3\)

Despite onerous efforts of the competition law authorities and huge corporate fines making headlines in Europe, there are some doubts regarding the effectiveness of the current enforcement policy. An increasing body of literature suggest that the enforcement system based solely on the corporate fines might not be the appropriate answer to the problem of cartels. After all, the individuals acting on behalf of the company, not the company itself, are the ones fixing the prices. There are strong voices suggesting that the system complemented by

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individual sanctions, tailored towards challenging failures of corporate governance within the organization, would be a better solution. Pointing out to the US jail sentences example, the proponents of this approach advocate criminalization of the EU competition law, which, however, creates many difficulties of both legal and practical nature, not possible to overcome in the short or medium term. Given that, the introduction of alternative sanctions, such as directors disqualification orders, prohibiting officers of a company found to breach the competition law to act as officers for a specific amount of time, is also being discussed.

The main objective of this paper is to contribute to the debate on the introduction of individual sanctions as a complementary tool of competition law enforcement in the European Union. It focuses its analysis on the director disqualification and based on the database of the participants of the cartels investigated by the European Commission (compiled specifically for the purpose of this study) tries to draw some conclusions regarding the potential effects of the introduction of such sanction.

The paper proceeds as follows: section 2 begins with the description of the classical deterrence theory on the base of which, in the second part, the optimal antitrust fine in Europe is calculated. Section 3, briefly describes the current EU enforcement policy and discusses its shortcomings. Section 4 explores the rationale behind the individual sanctions and comments on the feasibility of introducing the criminalization at the EU level. Section 5 discusses the director disqualification orders and presents the results of the statistical analysis. Section 6 concludes.
2. Classical deterrence theory and the optimal cartel penalties

2.1 The theory of the optimal sanction

The economic theory of collusion suggests that a firm’s decision to participate in a price fixing cartel is based on a rational calculation of benefits and costs of such a conspiracy. Economic analysis of optimal antitrust penalties is therefore based on the simple idea of altering this balance of expected costs and benefits of the violation. Under the framework developed in seminal papers of Becker and Landes, in a simple setting where detection of crimes and enforcement are perfect and costless, the optimal antitrust fine should be equal to the net harm caused by offender to other entities. In the more realistic situation, this fine should be increased by the variable enforcement costs of imposing the sanction and discounted by the probability that the fine is effectively imposed. It simply means multiplying the net harm by the inverse of the probability of effective fine imposition. In this sense, the optimal fine forces the offender to internalise all costs and benefits of the violation, thus leaving the room for ‘efficient violations’, the total benefits of which exceed the total costs, while deterring ‘inefficient ones’, the total cost of which exceed the total benefits.

This approach is in line with the Chicago School view, that the primary goal of the antitrust law is to maximise total economics welfare, defined as the sum of

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7 Those costs are ignored in the henceforth analysis.
both the consumers’ and producers’. Leaving the old and interesting debate about the antitrust law objectives aside, one should note that, at least in the case of the hard-core competition law violations such as cartels, the internalisation approach was considered unsuitable. Slightly modified approach that emerged after was built on the assumption that the primary purpose of competition law is to prevent extractions of consumers’ wealth by the firms (the wealth transfers from consumers to firms). The new deterrence approach suggests that the expected fine should exceed (be equal to) the expected gain from the violation irrespective whether the offender’s gain exceeds the harm caused to consumers (the total social cost).

This difference between the deterrence approach and the internalization has some profound implications – it shows the degree of moral condemnation of a competition law breach. As it is noted by Wills, who uses the terminology of Cooter and Coffe - “the internalisation approach merely seeks to price antitrust violations, whereas the deterrence approach seeks to sanction or prohibit such violation”. Werden and Simon make a similar argument using a very vivid example: “recognition by society that hard-core price-fixing, like child molestation, should be eliminated rather than simply taxed, like overtime parking, itself is likely to have a substantial deterrent effect. When society taxes conduct, it sends the message that the conduct is acceptable as long as the tax is paid. Society does not

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13 Wils W., Efficiency and Justice... op. cit., p. 58, par. 189.
just tax child molestation, because it wants to send a clear signal that such conduct is not acceptable."\(^{14}\)

The deterrence approach seems to have two main practical advantages over the internalization approach. First, the deterrence approach appears to be easier to apply in practice, as the need for precision is lower than in case of internalization. A fine has only to exceed the expected gain multiplied by the inverse of the probability of the fine being imposed and calculation of monopoly transfer and the portion of deadweight loss borne by consumers is not necessary.\(^{15}\)

Secondly, the stronger moral condemnation connected with the deterrence approach can increase the effectiveness of antitrust enforcement. Apart from creating a credible threat of punishment for offenders, the goal of antitrust law is also to send a message to law-abiding players on the market, reinforcing their moral incentives to commit to the rules. In this sense, the internalisation approach diminishes this desirable effect.\(^{16}\)

2.2 The limits of the standard model

2.2.1 The threat of over-deterrence

The application of the deterrence approach poses a threat of imposing sanctions greater than necessary. Care must be taken to ensure that the penalty imposed on the offender is not excessive, not causing undertakings on the market to over-invest in compliance.\(^{17}\)


\(^{15}\) See Landes, *Optimal... op. cit.*, p. 44.

\(^{16}\) See Wils W., *Efficiency and Justice... op. cit.*, p. 59, par. 192 and 169.

\(^{17}\) Becker R., *Crime and... op. cit.*, p. 191.
Corporations are punished for the behaviour of their agents. Very often the interests of the corporations’ agents diverge from the interests of the corporations and aligning incentives and monitoring the agents creates agency costs.\(^\text{18}\) Antitrust compliance programs being introduced within corporations try to address competition law specific agency costs.\(^\text{19}\) The threat of corporate sanctions induces corporations to try to make their agents respect the law and although in general firms have a relatively good ability to do so, doing that is costly and always imperfect.\(^\text{20}\) If the expected fine is therefore greater than the total social cost of the crime, it will induce the corporation to invest socially inefficient amounts of money in monitoring and prevention.\(^\text{21}\) Those inflated costs are passed on to consumers in the form of higher prices, and this is certainly the outcome regulators would like to avoid.\(^\text{22}\)

2.2.2 The trade-off between determinants of the fine amount

According to the deterrence model, the expected fine should be equal to the nominal amount of the fine discounted by the probability of detection and punishment. It means that the optimal level of deterrence can be achieved through different combinations of the probability of detection and of the magnitude of


\(^{19}\) Some firms, especially with a widely dispersed shareholdership, might be management controlled. In this case compliance programs have slightly different purpose. See Blair R., *Suggestion for improved antitrust enforcement*. The Antitrust Bulletin 433, 1985, p. 436-437.


\(^{22}\) There are not any empirical papers proving that in any jurisdiction consumers are paying a price for over-zealous cartel enforcement. Ginsburg and Wright (Ginsburg D., Wright J., *Antitrust Sanctions... op. cit.*, p. 8) provide some evidence of over-deterrence from other areas of law. See e.g. Philison T., Sun E., *Is the Food and Drug Administration Safe and Effective?* Journal of Economic Perspective 22, 85, 2008.
fines. In theory, the same compliance level can be achieved by setting the nominal fine equal to $X$ with probability of detection $p = 1$, as with nominal fine equal to $10X$ and probability of detection $p = 0.1$. In both cases the expected fine equals $X$. High fines and low probability of detection have the same effect as low fines imposed more frequently.

The active enforcement of antitrust law is very costly and time consuming. There are significant administrative costs of cartel proceedings borne by the antitrust authorities (case handlers, markets analysis) as well as by companies concerned (lawyers, antitrust consultants, opportunity cost of higher management). In such setting, basic economic reasoning would plead for strategy with very high fines imposed rarely, as this strategy saves taxpayers money and minimizes the social costs of antitrust enforcement.

There are, however, some reasons to believe that the presented trade-off is not a simple linear relation, and the strategy proposed might have substantial flaws and cannot be applied unconditionally. First, as behavioural scientists notice, in practice, people, while making decisions regarding their future behaviour, tend to disproportionately rely on incidents which can be easily brought to mind, because they happened recently, are well publicised and known to agents. If on the one hand, this “availability bias” makes the strategy with rare high fines look promising, as the huge fines imposed on companies make headlines and are widely publicised, on the other hand the low frequency of imposing fines

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might make the prospect of potential fine bleak and easy to underestimate.25 A very interesting example of the latter situation is presented in the experiment described in the paper by Erev, Ingram, Raz and Shany.26 The authors focus on the problem of cheating in exams – distinguishing two Nash equilibria and claiming that rarely expelling students from the exam is not an effective strategy as the tendency to underweight rare events “moves behaviour toward an equilibrium in which students are motivated to cheat.”27 The suggested solution – small but high probability punishments in the beginning of the exam (proctors are asked to focus all their attention on any attempts to look at the neighbours’ notebooks and gently punish the cheaters by moving them to the first row) - was tested on midterm exams in the Technion. The results of the experiment proved this solution to be efficient, clearly reducing the perceived cheating.

The other practical problem is connected with undesirable effects of very high fines. By punishing an offender with a high fine, authorities risk reaching its ability to pay ceiling. Pushing the firm into bankruptcy and causing a higher market concentration is definitely not the purpose of antitrust enforcement and there are strong proportional justice reservations28.

2.3 Calculating the optimal sanction level

2.3.1 The probability of detection

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27 Ibidem, p. 338.
28 For detailed analysis of those issues – see Section 3.1 of this paper.
In accordance with the deterrence model, the probability of detection plays a substantial role in the calculation of expected penalty by the firm. It is not easy to determine the probability of being caught as it requires the information on the total number of cartels in existence and some cartels simply go undetected. There are however studies trying to estimate the cartel detection rate. One of the first studies of the US jurisdiction by Brayant and Eckard\textsuperscript{29} places the estimated detection rate between 13\% and 17\%, i.e. relatively low. In their paper, they divide the population of active cartels into two subpopulations – one containing conspiracies which are eventually caught and another containing those which are not. Their sample is for obvious reasons from the first subpopulation and the whole statistical inference relate directly to that population. They only extrapolate the results on the whole population of cartels, and under the assumption that the life of a caught cartel is no longer that of an uncaught conspiracy, the estimated detection rate holds for the whole population.

The results of Brayant and Eckard study were surprisingly confirmed in a more recent study. Using the similar methodology and data from European Commission cartel investigations, Combie, Monnier and Legal\textsuperscript{30} estimate the EU detection rate at 12.9\% - 13.3\%. That result is close to the lower bound of the previous estimation.

On the other hand, there is strong evidence that the detection rate increased in recent years by as much as 60\%, due to the introduction of successful corporate


leniency programs. This is the conclusion of Miller's empirical study\(^\text{31}\), which is based on the US data. Ginsburg and Wright note that ‘although there are no comparable data from the EU, the effect of its corporate leniency program should be similar'\(^\text{32}\). In line with those considerations, assuming prior detection rate of about 15% in both the EU and the US, Ginsburg and Wright believe the current rate of detection would be around 25%. This number will be taken for the hypothetical optimal fine calculation presented in the section 2.3.4 of this paper. The summary of the studies concerning the cartel detection rate is presented in the Table 1 below.

**Table 1. The probability of cartel detection – summary of the literature**

<table>
<thead>
<tr>
<th>Source</th>
<th>Detection rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beckstein and Gabel (1982)</td>
<td>Less than 0.5%</td>
<td>The result of the anonymous survey conducted among ABA lawyers working in the US.</td>
</tr>
<tr>
<td>Feinberg (1985)</td>
<td>Less than 0.5%</td>
<td>The result of the survey of antitrust lawyers working in Brussels.</td>
</tr>
<tr>
<td>Werden and Simon (1987)</td>
<td>Less than 10%</td>
<td>The assumption based on the simulation study in which collusion was quite rare until the probability of punishment was reduced to one-tenth.</td>
</tr>
<tr>
<td>Bryant and Eckard (1991)</td>
<td>13% - 17%</td>
<td>Empirical study based upon data from cartels indicted by the Department of Justice Antitrust Division between 1961 and 1988.</td>
</tr>
<tr>
<td>OECD (2002)</td>
<td>13% - 17%</td>
<td>Cites Bryant and Eckard</td>
</tr>
</tbody>
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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><em>Bush, Connor, Flynn, Ghosh, Grimes, Harrington, Hawker, Lande, Shepherd, Semerano (2004)</em></td>
<td>10% - 33%</td>
</tr>
<tr>
<td><em>Wills (2005)</em></td>
<td>Less than 33%</td>
</tr>
<tr>
<td><em>Combie, Monnier and Legal (2008)</em></td>
<td>12.9% - 13.3%</td>
</tr>
<tr>
<td><em>Ginsburg and Wright (2010)</em></td>
<td>Approximately 25%</td>
</tr>
</tbody>
</table>

Source: based on Connor (2006)
2.3.2 The price increase from price-fixing

Widely accepted proxy for the social cost of cartel is the measure of average price increase – the overcharge rate. The overcharge rate is calculated by comparing actual cartel-enhanced prices to an appropriate competitive benchmark price.\textsuperscript{33}

The most comprehensive study regarding the cartel overcharges was conducted by Connor\textsuperscript{34}. He surveys almost 600 published economic papers and judicial decisions that contain 1,517 quantitative estimates of cartel overcharges. He estimates that the median long-run overcharge for all types of cartels over all time periods is 23.3%. The median overcharge for international cartels equals 30% and is significantly higher than for domestic cartels (17.2%). What is worth noting is that the cartel overcharges are negatively skewed and the mean overcharge for all successful cartels is pushed to the level of 50.4%.

The most striking result of the study is however the huge discrepancy between the overcharge levels in different jurisdictions. As Figure 1 below shows, the EU-wide cartels, the ones that are the target of the European Commission decisions, have the highest overcharge levels with the median reaching almost 40%. Domestic cartels operating within the territory of a single Member State, hence those under the jurisdiction of the National Competition Authorities (NCAs), are far less effective with the average median overcharge equal to 15.1%.

The results obtained by Connor were constructively criticized by Boyer and Kotchoni\textsuperscript{35} who correct his estimations by “properly controlling for econometric problems such as model error, estimation error and publication bias in the determination of representative overcharge estimates”\textsuperscript{36}. In order to avoid distortions caused by the influential observations, they model the logarithm of overcharges as a linear function of explanatory variables used by Connor. In addition they remove from the database cartels with overcharge estimates that are larger than 50%, treating them as doubtful and use some econometric technics to eliminate the sample selection bias (Heckman-type correction). They result for the median overcharge of the EU-wide cartel equals 17.75\% and is substantially lower than the Connor’s result.


\textsuperscript{36}Ibidem, p. 2.
Taking for the calculation of the optimal fine 17.75% obtained by Boyer and Kotchoni as the median overcharge figure for EU-wide cartels, one would assume, in line with Wils considerations\(^{37}\), that taking into account the price elasticity of demand for the cartel members’ products, the estimate of the increase in profits resulting from the price fixing would be equal to 10% of the turnover of the product affected.\(^{38}\)

2.3.3 Cartel duration

The average cartel duration estimates available place the lifespan of the cartel at around 5 years. Levenstein and Suslow\(^{39}\) reporting on various studies place the cartel duration between 3.5 years and 7.5 years. In another study Evenett, Levenstein and Sulow\(^{40}\), from the sample of 1990s international cartels of Department of Justice and European Commission prosecutions, estimate the average cartel duration at 6 years.

Although, it can be argued, that the sample based on the uncovered collusions might be somehow biased, there is no reason to believe that this sample selection bias has any specified direction. On the one hand, the discovered cartels might have been those that lasted for the longest time therefore increasing the possibility of detection. On the other, they might be less sophisticated therefore

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less able to keep their activities covered – that would indeed suggest that the average duration is greater than estimations based on this sample.

For the purpose of the optimal fine calculation the average cartel duration is conservatively assumed to be 5 years.

2.3.4 Optimal fine calculation

Assuming the 10% increase in profits, 5 year cartel duration and detection rate at 25%, the minimum level of fine necessary to effectively deter the cartel formulation would be in the order of 200% of the annual turnover of the undertaking in the product concerned by the violation. This figure does not take into account the fact that fines are usually paid few years after the violation.

The result obtained is substantially higher than the previous estimates of Wills, who in 2001 placed the minimum level of fines required to deter price cartel at 150% of the annual turnover of the products concerned by the violation, and then again at 150% level in 2005. However, it does not contradict them in any sense, as it is calculated using the recent, EU-specific data.

2.3.5 Critique of the result

It can be argued that the provided estimate is too vague and not reliable as the estimates of particular determinants of the optimal fines are disputable. That is a legitimate critique and the literature acknowledges this argument. Moreover, this

42 Wils, Is Criminalization of EU Competition Law...op. cit., p.140.
result is not exactly in line with the theory, as the subjectively expected gain and discounted by the subjectively expected probability, not the actual average gain and detection rate should be the relevant measures. The latter argument paradoxically strengthens the case for the results obtained, as firms and managers would look for such estimations in order to decide whether to form a cartel.

Moreover, the results obtained assume implicitly that the whole sophisticated mechanism of cartel can be reduced to a single decision-maker with a single, undivided interest. In fact setting up and running a cartel takes a lot of effort, and because of the existence of antitrust enforcement in the form of leniency programs, the sense of solidarity and mutual trust are not easy to maintain. In accordance to this critique, Allain, Boyer and Ponssard, in their model question the static framework applied obtaining different results.

Finally, assuming the calculations are accurate, the fine set according to this methodology would deter only half of the firms – the half that gains less than the average, but won’t discourage the other, the cartels with higher than average overcharges that are the most detrimental to customers. Supporters of the tough sanctioning policy might argue that even the bankruptcy of few companies found guilty of the competition law infringements is the price worth paying to ensure unrestricted market competition and advocate even higher sanctions. One has to remember however that the higher than optimal antitrust sanctions might lead to undesirable effects: over-investments in compliance disused already in section

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45 They develop a dynamic framework in which each individual firm recurrently determines if further participation in the cartel will be more profitable than deviating from the agreement. According to them with elasticity of demand $\epsilon = 0$, an annual probability of detection of 15% and average duration of 6 years the optimal fine should be placed somewhere between 71% and 76% of the annual sales of the product affected.
46 Thanks to Prof. Oren Gazal-Ayal for pointing out this argument.
2.1.1 and the negative effects of pushing companies into bankruptcy, which are almost entirely bore by the agents unconnected to the infringement.\textsuperscript{47}

In spite of all those reservations, the obtained results certainly remain useful as a general guidance for the practice of antitrust fining.

3. Are fines alone enough to deter firms from price-fixing?

3.1 The current enforcement in the EU

In the EU, the total amount of fines imposed has increased dramatically over the last two decades. As Figure 2 shows, the European Commission is punishing cartel members more and more severely – reaching almost 10 billion EUR in fines in 2005 – 2009, or 27 times what they had been in 1990 – 1994. In the last period 2010 – 2012, despite leadership change\textsuperscript{48}, fines continue to be high, exceeding the level from period 2000 - 2004 only in March 2012 – half way through the end of period. The average fine imposed by the Commission (Figure 3) increased from less than 2 million EUR in 1990 – 1994 to 35 million EUR, reaching even 44 million EUR in period 2005 – 2009. For the complete picture of that trend it is worth to look at the top highest fines imposed by the Commission after 1969 (Table 2) – all of them, except one were imposed after 2006.

\textsuperscript{47} See. section 3.5 and footnote 71.
\textsuperscript{48} Joaquin Almunia took over from Neelie Kroes as the new EU Competition Commissioner in February 2010. There was some speculation that it might bring the change in fining policy. See http://www.friedfrank.com/siteFiles/Publications/FAA31695924F47889B57200A07638598.pdf. Recently, however, Commissioner Almunia said the European Commission will impose higher fines this year compared to 2011, when, he admitted, activity "slowed down”. See http://www.globalcompetitionreview.com/news/article/31968/expect-cartel-fines-year-says-almunia/. Last access: 18 July 2012.
Figure 2. Total Corporate Fines in the European Union 1990 – 2012 (adjusted for Court Judgment)


Source: EU Cartel Statistics (2012)

Figure 3. The Average Corporate Fine in the European Union 1990 - 2012 (adjusted for Court Judgment)

![Line graph showing the average corporate fine in million EUR from 1990 to 2012*.]

Source: EU Cartel Statistics (2012)
Table 2. The highest cartel fines per undertaking since 1969 (adjusted for Court Judgment)

<table>
<thead>
<tr>
<th>No.</th>
<th>Year</th>
<th>Undertaking</th>
<th>Case</th>
<th>Amount in EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2008</td>
<td>Saint Gobain</td>
<td>Car glass</td>
<td>896,000,000</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>E.ON</td>
<td>Gas</td>
<td>553,000,000</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>GDF Suez</td>
<td>Gas</td>
<td>553,000,000</td>
</tr>
<tr>
<td>4</td>
<td>2001</td>
<td>F. Hoffmann-La Roche AG</td>
<td>Vitamins</td>
<td>462,000,000</td>
</tr>
<tr>
<td>5</td>
<td>2007</td>
<td>Siemens AG</td>
<td>Gas insulated switchgear</td>
<td>396,562,500</td>
</tr>
<tr>
<td>6</td>
<td>2008</td>
<td>Pilkington</td>
<td>Car glass</td>
<td>370,000,000</td>
</tr>
<tr>
<td>7</td>
<td>2010</td>
<td>Ideal Standard</td>
<td>Bathroom fittings</td>
<td>326,091,000</td>
</tr>
<tr>
<td>8</td>
<td>2007</td>
<td>ThyssenKrupp</td>
<td>Elevators and escalators</td>
<td>319,779,900</td>
</tr>
<tr>
<td>9</td>
<td>2008</td>
<td>Sasol Ltd</td>
<td>Candle waxes</td>
<td>318,200,000</td>
</tr>
<tr>
<td>10</td>
<td>2010</td>
<td>Air France</td>
<td>Airfreight</td>
<td>310,080,000</td>
</tr>
</tbody>
</table>

Source: EU Cartel Statistics (2012)

It can be argued that there are case-specific factors influencing the evolution of the level of fines over time. However, as Connor and Miller\(^\text{49}\) show in their study, case-specific factors alone cannot explain the significant increase in the EU cartel fines. *Ceteris paribus*, cartel penalties increased by 8% a year during 1990–2008, and since the implementation of the 2006 fining guidelines\(^\text{50}\) fines had risen by an additional 107%.

Ginsburg and Wright pertinently notice that the significance of the increase in the aggregate amount of cartel fines is far from obvious: “*perhaps enforcement agencies are becoming more and more successful in discovering and prosecuting price-fixers; or perhaps companies are even more frequently fixing prices despite the*”


increase in the average fine”\textsuperscript{51}. Assuming that fining corporations is a good way of deterring cartels, increase in the amount of fines should result in increased deterrence and decrease in the number of cartels. There are however no proofs and many doubts whether ever-increasing corporate fines would deter price-fixing more effectively.

3.2 The methodology behind fines

On the basis of the Article 103(1) of the Treaty on the Functioning of the European Union\textsuperscript{52}, the Regulation 1/2003\textsuperscript{53} was adopted and entered into force on 1 May 2004. Article 23(2), which is the sole legal basis for imposing the fines for any anticompetitive behaviour, states that: “the fine shall not exceed 10\% of the undertakings total turnover in the preceding business year” and “in the fixing the amount of the fine, regard shall be had both to the gravity and to the duration of the infringement”. In September 2006, the European Commission published new Guidelines on the method of fines calculation\textsuperscript{54}. The Guidelines set out a two-step methodology for the setting of fines.\textsuperscript{55} In a first step, it establishes a base of fine that can reach as high as 30\% of the turnover of the affected product to which the infringement directly or indirectly relates in the relevant geographic area within the EEA. To take into account the duration of the infringement, the amount thus determined is multiplied by the number of years of participation in the infringement (the cartel duration). Additionally, a cartel “entry fee” in the range of

\textsuperscript{51} Ginsburg D., Wright J., Antitrust Sanctions… op. cit., p.12.
\textsuperscript{52} Consolidated version Official Journal, C 83 of 30.3.2010.
\textsuperscript{54} Guidelines on the methodology… op. cit.
15%-20% is added to the base fine. In the second stage, thus determined amount is adjusted upwards or downwards according to a number of factors. Some of the aggravating circumstances are recidivism, the obstructions of investigations, the role as an instigator or leader of the cartel. Some of the extenuating circumstances include the effective cooperation or the authorisation or encouragement by public authorities.

Interestingly, the EU regulation does not refer in any sense to any damage (overcharge) proxy, as the US antitrust regulation does.56

3.3 Current level of fines versus optimal antitrust fine.

Assuming a situation when the European Commission fines the undertaking for the infringement severely enough to reach the 10% turnover ceiling established in the Regulation 1/2003, comparing the fine with the result of the optimal antitrust fine calculations presented above brings some striking conclusions. Even though 10% of the turnover is the 10% of the undertakings total turnover in the preceding business year, it seem clear that 200% of the annual turnover of the products concerned by the infringement will substantially exceed this threshold in most of the cases. Only in very unlikely situations, when the company engages in the price cartel in a product that accounts for less than \( \frac{1}{20} \) of its turnover the fine has a chance to be severe enough. All other cases, under such regulation, remain under-deterred, making the cartel activity profitable, despite the amount of fines increasing drastically. Figure 4 presents the average post-

56 The US Federal Sentencing Guidelines establish a base fine equal to 20% of the volume of sales affected by cartel actions. This level of the base fine is specified assuming that the average gain from price-fixing (i.e. overcharge proxy) is 10% of the selling price (i.e. 10% of affected sales).

![Figure 4. Average fine as a percentage of firm’s turnover (87 observations from 2007-2010)](image)

**Figure 4. Average fine as a percentage of firm’s turnover (87 observations from 2007-2010)**

3.4 The profitability of price-fixing – other arguments

The conclusion of the previous section was that despite the increase in the aggregate amount of fines, the fines imposed on the cartel member are still substantially lower than the optimal fine, providing the argument for the claim of under-deterrence. There are many studies that seem to confirm the under-deterrence thesis.

Looking at antitrust enforcement in the global scale, Connor identified companies that are persistently engaging in price-fixing breaching antitrust
regulations. The 52 most ardent recidivists engaged in 576 cartels between 1990 and 2009, with 6 companies fixing prices more than 20 times. This exceptionally high rate of recidivism is a clear indication of the price-fixing profitability. Companies expecting antitrust sanctions decide to take part in cartels anyway. As Connor notes, “the skills acquired from participating in multiple price conspiracies are transferrable across divisional lines at very low marginal costs”\textsuperscript{59}. That makes subsequent cartels cheaper to form and maintain and even more profitable. Table 3 presents some of the most persistent recidivists.

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of Judgments Worldwide 1990-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>27</td>
</tr>
<tr>
<td>Sanofi-Aventis SA</td>
<td>22</td>
</tr>
<tr>
<td>BASF</td>
<td>21</td>
</tr>
<tr>
<td>Lafarge SA</td>
<td>21</td>
</tr>
<tr>
<td>Bayer AG</td>
<td>20</td>
</tr>
<tr>
<td>Hitachi Ltd.</td>
<td>20</td>
</tr>
<tr>
<td>Holcim Ltd.</td>
<td>19</td>
</tr>
<tr>
<td>Akzo Nobel</td>
<td>16</td>
</tr>
<tr>
<td>BP Amoco</td>
<td>16</td>
</tr>
<tr>
<td>A.P. Moller – Maersk A/S</td>
<td>15</td>
</tr>
<tr>
<td>ENI SpA</td>
<td>15</td>
</tr>
<tr>
<td>ExxonMobil</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Connor (2010)

Another example of the cartel’s profitability comes from the stock markets. Gunster and van Dijk\textsuperscript{60}, examining the stock prices of 253 companies involved in European Commission cartel proceedings over the period of 1974-2004, find out that roughly 75\% of total market value loss associated with the fining decision cannot be explained by the magnitude of fines and legal costs. Ginsburg and Wright

\textsuperscript{59} Ibidem, p. 2.
commenting on those results note - “one reasonable interpretation of those findings is that residual loss in value is associated with the expectation that the price of the firm’s product will drop to the competitive level, with a concomitant loss of monopoly profits”\textsuperscript{61}.

Those results are consistent with the result of the previous study with similar methodology conducted by Langus and Motta\textsuperscript{62} and for the US antitrust decisions by Boch and Eckard\textsuperscript{63}.

3.5 The answer - the further increase of fines

Addressing the issue of under-deterrence should not be a difficult task. The deterrence model provides a very simple solution – increase the level of fines imposed.\textsuperscript{64} The 10\% turnover ceiling established in the Regulation 1/2003 should be increased, and that would allow the Commission to fine companies even more severely. In line with this approach, the recent trend of galloping rate of growth of fine should be considered as a desirable thing.\textsuperscript{65}

There is however a fundamental problem with this approach. The fact that the undertaking successfully engaged in price-fixing for couple of years and profited financially from that activity by collecting hefty quasi-monopolistic gains, does not necessarily mean that it would be able to pay the optimal fine in the order of 200\% of the annual product turnover. One has to bear in mind that, even if

\textsuperscript{61} Ginsburg D., Wright J., Antitrust Sanctions...op. cit., p. 14.


\textsuperscript{64} The alternative – the increase in the detection probability is not feasible in a short run.

because of the detection probability discounting, the earnings from the price fixing would be sufficient to pay only a small fraction of optimal fine.

Even if paying the optimal fines would mean liquidating the assets of the company penalized (Werden and Simon⁶⁷ notice that assets are a rough estimate of the ability to pay of the liquidated corporation) it is often still unlikely to generate enough revenue⁶⁸.

The empirical evidence of this fact is presented in the study by Craycraft, Craycraft and Gallo⁶⁹. Although they use a different way of calculating the optimal fines⁷⁰, the results of their analysis for a sample of 386 firms convicted of price fixing between 1955 and 1993, clearly indicate that only 42% of convicted firms would have been able to pay the optimal fine from their equity, i.e. without going bankrupt. Remarkably, only 26% of them would have been able to pay the fine from their operating funds⁷¹. Authors note that those results may very well underestimate the inability to pay problem, as due to data restriction, sample consists mainly of large companies.

Another evidence comes from the European Union. Grave and Nyberg⁷² talk about the existence of “the death penalty for undertakings” provided for in the sanctioning system of European Union competition law. They refer to a massive increase in the number of applications for a reduction of a cartel fine as a

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⁶⁶ The decision imposing a fine is usually issued couple of years after the end of the cartel. The most likely scenario is that by that time the cartel profits would be paid out in the form of salaries, dividends and taxes.
⁶⁷ Werden G., Simon M., Why price fixers should go to prison…op. cit., p. 928.
⁶⁸ Ibidem, supra note 38. p. 928.
⁷⁰ They calculate the optimal fines based on the Gallo J., Dau-Schmidt K., Craycraft J., Parker C., Criminal Penalties Under the Sherman Act: A Study in Law and Economics. Research in Law and Economics, 16, 1994, as a function of monopoly mark-up, conspiracy sales and price elasticity of demand on the basis of harm done by the violation, not gain obtained from the violation. See section 1.1.
⁷¹ The highest possible measure, i.e. net income + depreciation + dividends + interest rates.
consequence of undertaking’s inability to pay. In order to be granted with such a reduction, an undertaking has to prove that the fine imposed would result in its insolvency and its activities would not be continued by a third party. They cite statistics compiled by Veljanovski. In 2008 there were only 5 inability to pay applications, while in 2010 the number increased six-fold to 32. The number of successful ones rose from 1 in 2008 to 9 in 2010. Figure 5 summarizes the results.

Figure 5. Inability to pay applications 2008-2010

Source: Veljanovski (2010)

The European Commission wants to avoid the undesirable social costs of an undertaking insolvency, as forcing former price fixers into bankruptcy, apart from punishing managers and shareholders, entails costs for other stakeholders: employees, creditors and customers. Indeed, as a recent study on the follow-on effects of fines on investment and employment, conducted by Oxford Economics,

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73 See Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003, op. cit.
74 Veljanovski C., European Cartel Fines under the 2006 Penalty Guidelines...op. cit.
points out—“a large fine on a cartel member will have a knock-out effect across the economy as a whole, impacting on firms and workers who were not involved in the original cartel.” Nevertheless, the Commission grants the inability to pay reductions very reluctantly. There are at least three cases, when within few weeks after the rejection of inability to pay relief by the Commission, the company concerned was declared bankrupt.

If companies have trouble paying the incanted fines, which are substantially lower than the optimal fine, they obviously would not be able to pay the latter.

To sum up, in the light of the presented arguments, the view of increasing the corporate fines as an answer to cartel under-deterrence seems not to be apt and needs to be re-examined. There is a strong case for the approach that shifts the enforcement efforts from fining the corporation towards punishing the individuals behind the infringements, as increasing the fines is both unfeasible and not effective.

4. The case for individual sanctions

4.1 The rationale for individual sanctions

As it was explained in the previous chapter, exclusive reliance on corporate fines does not provide effective deterrence, as fines required for such deterrence are impossibly high. Deterrence can be however raised by the imposition of

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individual sanctions on the responsible agents within the corporation. Those sanctions include imprisonment, fines on individuals and director disqualifications orders. Each type of individual sanction is briefly described in the next sections. This section lists the theoretical and empirical arguments for individual sanctions in general.

4.1.1 Theoretical arguments

The introduction of individual fines helps to minimize the agency problem that arises between shareholders and managers. As mentioned in the section 2.2.1 of this paper, corporations are just merely punished for the actions of their employees, who are directly involved in the price fixing cartels. On the other hand, companies have limited ability to impose sanctions on those employees. If in case of being caught, all the punishment is incurred by the abstract undertaking – so in the end by shareholders, who are most likely absolutely unaware of any infringements taking place, and managers can escape without any considerable personal sanctions (in the worst case they just lose their job) there is a serious threat of moral hazard. The managers and other employees have no incentive to abide the law, as they participate in the gains of price fixing, but bear no costs of the subsequent corporate penalty. It might be even more evident, when, as it usually is, the manager’s compensation depends on the short-term performance of the company, as the price fixing increases profits immediately, whereas it takes years before the cartel fine is imposed.

This time discrepancy creates yet another problem. By the time the fine is imposed those who actually instigated the collusive behaviour might have left the
job and moved to another firm\textsuperscript{78} and there is very little the company can do to the former employee. Knowing this, the manager who is contemplating a violation has even more incentives to engage in cartel activity, as the impact of prospective disciplinary action is reduced.

Adding individual penalties solve this agency problem, facilitating the alignment of incentives of managers and shareholders. They also decrease the costs of intensive monitoring programs, making the compliance provisions more effective.

In the hitherto analysis, it was assumed that antitrust violations are caused by misbehaving agents and companies in opposition to companies that are genuinely committed to avoiding antitrust infringements. The introduction of individual sanctions provides also a remedy for a situation when firms themselves are pushing their employees into breaching the competition law. They provide incentive for managers to resist the pressure to fix prices, as they will be personally exposed to possible punishment. It is especially important in the setting of the corporate culture of infringement. As Khan\textsuperscript{79} citing Sims claims – “Sociological study has revealed that when working in groups, especially in pressured situations shared illusions and related norms form, which interfere with critical thinking and reality testing. Consequently, decisions of individual members of the group become very strongly influenced, if not solely determined, by the group’s culture.” This phenomenon is known as “groupthink” can lead to illegal business activity taking place without anyone opposing. Cartel formation thrives in such an

\textsuperscript{78} See Stephan A., Disqualification Orders for Directors Involved in Cartels. Journal of European Competition Law & Practice 6, 2011, according to whom, the average time between the cartel ending and the fine being imposed is over five years for EU cases between 2008 and 2010.

environment, especially since cartels are profitable to companies. In this setting individual sanctions seem to be indispensible.

As it is noted by Wils\textsuperscript{80}, sanctions against individuals can coerce the individuals to cooperate with authorities during cartel investigations, and to provide the evidence against their employers. They have a strong incentive to whistle blow in hope of avoiding personal liability. In another paper, Hammond explains how an individual leniency program complements the corporate one.\textsuperscript{81}

Last but not least, individual penalties can strengthen public moral commitment to the competition law. Shaming a wrongdoer in the eyes of the public, have impact on the law-abiding individuals, reinforcing their sense of justice and incentives to follow the letter of law.\textsuperscript{82} Corporate fines, although not deprived of deterrence effect, do not carry such a strong message, as individual penalties.

4.1.2 Empirical arguments

The existing empirical studies seem to confirm the importance of the individual sanctions as one of the major drives of compliance. The study – \textit{The deterrence effect of competition enforcement by the OFT}\textsuperscript{83} prepared for the Office of Fair Trading by Deloitte, found individual sanctions as the main provision driving compliance with competition law. As Table 4 indicates, based on the telephone survey of 202 companies in UK and 234 senior competition lawyers in London and

\textsuperscript{80} Wils W., \textit{Is Criminalization of EU Competition Law the Answer...} op. cit, p. 142.
\textsuperscript{82} See e.g. Tyler, T., \textit{Why People Obey the Law}, Yale University Press 1990.
Brussels undertaken between September 2006 and March 2007, researchers found out that businesses perceive individual sanctions, in particular criminal penalties and disqualifications of directors, to be more important in deterring infringements of competition law than corporate fines. Criminal penalties were also ranked as the highest deterrent by competition lawyers surveyed in the study.

Table 4. Perceived Importance of Sanctions in Deterring Infringements of Competition Law (survey results)

<table>
<thead>
<tr>
<th>Ranking by Businesses</th>
<th>Ranking by Lawyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Criminal Penalties</td>
<td>1. Criminal Penalties</td>
</tr>
<tr>
<td>2. Disqualification of Directors</td>
<td>2. Fines</td>
</tr>
<tr>
<td>3. Adverse publicity</td>
<td>3. Disqualification of Directors</td>
</tr>
<tr>
<td>4. Fines</td>
<td>4. Adverse publicity</td>
</tr>
<tr>
<td>5. Private damages actions</td>
<td>5. Private damages actions</td>
</tr>
</tbody>
</table>

Source: OFT (2007)

Another study commissioned by the OFT in 2010\(^84\), found that lack of management commitment to competition law compliance was mentioned by the majority of respondents as creating the highest risk of non-compliance. The central role of managers’ commitment is also recognized by another study of compliance programs conducted by Rodger.\(^85\) It demonstrates the need to incentivize the managers to take a personal interest in the company’s compliance with competition law. There is no better way to achieve that, but through individual sanctions.


4.2 The case for imprisonment

Having established that effective deterrence of price fixing requires corporate sanctions to be supplemented by individual sanctions targeting individuals responsible for the infringements, the natural question to ask is what kind of individual penalties should be used. Should imprisonment be preferred before individual fines?

In his seminal article, Becker claims the opposite.\(^{86}\) He argues that “social welfare is increased if fines are used whenever feasible”\(^{87}\). He notices fines as merely transfer payments whereas imprisonment “use resources in the form of guards, supervisory personnel, probation officers, and the offenders' own time”\(^{88}\). Indeed, according to recent studies for US prisons system, the annual average taxpayer cost per inmate is $31,307 reaching even $60,076 in state of New York\(^{89}\). It might also be argued that imprisonment of managers engaging in competition cases are much less dangerous for the society than certain classes of violent criminals, whose isolation might be required for the public safety.\(^{90}\)

Notwithstanding those arguments, there is one reason why fines on individuals appear to be less effective than imprisonment – companies can relatively easily indemnify their employees for any possible monetary penalty, thus diminishing any deterrent effect of penalties.\(^{91}\) Baker cites the account of one very senior corporate executive saying: “as long as you are only talking about

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\(^{87}\) Ibidem, p. 193.

\(^{88}\) Ibidem, p. 193.


money, the company can at the end of the day take care of me (...), but once you begin talking about taking away my liberty, there is nothing that the company can do for me”\textsuperscript{92}.

Moreover, Wils\textsuperscript{93} claims that fines on individuals can face the very same problem as the corporate fines – the level of fines required for deterrence being impossibly high. He agrees, nevertheless, that fines on individuals may have at least some stigmatizing effect and because of that it is worth to consider them when the imprisonment is not available.

There are also other individual sanctions available. In the United Kingdom the Enterprise Act 2002 introduced, along with the criminal cartel offence, competition disqualification orders (CDOs)\textsuperscript{94}. Directors disqualifications orders are civil sanctions that might be imposed when the court finds the directors of the company, which commits a breach of competition law, “are unfit to be concerned in the management of the company”. During the period in which the person is subject to the CDO (that can be up to the 15 years) it is a criminal offense to act as a company director or in any way “whether directly or indirectly, be concerned or take part in the promotion, formation or management of a company”. Given that, director disqualification provides a strong sanction against individuals involved in the cartel practices, while circumventing the complexity of the criminal process. In this sense, it might serve as a good alternative for the imprisonment. The further analysis of director disqualifications is presented in section 5 of this paper.

4.3 Prison sentences in US

\textsuperscript{93} Wils W., Is Criminalization of EU Competition Law the Answer… op. cit., p.139.
\textsuperscript{94} Sections 9A to 9E of the Company Directors Disqualification Act 1986, as amended by the Enterprise Act 2002.
There is a long tradition of personal criminal sanctions in the United States. Imprisonment for individuals was available since the introduction of the 1890 Sherman Act.\(^95\) Congress raised the initial maximum prison term of 1 year\(^96\) first to 3 years\(^97\) in 1974 and subsequently to 10 years in 2004\(^98\). However, it was not until 1959 that the first individual was sentenced to prison for price-fixing alone.\(^99\) Since then, usage of prison sentences has been growing substantially. Total incarceration days for individuals increased from 18,000 days during 1990-1994 to almost 90,000 days in 2005-2009 (Figure 6).

![Figure 6. Total Prison Days Sentenced (yearly average)](image)

Source: DOJ (2012)

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\(^{95}\) For an overview of the history of US criminal enforcement, see: Baker, D., *The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging...* op. cit.

\(^{96}\) Sherman Act, chapter 647, 209, 1890.

\(^{97}\) Antitrust Procedures and Penalties Act, L.93-528, §3, 88, 1706, 1974.


In the 2012 Division Report, the Department of Justice Antitrust Division, responsible for criminal enforcement in the US, claims “[Antitrust Division] long-standing belief is that holding culpable individuals accountable by seeking jail sentences is the most effective way to deter and punish cartel activity.”\textsuperscript{100} There is a visible trend of increasing both the frequency of imprisonment and the average prison sentence duration. Figure 7 shows that the average prison sentence increased from 8 months in 1990-1999 to 24 months in 2010-2011.

\textbf{Figure 7. Average prison sentence (in months)}

![Bar chart showing average prison sentence duration]

Source: DOJ (2012)

Such strict enforcement of individual fines brings tangible results. As it is noted by Werden in his speech before Georgetown Global Antitrust Symposium on September 22, 2011 - “no company and no individual convicted in the U.S. of a cartel offense after July 23, 1999 [the day on which the first prison sentence was imposed on a non-US defendant in an international cartel prosecution] subsequently joined a

That stands in the striking opposition to Connor’s study on persistent recidivist proving that the United States is at least achieving the specific deterrence of convicted offenders.

4.4 The problems of prison sentences at the UE level

Faced with those arguments, a number of commentators have called for the EU to introduce criminal sanctions for infringements of the competition law. The ongoing debate regarding the criminalization of competition law in Europe focuses on two major issues – the legal one and the practical one.

Before September 2005 there was a consensus that the Treaty (then the EC Treaty) did not confer any power on the EU institutions to define criminal offences or prescribe criminal sanctions. Situation became more complicated, when the European Court of Justice rendered its judgment in Commission v Council, and held that while the EC does not have a general competence in criminal matters, this does not prevent the legislature action, when ‘the application of effective, proportionate and dissuasive criminal sanctions by national authorities is essential for achieving a Community objective’ (in this case environmental protection).

On the basis of this judgment and the wording of Article 175 EC (now Article 192

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103 The description below provides only the sketch of the debate, as the detailed analysis of this issue falls beyond the scope of this paper. For in-depth analysis see: A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer... op. cit. p. 83.


TFUE) the legal discussion started, with proponents of criminalization arguing that provided that Community had competence to introduce measures improving the antitrust enforcement, there is room for criminal sanctions.

The Lisbon Treaty did not make the situation much more transparent.\(^{107}\) The amended Article 83(2) TFUE provides that “minimum rules with regard to the definition of criminal offences and sanctions” can be introduced in the form of directive where it “proves essential to ensure the effective implementation of a Union policy in an area which has been subject to harmonization measures”. It undoubtedly provides that criminalization is permitted, but, as Khan\(^ {108}\) points out, establishes two disputable requirements. The introduction of the measure has to be essential and they must relate to the area of harmonization. And it is arguable whether in case of competition law criminalization those two conditions are met.\(^ {109}\)

Leaving further legal considerations aside, it is just worth noting that any legislative action introducing the criminal penalties in competition law cases requires the Council to act on the proposal of the European Commission.\(^ {110}\) However, under current administration, any initiative of the Commission is very unlikely to be taken as Commissioner Almunia recently ruled out the legality of the criminalization of competition law under current legal framework. In the interview with Rivas he said: “As laid down in the Treaty and Regulation No. 1/2003, the EU antitrust enforcement system provides for pecuniary sanctions on undertakings only.

\(^ {107}\) See Khan A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer... op. cit. p. 84.
\(^ {108}\) Khan A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer... op. cit. p. 84.
\(^ {110}\) Khan A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer... op. cit. p. 85.
(...)

Custodial sanctions are not an option at EU level as this would not be feasible under the current legislative framework."\textsuperscript{111}

Apart from the legal discussion there are serious concern about the effectiveness of such sanctions in Europe. Even if they work in the US, it might not necessarily be the case in the EU.

The main concern regards the actual usage of imprisonment sanctions, once introduced in the EU. Throughout the history of antitrust sanctions in Europe the economic or market outcome was the concern of the regulation. That is in contrast with the US, where regulation is focused on business behaviour.\textsuperscript{112} In the US system the criminal prosecution was always the element of the antitrust enforcement model. In contrast, Europe had a softer approach to regulation and enforcement, which can be encapsulated in the term “administrative”. It might be difficult to win the support of the judicature and the society to treat individual defendants as criminals. That is the current problem of the member states that introduced the criminalization of competition law to their legal systems. Although, 11 member states\textsuperscript{113} currently provide for individual criminal liability regimes in practice prison sentences for the competition law breaches are not adjudicated.\textsuperscript{114}

So far, the only example of successful imprisonment in competition cases comes from the UK cartel offence. Three UK businessmen, arrested in the US and repatriated on the bases of plea bargain with the DOJ, pleaded guilty in 2008.\textsuperscript{115}

\textsuperscript{111} Jose Rivas, Interview with Commissioner Almunia, World Competition 34, 1, 2011.
\textsuperscript{113} Individual criminal penalties are currently available in Czech Republic, Estonia, France, Greece, Hungary, Ireland, The Netherlands, Romania, Slovakia, Slovenia, United Kingdom and partially in Austria, tough most of the Austria’s criminalization regime was abolished in 2002.
\textsuperscript{114} See Reindl A., How Strong is the Case for Criminal Sanctions in Cartel Cases, in Criminalization of Competition Law Enforcement: Economic and ... op. cit., p. 110.

Other doubts regarding the EU-level criminalization involve the high costs of the enforcement system and the long time needed to implement them in practice. Another important issue involves the resource-intensiveness of criminal proceedings. The criminal prosecutions are more costly and time-consuming than current administrative process, as the standard of proof in criminal cases is higher\footnote{See Sherwin E., Clermont K., \textit{A Comparative View of Standards of Proof}. American Journal of Comparative Law 50, 2002.}. As a result the European Commission would investigate less cartels, risking the detection rate to drop substantially.

Those facts highlight the difficulty of practical implementation of prison sentences for competition law breaches in Europe. The criminalization itself is not impossible but it would require a lot of time and effort for it to be introduced at the EU level. The urgent need for the deterrence enhancement in Europe forces the authorities to look for less costly and easier to implement sanctions – such as director disqualifications discussed in the following section.

5. Director disqualifications – an empirical analysis

5.1 Director disqualification orders in UK

As it was already mentioned in section 4.2 of this paper, in UK the Enterprise Act 2002 introduced not only the criminal cartel offence, but also Competition Disqualification Orders (CDOs). CDOs are civil sanctions that might be
imposed when the court finds the conduct directors of the company which commits a breach of competition law, to be “unfit to be concerned in the management of the company”\textsuperscript{118}. That concerns not only formal company directors, but also \textit{de facto} directors and any individual who acts in a non-professional or consultancy role as long as he or she “has real influence in the corporate affairs of the company”\textsuperscript{119}. Such a broad definition protects the regulation from easy circumvention.

In order for a CDO to be imposed, two conditions must be met. First, the individual has to be a director of the company that commits a breach of the competition law. Second, the court must consider his conduct as a director makes her unfit to be concerned in the management of the company.

When deciding about the second condition the court must have regard to whether: “\textit{the conduct of an individual contributed to the breach of competition law; the conduct did not contribute the breach but the individual had reasonable grounds to suspect that the conduct of the undertaking constituted the breach and the individual took no steps to prevent it; the individual did not know but ought to have known that the conduct of the undertaking constituted the breach}”\textsuperscript{120}. The last situation is especially important because it indicates that, contrary to any criminal sanctions, the proof of intent is not necessary to impose the sanction on the director. In order to impose a criminal sanction, a so-called guilty state of mind of the offender is usually required. Director disqualifications can be imposed in a situation of mere negligence.


The maximum period of a CDO is 15 years. During the period in which an individual is subject to a CDO it is a criminal offense to act as a company director or “in any way whether directly or indirectly, be concerned or take part in the promotion, formation or management of a company”\textsuperscript{121}.

CDOs are imposed by courts on the application of OFT. Deciding whether to apply for CDO, the regulator follows a five-step process.\textsuperscript{122} First, it considers whether there has been a breach of competition law. It will normally be a decision regarding the breach of competition law by a company. Secondly, it takes into account the nature of the breach. Price-fixing as a hard-core breach is very likely to be considered a serious breach and as a consequence be suitable for imposing a CDO. Thirdly, the leniency application of the company is considered. This enables authorities to keep their leniency programs effective, granting leniency applicants an exemption from CDOs applications. The fourth step is to consider director’s responsibility for the breach. The above-mentioned analysis applies. Last one deals with aggravating and mitigating factors, which are similar to those taken into consideration by the Commission imposing a corporate fine.\textsuperscript{123}

5.2 CDOs as individual sanctions

Director disqualifications have all the advantages of individual sanctions discussed in section 2.1.1, having considerable effect on directors’ reputation and prospect earnings. Unlike with personal fines, it is much harder for the companies to indemnify the directors against cost of being disqualified from a directorship.

\textsuperscript{121} Section 9A (1)-(3) Company Directors Disqualification Act.
\textsuperscript{122} OFT, Director disqualification orders in competition cases – an OFT guidance document…op. cit., p. 7.
\textsuperscript{123} See section 2.2 of this paper.
Though, it is still possible for companies to compensate the disqualified director for any loss of earnings\textsuperscript{124}, the reputational damage connected with the disqualification cannot be entirely eliminated.

On the one hand, lacking the magnitude and unique moral condemnation of the imprisonment, director disqualifications are hardly to have the same deterrent effect. They can only be used for directors not a middle management, would not reach outside the EU jurisdiction\textsuperscript{125} and depending on the age of the individual concerned, might as well be a good incentive to retire.

On the other hand, it is certainly more feasible and cheaper to implement at the EU-level under the current circumstances. It would be much easier to get the political support among the member states to introduce director disqualifications as civil sanctions for negligent or fraudulent conduct of the directors. An analysis of national laws of the member states conducted by Khan reveal that all twenty seven member states have some kind of individual director liability regime in place with eighteen of them currently using a system of director disqualification\textsuperscript{126}. Moreover, in contrast to imprisonment, it does not require profound intensive reform of the EU enforcement regime. As for a civil law sanction beyond reasonable doubt standard of proof is not required, making director disqualifications much easier to enforce. Finally, they are more likely to gain

\textsuperscript{124} Khan discusses the possibility of purchasing liability insurance for directors. He points out that dishonest or fraudulent acts or omissions are excluded from the scope of insurance policies. As a consequence any agreement as to compensation for loss of earnings would need to be negotiated on the individual basis, and the cost would be directly borne by the company. That makes it very costly for the companies given the shareholders scrutiny. see: Khan A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer… op. cit. p. 96.


\textsuperscript{126} In Estonia, Romania, Slovenia, Sweden, and the United Kingdom disqualifications canto be imposed as a punishment for breaches of competition law. See Khan A., Rethinking Sanctions for Breaching EU Competition Law: Is Director Disqualification the Answer… op. cit. p. 94.
necessary support of judicature and public. Indeed, Stephen finds overwhelming higher public support for directors disqualifications compared to the use imprisonment.\textsuperscript{127}

5.3 Empirical study

5.3.1 Introduction

Given all those arguments, propositions of supplementing the EU enforcement regime with director disqualifications based on the UK director disqualification orders. Comprehensive implementation proposals were formulated\textsuperscript{128}, all postulating keeping the corporate fines and additionally targeting the directors with disqualifications.

All those proposals are however surprisingly silent about the main question behind the introduction of the director disqualifications – whether any reputational penalties are imposed by the markets themselves, assuming implicitly the negative answer. In line with the theory of the antitrust sanctions\textsuperscript{129} one can distinguish two sources of antitrust penalties: law enforcement (both public and private) and the market\textsuperscript{130}, imposing reputational penalties on undertakings and


\textsuperscript{129} See. Ginsburg D., Wright J., \textit{Antitrust Sanctions... op. cit.}, p. 5.

\textsuperscript{130} The economic theory of reputational penalties is well explained in the Lott J., \textit{An Attempt at Measuring the Total Monetary Penalty from Drug Convictions: The Importance of an Individual's Reputation}. Journal of Legal Studies 21, 1, 1992.
their agents. The challenge for competition law is to coordinate both types of sanctions, therefore it is essential to investigate them comprehensively. Assuming that the directors of the companies convicted for a breach of the EU competition law suffer from reputational penalties imposed by the market, any regulation introducing director disqualification has to take that into consideration, as it risks being superfluous. The empirical study presented in this section tries to address this doubt by investigating whether there are any market sanctions for directors of companies, that breach the EU competition law already in existence.

5.3.2 Database and methodology

The database used for the study is compiled on the basis of the ranking of ten highest cartel fines per case imposed by the European Commission since 1969. It comprises of 47 companies and their subsidiaries from 5 cartels, randomly picked from the ranking. All five decisions investigated were issued after 2006.

On the basis of the historical press releases and articles in newspapers, the career track of 27 executives of the companies that infringed the EU competition law is analysed. If the company does not have an independent management the history of the management of the parent company, which was jointly and severally liable for the infringement, is being considered.

5.3.3 Results

The statistical study conducted, apart from particular case described below, did not find any indication of the existence of the market reputational penalties.
The 30% (eight out of twenty-seven) of the executives investigated in the study remained at helm for couple of years and retired. There are no signs of those departures not being unforced, to the contrary – those CEOs remained honorary members of the companies foundations, like Thierry Desmarest of Total, or received hefty retirement packages – just to mention the ExxonMobil’s $400 package for Lee Raymond. There are seven cases in the sample (25%) in which after the end of his tenure CEO became Chairman of the Board (ex. Jurgen Dorman of ABB Ltd.). In two cases (7%) CEO got promoted to become an executive of the parent company – that was the story of Bon-joon Koo who, after serving a tenure as CEO of LG.Philips LCD Co. became CEO of LG131. Another 22% remain CEOs up to this date.

The interesting case is that of the LCD cartel132, which was investigated in Europe as well as in the US, South Korea and Japan. Apart from severe fines imposed on the companies133, the Department of Justice sentenced to jail eleven higher managers and executives directly responsible for the infringements. Four of them were CEOs and are included in the sample. After serving prison sentences that varied from eight to fourteen moths, three of them never returned to publicly listed companies134. Only one of them - Bock Kwon, former CEO of LG Display Taiwan Co. Ltd., after serving his 12 months jail sentence, returned to the parent company to serve as the Head of The China Center of LG Display CO. in December 2011.

The reputational penalties observed in the LCD cartel story are much more likely to be a consequence of specific circumstances of the case - jail sentences

---

131 As a defence of the CEO, LG applied for leniency and was granted 50% reduction.
132 See. Database p. XX
133 I the US LG Display Taiwan Co was fined $400 million, one of the largest fines ever imposed by the DOJ Antitrust Division.
134 In fact, there are not signs of them returning to any business activities whatsoever.
served by the executives, rather than an indication of the general sanctions for managers of the companies breaching EU competition law. The example of Bock Kwon, who found a job in his company after serving his prison sentence, draws the attention to the fact that director disqualifications have some deterrence effects that cannot be achieved even by the prison sentence.

The last finding concerns the age of the executives investigated. By the time of the formal Commission decision the average age of an executive from the sample is 62 years. If this finding is confirmed, it might prove to be a serious blow for the supporters’ claim of a high deterrence effect of director disqualifications.

5.3.4 Critique

The study presented in the previous section is not without flaws. The main concern is the sample size. The study must be extended to include more cartels. The other concern is the sample bias, as it consists only of the biggest cartel cases in Europe. In this case however, the bias should not influence the findings as a lack of indication of the reputational penalties for CEOs of the companies involved in the biggest and most publicised cartel cases, makes market sanctions in case of smaller firms and cartels even less probable. Finally, it can be argued that CEOs were not the ones responsible for the breaches and market sanctions were imposed on the directly responsible managers such as presidents and other mid-level managers.\textsuperscript{135} It might be true in same cases, but at the same time it makes them not fit for the job, as there are not aware of what is going on in the company they run and in this case one should expect a market reaction. Besides, proposals

\textsuperscript{135} This argument is supported by the fact that in LCD cartel cases only four of eleven imprisoned executives served as CEOs.
for the introduction of director disqualifications highlight CEOs as potential targets of the sanctions.

Having all those reservations in mind, one should treat the results of the study as preliminary assessment and be very cautious not to draw any final conclusions. Nevertheless, the results presented might be used as an indication and certainly prove to be useful.

5.4 The incompleteness of the enforcement system

Looking at the director disqualification as an alternative to imprisonment is an extorted compromise entailed by the current situation in the European Union. One has to bear in mind that in UK the CDOs exist alongside the prison sentence. The same view is taken by the enforcement model proposed by Ginsburg and Wright, who claim that both imprisonment and CDOs have their specific tasks to accomplish.\textsuperscript{136} They distinguish three groups active in a competition law breach situation: the perpetrator (the employee directly taking part in price-fixing), the directors and officers (responsible for antitrust compliance), and the corporation (as a proxy of shareholders). They claim that the actual perpetrator should face prison sentence, while directors and officers, responsible for overseeing operations, director disqualifications, in case them being negligent performing their tasks

The introduction of director disqualifications directed at managers without introducing the individual sanctions for perpetrators might disturb the balance of

\textsuperscript{136} Ginsburg D., Wright J., \textit{Antitrust Sanctions... op. cit.}, p. 20.
incentives in a corporation. The employees not facing any potential sanctions might still be willing to engage in a price fixing. As a consequence one should expect compliance monitoring expenditures to increase dramatically as directors will be cautious not to be found negligent. The effects of those agency costs need to be further examined.

6. Conclusion

Amid growing concerns about the effectiveness and consequences of the European Commission’s enforcement policy based on huge corporate fines levied on corporations, propositions of the introduction of individual sanctions gain a momentum. This study tries to contribute to the debate by analysing the ground for the introduction of director disqualifications as a complementary tool in the European Commission sanctions’ toolbox. It examines career paths of the CEOs of the companies convicted for a breach of the EU competition law and confirms the anecdotal evidence of the absence of market reputational penalties for those officers. In the light of this finding public enforcement of director disqualifications does not seem superfluous. The other finding concerns the age of the officers. By the time of the cartel decision issue, the average age of the CEO concerned is 62 years. If the result is confirmed for a larger sample, that fact might potentially lower the deterrent effect of that sanction.
Bibliography

Books, articles and reports:


Connor J., Miller D., *Determinants of EC Antitrust Fines for Members of Global Cartels*. Presentation for the 3rd LEAR Conference on The Economics of Competition Law. Available online at:


Rivas J., *Interview with Commissioner Almunia*, World Competition 34, 1, 2011.


Wils W., *Does the Effective Enforcement of Articles 81 and 82 EC Require Not Only Fines on Undertakings But Also Individual Penalties, In Particular Imprisonment?* in:


**Legal Documents and Cases**:


**APPENDIX – DATABASE**

**Case:** COMP/39165 Flat glass

**Inspections date:** 22.02.2005  
**Statement of objections date:** 9.03.2007  
**Date of decision:** 28.11.2007  
**Cartel duration:** 9.01.2004 - 22.02.2005  
Time from the cartel formation to the issue of the decision: 3 years

<table>
<thead>
<tr>
<th>Companies Fined</th>
<th>Country</th>
<th>Legal relationship</th>
<th>Leniency application</th>
<th>Fine (in million EUR)</th>
<th>CEO at the time of infringement detection</th>
<th>Changes</th>
<th>Date of birth of the CEO</th>
<th>Sources</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asahi Glass Company Limited</td>
<td>Japan</td>
<td>Parent company of ACG Glass (100%)</td>
<td>2.03.2005 (granted 50% reduction)</td>
<td>65</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><a href="http://www.glassfiles.com/library/author18796.htm">http://www.glassfiles.com/library/author18796.htm</a></td>
<td>Successful leniency application</td>
</tr>
<tr>
<td>Company</td>
<td>Country</td>
<td>Parent Company</td>
<td>Industry Names</td>
<td>Longtime Executives</td>
<td>New Leadership</td>
<td></td>
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</tr>
<tr>
<td>Guardian Industries Corp.</td>
<td>USA</td>
<td>Parent company of Guardian Europe (100%)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilkington Group Limited (previously Pilkington plc)</td>
<td>UK</td>
<td>Parent company of Pilkington Holding GmbH (100%)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Pilkington Holding GmbH</td>
<td>Germany</td>
<td>Parent company of Pilkington Deutschland AG (96%)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compagnie de Saint-Gobain SA</td>
<td>France</td>
<td>Parent company of ACG Glass (100%)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
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Case: COMP/39/309 LCD (Liquid Cristal Displays)

**Inspections date:** x  
**Statement of objections date:** 27.05.2009  
**Date of decision:** 8.12.2010  
**Cartel duration:** 5.10.2001-1.02.2006  
Time from the cartel formation to the issue of the decision: 7.5 years

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<th>Companies Fined</th>
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<th>Legal relationship</th>
<th>Leniency application</th>
<th>Fine (in million EUR)</th>
<th>CEO at the time of infringement detection</th>
<th>Changes</th>
<th>Date of birth of the CEO</th>
<th>Sources</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samsung Electronics Co Ltd</td>
<td>Korea</td>
<td>Parent Company of Samsung Electronics Taiwan Co Ltd</td>
<td>23.10.2006 (100% reduction granted)</td>
<td>0</td>
<td>Lee Kun-Hee (since 1990s)</td>
<td>He resigned on April 21, 2008 owing to Samsung Slush funds scandal, but returned on March 24, 2010.</td>
<td>1940</td>
<td><a href="http://en.wikipedia.org/wiki/Lee_Kun-hee">http://en.wikipedia.org/wiki/Lee_Kun-hee</a></td>
<td>Successful leniency application .</td>
</tr>
<tr>
<td>Samsung Electronics Taiwan Co Ltd</td>
<td>Taiwan</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Company</td>
<td>Location</td>
<td>Subsidiary of LG Display Co.</td>
<td>Officer</td>
<td>Position Description</td>
<td>Year</td>
<td>Link</td>
<td>Status</td>
<td></td>
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<tr>
<td>LG Display Taiwan Co., Ltd</td>
<td>Taiwan</td>
<td></td>
<td>Bock Kwon</td>
<td>He was a President of LG Display Taiwan office. In 2006 he served as Head of Marketing and Chief Marketing &amp; Sales Officer of LG Phillips LCD CO., Ltd.</td>
<td>1954</td>
<td><a href="http://investing.businessweek.com/research/stocks/people/person.asp?personId=27618556&amp;ticker=034220:KS&amp;previousCapId=5471044&amp;previousTitle=LG%20DISPLAY%20CO%20LTD">http://investing.businessweek.com/research/stocks/people/person.asp?personId=27618556&amp;ticker=034220:KS&amp;previousCapId=5471044&amp;previousTitle=LG%20DISPLAY%20CO%20LTD</a></td>
<td>Plea bargain.</td>
<td></td>
<td></td>
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<tr>
<td>Chimei InnoLux Corporation</td>
<td>Taiwan</td>
<td>X</td>
<td>Hsing-Chien Tuan (since 2002)</td>
<td>Still in the office.</td>
<td>1947</td>
<td><a href="http://investing.businessweek.com/research/stocks/people/person.asp?personId=12828504&amp;ticker=3481:TT&amp;previousCapId=5471044&amp;previousTitle=LG%20DISPLAY%20CO%20LTD">http://investing.businessweek.com/research/stocks/people/person.asp?personId=12828504&amp;ticker=3481:TT&amp;previousCapId=5471044&amp;previousTitle=LG%20DISPLAY%20CO%20LTD</a></td>
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**Case: COMP/39181 Candle waxes**

*Inspections date:* 28-29.04.2005  
*Statement of objections date:* 25.05.2007  
*Date of decision:* 1.10.2008  
*Cartel duration:* 1992-2005  
Time from the cartel formation to the issue of the decision: 15 years

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<th>Country</th>
<th>Leniency application</th>
<th>Fine (in million EUR)</th>
<th>CEO at the time of infringement detection</th>
<th>Changes</th>
<th>Date of birth of the CEO</th>
<th>Sources</th>
<th>Comments</th>
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<tr>
<td>ExxonMobil</td>
<td>USA</td>
<td>X</td>
<td>83.5</td>
<td>Lee Raymond (1999-2005)</td>
<td>ExxonMobil president Rex W. Tillerson succeeded Raymond on 1 January 2006. On April 14, 2006, it was reported that Raymond's retirement package was worth about $400 million, the largest in history for a U.S. public company.</td>
<td>1938</td>
<td><a href="http://en.wikipedia.org/wiki/Lee_Raymond">http://en.wikipedia.org/wiki/Lee_Raymond</a></td>
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<tr>
<td>MOL Nyrt</td>
<td>Hungary</td>
<td>X</td>
<td>23.7</td>
<td>Zsolt Hernadi</td>
<td>Still in the office.</td>
<td>1960</td>
<td><a href="http://www.pwc.com/gx/en">http://www.pwc.com/gx/en</a></td>
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<td>Shell Deutschland Oil</td>
<td>Germany</td>
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<tr>
<td>Total France S.A</td>
<td>France</td>
<td>X</td>
<td>128.1</td>
<td>Thierry Desmarest (1995-2007)</td>
<td>Then he was Chairman of the Board of TOTAL until May 21, 2010. He was appointed Honorary Chairman and remains a director of TOTAL and Chairman of the TOTAL foundation.</td>
<td>1945</td>
<td><a href="http://www.forbes.com/profile/thierry-desmarest/">http://www.forbes.com/profile/thierry-desmarest/</a></td>
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### Case: COMP/F/38 Gas Insulated Switchgear

**Inspections date:** 11.05.2004  
**Statement of objections date:** 24-27.04.2006  
**Date of decision:** 24.01.2007  
**Cartel duration:** 15.04.1988 - 11.05.2004  
Time from the cartel formation to the issue of the decision: 19 years

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<th>Fine (in million EUR)</th>
<th>CEO at the time of infringement detection</th>
<th>Changes</th>
<th>Date of birth of the CEO</th>
<th>Sources</th>
<th>Comments</th>
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</thead>
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<tr>
<td>ABB Ltd.</td>
<td>Switzerland</td>
<td>Directly responsible</td>
<td>3.02.2004 (granted 100% immunity)</td>
<td>0</td>
<td>Jurgen Dorman</td>
<td>On February 27, 2004 the Board of Directors of ABB Ltd announced that Fred Kindle has been appointed as the group's new chief executive from next January. Dorman remained Chairman.</td>
<td>1940</td>
<td><a href="http://www.abb.com/cawp/seitp202/edccc1cb924cc16c1256e470020756d.aspx">http://www.abb.com/cawp/seitp202/edccc1cb924cc16c1256e470020756d.aspx</a></td>
<td>Successful leniency application just before leaving the office.</td>
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<td>Subsidiary of AREVA SA</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Areva T&amp;D AG</td>
<td>Switzerland</td>
<td>Parent company of</td>
<td>X</td>
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<td>Fuji Electric Systems Co., Ltd.</td>
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<td>30%, Hitachi 50%, Meidensha 20%</td>
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<tr>
<td>Japan AE Power Systems Corporation</td>
<td>Japan</td>
<td>Parent Company of Hitachi Europe Limited</td>
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<td>Hitachi Ltd.</td>
<td>Japan</td>
<td>Parent company of AREVA T&amp;D Holding SA</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Mitsubishi Electric Corporation (formerly Melco)</td>
<td>Japan</td>
<td>joint venture with Toshiba</td>
<td>118.575</td>
<td>Dr. Tamotsu Nomakuchi (since 2002)</td>
<td>Replaced in 2009 by Kenichiro Yamanishi.</td>
<td>1940</td>
<td><a href="http://www.nstda.or.th/eng/index.php/about/international-advisory-committee/iac-2010-2012/item/69-dr-tamotsu-">http://www.nstda.or.th/eng/index.php/about/international-advisory-committee/iac-2010-2012/item/69-dr-tamotsu-</a></td>
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<td>Company</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Nomakuchi</td>
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</table>
**Case: COMP/E-1/38.823 – PO/ Elevators and Escalators**

**Inspections date:** 28.01.2004  
**Statement of objections date:** 7.10.2005  
**Date of decision:** 21.02.2007  
**Cartel duration:** 9.05.1996-29.01.2004  
Time from the cartel formation to the issue of the decision: 11 years

<table>
<thead>
<tr>
<th>Companies Fined</th>
<th>Country</th>
<th>Fine (in million EUR)</th>
<th>CEO at the time of infringement detection</th>
<th>Changes</th>
<th>Date of birth of the CEO</th>
<th>Sources</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kone Corporation</td>
<td>Finland</td>
<td>142.1</td>
<td>Antti Herlin (1996-2006)</td>
<td>Antti Herlin was appointed the new chairman of the board in June 2003. Matti Alahuhta, a former Executive Vice President at Nokia Corporation, previously serving as the President of Nokia Mobile Phones, was later chosen to fill Herlin's vacant position as the acting President of the Kone Corporation. He has held the position since 2005, officially becoming the firm's President and CEO in 2006.</td>
<td>1956</td>
<td><a href="http://en.wikipedia.org/wiki/Kone">http://en.wikipedia.org/wiki/Kone</a></td>
<td></td>
</tr>
<tr>
<td>United Technologies Corporation and Otis Elevator Company</td>
<td>USA</td>
<td>224.9</td>
<td>Stephen F. Page (1997-2002)</td>
<td>He served as a Director at Paccar Inc. since September 21, 2004 to 2012.</td>
<td>1940</td>
<td><a href="http://investing.businessweek.com/research/stocks/people/person.asp?personId=191156&amp;ticker=LOW:US&amp;previousCapId=180871&amp;previousTitle=LOWE'S%20COS%20INC">http://investing.businessweek.com/research/stocks/people/person.asp?personId=191156&amp;ticker=LOW:US&amp;previousCapId=180871&amp;previousTitle=LOWE'S%20COS%20INC</a></td>
<td></td>
</tr>
<tr>
<td>Company</td>
<td>Country</td>
<td>Size</td>
<td>CEO</td>
<td>Description</td>
<td>Year</td>
<td>Link</td>
<td></td>
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</tr>
<tr>
<td>ThyssenKrupp AG and ThyssenKrupp Elevator AG</td>
<td>Germany</td>
<td>479</td>
<td>Ekkehard Schulz</td>
<td>He held that job until retirement in 2011 and then was a member of the Supervisory board of ThyssenKrupp AG until the end of 2011.</td>
<td>1941</td>
<td><a href="http://en.wikipedia.org/wiki/Ekkehard_Schulz">http://en.wikipedia.org/wiki/Ekkehard_Schulz</a></td>
<td></td>
</tr>
<tr>
<td>Mitsubishi Elevator Europe B.V.</td>
<td>Netherlands</td>
<td>1.8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
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