

Must Trust Bust?

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Inaugural address delivered on February 4th 2002

ABSTRACT: Our trust in competition policy is based on faith in markets. When markets are oligopolies, already classical economists' trust in competition busted: Oligopolies carry the seeds of collusion. To develop, collusion needs trust between firms. But new leniency programmes are designed to bust that trust. I discuss when trust busters are likely to succeed and when trust prevails.

Introduction

There is a sense in which John Stuart Mill defined the field of Law & Economics as a part of Jurisprudence in his inaugural address to the University of St. Andrews on February 1st 1867, one hundred and thirty-five years ago almost to the day:

“Of no less importance than Political Economy is the study of what is called Jurisprudence; the general principles of law; the social necessities which laws are required to meet; the features common to all systems of law, and the differences between them; the requisites of good legislation, the proper mode of constructing a legal system, and the best constitution of courts of justice and modes of legal procedure.” (Mill, 1867, pp. 34-35).

Law & Economics studies “the proper mode of constructing a legal system” seen from the point of view of political economy and analyses “the best constitution of courts of justice and modes of legal procedure.”

Today, I should like to zoom gradually in on the field within Law & Economics that I know most about: Antitrust Economics or Competition Policy, as it is commonly called in Europe. The starting point is the study of the effects of competition legislation on business and society, the positive

¹ I am indebted to my various coauthors for discussions during the last decade or so. It is evident that much of what I write here (and the joy of the process) derives from joint research. I have tried to pay tribute to their contributions through referencing. Special thanks to Jochen Lorentzen for his linguistic input without which the title would have been considerably more boring!

question, but this naturally leads to a discussion of the proper design of competition laws, the normative question. These are extremely “hot” topics today. In the last five years or so, we have seen a surge of changing competition legislation in Denmark, in the EU and in the candidate countries for EU accession. Table 1 lists the most important developments in Denmark and the EU since 1989.ⁱ

Table 1: Major development in competition policy

	Denmark	EU
1989	Competition Act w. control and transparency	Merger Control
1997	New Competition Act w. prohibition	More economics-based approach to vertical agreements
2000	Amended Act: Merger Control	Debate on decentralisation and modernisation
2001	First Danish fines: DKK90,000 - 1.2 million	Leniency reform
2002	Jail sentences for violations?	

In 1989 we adopted a new competition legislation in Denmark that was completely out of line with EC policy at that time. It was based on a principle of control (as opposed to prohibition) so almostⁱⁱ nothing was prohibited before the Competition Council decided to intervene, typically by an order to cease and desist. In addition, the main tool in competition policy was the creation of transparency which was blunt in many respects and might even work against competition in oligopolistic settings, see Albæk, Møllgaard and Overgaard (1996, 1997).

The Danish Competition Act was completely changed in 1997 after eight years of service, maybe because of its inadequacy and certainly because of an urge to harmonise with the EC treaty. As in the EU, anti-competitive agreements and abuse of a dominant position were prohibited and it was clear from the discussions in Parliament that EU practice should be guiding Danish competition practice. The new Act stopped short of introducing merger control but an amendment remedied this already in 2000. For the first time in Danish antitrust history, in late 2001 four firms were convicted in the electricians' cartels and received fines between DKK90,450 and DKK1,182,800.ⁱⁱⁱ A new proposal suggests that punishment be made even harsher including jail sentences of up to two years.

In the EU there has been a change in the regime governing vertical agreements (*i.e.* agreements between firms in a distribution channel or a supply chain). From being very legal-form based the regime is now, since the introduction of [Commission Regulation \(EC\) No 2790/1999](#) of 22 December 1999, more (but not wholly!) based on economics. Second, there is an ongoing debate on how to implement a more decentralised EU competition policy, allowing national competition authorities and national courts to apply EU competition rules directly (Monti, 2000). And last, there is a reform of leniency programmes designed to destabilise cartels by granting immunity from, or reduction of, fines (EU Commission, 2001). I will have more to say about this proposal towards the end.

It makes a lot of sense for businesses in particular and society in general to study the appropriateness of past and proposed legislation for what we want to achieve by competition legislation: welfare, efficiency and competition. Thus the study of antitrust is a natural element of Law & Economics.

In the following I will zoom further in on cartels and how to deal with them within this field of Antitrust Economics.

***In Trust We Bust!*^{iv}**

Our trust in competition policy must be founded in a belief in the general well-functioning of a market economy: that as a general rule the detailed operation of markets is left best in the hands of consumers and business men (Demsetz, 1977; Monti, 2000). Indeed, this must be the reason for the vast amount of liberalisation and deregulation that we have experienced in the last two decades in the global economy. Telecommunications, electricity, gas, television and railroads are industries in which competition is today present to a certain degree, or that are likely to be subjected to competition relatively soon.

However there is one exception to this trust in competition that is widely recognised and that the classical economists already acknowledged. That is the problem of collusion and cartels. Society's trust in oligopolies' wish to compete busted very early. Having invented the concept of the 'invisible hand' Adam Smith (1776) went on to note that:

“People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices. ...” (Smith, 1776, 144)

and later

“The interest of dealers ... in any particular branch of trade or manufactures, is always in some respects different from, and even opposite to, that of the public. ... The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.” (Smith, 1776, 278)

John Stuart Mill (1857) similarly acknowledged that sometimes “competitors are so few that they always end by agreeing not to compete” and went on to give a game theory argument that sounds astonishingly modern:

“In many trades the terms on which business is done are a matter of positive arrangement among the trade, who use the means they always possess of making the situation of any member of the body who departs from its fixed customs, inconvenient or disagreeable.” (Mill, 1857, 298).

In 1890 the Sherman Act was set up partially for that reason. Section 1 of the Sherman Act prohibits collusion,^v declares that it is a felony and determines maximum punishment. Sixty-seven years later a similar article [81] was introduced in European treaties: It prohibits agreements in restraint of trade if they affect trade between member countries. Examples of illegal agreements include price fixing agreements, agreements to limit production and market sharing agreements. In the EU, the maximum fine is ten per cent of the group's global turnover. Today, almost all member countries have harmonised their respective substantive law with that of the EU.

Even antitrust-sceptic Demsetz (1992) argues that collusion or horizontal coordination is bad and that trust busters should crack down on it. In addition, the business community tends to think this way since firms are often the customers of the cartel. Lysine, for example, is not used by final consumers but acquired by firms, so when the representative of Archer Daniels Midland in a meeting of the lysine cartel said that “Our competitors are our friends. Our customers are our enemies”, he was not referring to small consumers but to the largest American purchaser of lysine, Tyson Foods, and to another large U.S. customer, Con Agra, see Hammond (2001). In general, society at large seems to agree that collusion is bad and should not go unpunished.

In recent years we have seen a number of cartels surface in the US and in the European Union and even more recently in Denmark. Prominent EU cartels with a Danish involvement include the cement cartel, the district-heating pipe cartel and SAS/MærskAir. The level of fines has been steadily increasing: In the most recent vitamin cartel, Hoffman La Roche was given a fine of EUR 462 million while BASF got a fine of EUR 296 million! Aventis was granted immunity from fines because it blew the whistle and called in the cavalry. The electricians cartel (a.k.a. “Elmer”) is the first (and so far, the only) Danish cartel case to have been treated under the new Competition Act by the court system. In 2001 it led to a new standard of fines in Denmark: The largest fine was more than DKK 1 million. In this cartel, firms were also granted reductions in their fines because of cooperation with the authorities, so the new competition policy includes a leniency programme.

Collusion is a matter of trust

Members of an oligopoly share a common interest in keeping prices high and/or quantities low. However given that all other members adhere to this implicit or explicit agreement, the individual firm is tempted to cheat on the explicit or implicit agreement by undercutting prices or producing more. This temptation may be controlled by the threat of a punishment (e.g. a price war) provided that oligopolists care enough about the future and that the cheating is soon detected with a sufficiently high probability. Thus the trust between firms is supported by a threat! For a survey on this, see the section on oligopoly in Martin, Møllgaard, Overgaard & Schultz (2000).

Trust supported by threat was a key issue in the recent lysine cartel case. The FBI recorded a meeting of the cartel by candid camera. Mr. Wilson, an American cartel member and executive of the leading producer of lysine Archer Daniels Midland, explained to his Japanese and Korean colleagues that

“I am going to say something very simple. If we are going to trust each other, okay, and if I’m assured that I’m gonna get 67,000 tons by the year’s end, we’re gonna sell it at the prices we agreed to ... [W]e need to talk here because we are going to get manipulated by these God damn buyers ... [T]hey can be smarter than us if we let them be smarter. They are not your friend. They are not my friend. And we gotta have ‘em. Thank God we gotta have ‘em, but they are not my friends. You’re my friend. I wanna be closer to you than I am to any customer. ... They’re gonna tell you ‘I could buy it cheaper’. They’ll outright lie to you. That’s their job. You can believe ‘em if you want to. If you trust us, and that’s the key thing, if you trust us, you know that we aren’t doing it.” (Source: video tape from the U.S. Department of Justice, see also Hammond, 2001).

But he also did not fail to mention that their capacity was at least four times current production and that this extra capacity could be used, as he poetically put it, if the rivals initiated a “free for all.”

Tacit collusion occurs when oligopolists arrive at an implicit collusive agreement without ever talking to each other. The underlying idea is that the market situation is so obvious that a common understanding evolves in the minds of the business men of the cartel price and of the punishment that would result from cheating. In some instances tacit collusion is as powerful as explicit collusion that typically involves some kind of information exchange between firms. This would be the case when markets are very transparent and stable: that makes detection of cheating easy and the threat of a punishment more imminent. Clear and present danger of tough retaliation discourages defection. This is why market transparency may be a mixed blessing, see Møllgaard and Overgaard (1999, 2001).

In many markets, however, oligopolists need to meet and agree on prices. This is exactly because, in the absence of transparency, it becomes important for them to exchange information about prices, quantities and market shares in order to make sure that nobody cheat and that all members get their “fair share.” Such collusive devices may take the form of secret meetings to exchange information, internet-based chat rooms, trade associations or even certain kinds of electronic B2B market places. Collusive devices increase the efficacy of collusion by increasing the speed with which cheating is detected or the probability that it is detected or both. This means that punishment for detection comes sooner and/or is more likely. In turn prices and profits will often be higher if a collusive device is in place. “Trust, but verify”^{vi} as Ronald Reagan said, quoting Gorbachev quoting Lenin, on signing the 1987 Intermediate Nuclear Forces Treaty.

Assume for example that a price setting duopoly is producing a homogeneous good with constant marginal and average costs. The firms would like to agree on charging the monopoly price, but absent collusive devices it takes a number of periods (say weeks or months) before they observe prices and then only with a certain probability. Their common discount factor indicates how much the firms value future income. I can now show (Møllgaard, 2002) that tacit collusion on the monopoly price can be sustained by Bertrand-Nash punishments only if the discount factor is higher than a critical discount factor that depends on the lag and probability of detection. If a collusive device increases the probability or the speed of detection then the requirement to the discount factor becomes less strict, as illustrated by Table 2:

Table 2: How the critical discount factor depends on detection lag and probability of detection

Critical discount factor: d^*		Probability of detection of cheating			
		<i>0.25</i>	<i>0.50</i>	<i>0.75</i>	<i>1.00</i>
Detection lag	1	0.80	0.67	0.57	0.50
	2	0.85	0.78	0.73	0.71
	3	0.87	0.83	0.81	0.79

For example: if, absent a collusive device, it takes three periods before it is possible to detect collusion and if the probability of detection is only 0.25 at that time, then the discount factor needs to be at least 0.87; otherwise collusion cannot be sustained and prices would be as low as marginal costs. This is because the punishment comes late and only with a low probability. Assume that the discount factor is in fact 0.75 and that the duopolists meet and agree on a collusive device that lowers the detection lag to one period and makes detection completely certain. Then because of this, prices increase from the competitive level to the monopoly level.

This is more than a theoretical proposition. Improved reliability of information can lead to price increases (Albæk, Møllgaard & Overgaard (1997)). We showed that with the advent of firm-specific information on previously secret discounts in an oligopolistic market for ready-mixed cement in Denmark prices increased of the order of 15-20 per cent in a quarter or two.

The upshot of all this is that collusive devices such as the exchange of information may increase prices and profitability to oligopolists. This will lead to a decrease of welfare and efficiency for the usual reasons of deadweight loss: Customers face a price that is too high and hence buy too little.

Trust-busters' problems

Tacit collusion is not illegal! Firms engaging in tacit collusion have done nothing explicit to collude – they have just read the market in a manner that maximized their profit and the value of the firm. Posner (1976, 40) notes that:

“... in some circumstances competing sellers might be able to coordinate their pricing without conspiring in the usual sense of the term – that is, without any overt or detectable acts of communication. This is the phenomenon that lawyers call ‘conscious parallelism’ and some economists term ‘oligopolistic interdependence’ but which I prefer to call ‘tacit collusion’ in contrast to the explicit collusion of the formal cartel or its underground counterpart.”

In EU practice a concerted practice is the closest we come to proving collusion without there being a smoking gun e.g. in the form of evidence of secret meetings. However Fejøl (1997, 41) argues that pure tacit collusion is not the same as a concerted practice:

“In certain market structures, e.g. in an oligopolistic market, the parties will thus sometimes be able to mutually adjust their behaviour without a prior consensus. In such a situation a concerted practice in the sense of art. [81] will not obtain.”^{vii}

Faulk & Nikpay (1999, 2.52) observe that the European Court of Justice in its *Anic* judgement of 8 July 1999 clarified that proof of concerted practice required three elements: 1) contact between firms; 2) subsequent behaviour in the market; and 3) a causality between the two.

Collusive devices are mechanisms that make collusion easier. It could be rather informal arrangements such as concerted practices or more formal arrangements such as information exchanges through trade associations or secret cartel meetings. Such arrangements are illegal and will be punished if competition authorities discover their existence (and can prove it).

Since tacit collusion is not illegal in contrast with collusion that is not tacit, and since we expect firms to go always for the lowest-cost way of achieving a certain outcome, we would expect tacit collusion to prevail if the discount factor of the companies is higher than the critical discount factor in this particular market. And there is precious little that competition authorities can do about that situation in the current legal situation. But even if courts were willing to punish tacit collusion there would remain a very difficult problem: how to show that behaviour is collusive rather than competitive. The problem stems from the non-observability of marginal costs that is ubiquitous in the economics of regulation and antitrust. Kühn (2001) thus argues that even in the unlikely antitrust case that would allow authorities to use modern time series econometrics^{viii} we would

encounter a serious problem of identifying prices, say, as collusive rather than competitive because the inference would typically depend critically on the specification of the econometric model.

If the actual discount factor is below the critical discount factor for which tacit collusion may be sustained, we would expect firms to carry out a cost-benefit analysis of whether to collude explicitly or not. Benefit from a certain collusive device, x , can be denoted $B(x)$ and would typically be the present value of discounted extra profits arising from x . The costs $C(x)$ could consist of four different elements:

1. The cost of the device itself, $c(x)$. This could be the cost of meeting secretly in a hotel room in Maui, Hawaii (as in the Lysine cartel); the cost of concocting a trade association in order to monitor prices; or the cost of a cartel enforcement authority that could have access to the members' order books and be allowed to issue fines for cheating!
2. The expected cost of the fine, $f(x)$. This would in itself be composed of three elements: a) the probability of detection by the cartel authorities; b) the likelihood of being convicted if detected; and c) the fine itself that would typically depend on the seriousness of the crime. All three elements would normally depend on the choice of collusive device, i.e. on x .
3. The expected damages $d(x)$ to be paid to customers. These will typically be tried at court after the establishment of $f(x)$ and depend on the same factors.
4. The loss of reputation from the association with collusion. This is not easy to estimate, but may in some cases be significant. In the following I will ignore this potentially important effect.^{ix}

Thus a certain collusive practice could be considered by rational firms if the benefits exceed the costs:

$$B(x) > C(x) = c(x) + f(x) + d(x).$$

The problem facing trust-busters is now: Given the scarce resources of the authority to make as few collusive devices profitable *ex ante* as possible. That is, the policy should deter as many of the grave collusive devices as possible. This is basically a problem of finding the optimal trade-off between the probability of detection (and conviction) and the magnitude of fines taking into account the cost of enforcement as studied by Polinsky & Shavell (1979,1992). Their main result is that the optimal fine equals the damages inflated by the probability of not being detected plus the variable enforcement costs. In an antitrust setting, this is related to a result by Landes (1983). To see the point, assume that the only cost of a collusive device is the expected fine, i.e. $C(x) = pf(x)$, where p is the compound probability of detection and conviction. Further assume that a given collusive device raises profits to the parties by EUR 1 million while inflicting damages on customers to the order of EUR 2 million (all numbers are discounted present values). So the damage to society is EUR 1 million. If firms are risk neutral, they will be discouraged from agreeing to the collusive device only if:

$$B(x) = \text{EUR 1 million} < C(x) = pf(x)$$

This means that we need the fine $f(x)$, to exceed $B(x)/p$. If the probability of detection is one-third, we need fines of at least EUR 3 million to deter collusion. See also Blomgren-Hansen & Møllgaard (1999).

This treatment of the optimal structure of fines has however so far assumed that there is no strategic interaction between the members of the collusive scheme. In practice, leniency schemes may be used to increase the probability of detection as well as the probability of conviction.

As one would almost imagine, it was the U.S. that pioneered the leniency programme in antitrust. After a revision in 1993, the main features of the American policy are (see Spratling, 1999)

- Amnesty is automatic if the authority has not yet started an investigation and the firm approaches the antitrust authorities to confess.
- Amnesty may still be available after an investigation has been initiated if the company provides crucial evidence without which the authority could not hope for “sustainable conviction”.

The EU Leniency programme was enacted in 1996 through a notice from the Commission. It is presently under review and the new policy is similar to the American programme:

- “A decisive contribution to the opening of an investigation may justify the immunity from any fine ...” (EU Commission, 2001, 18)
- while cooperation with trust-busters after an investigation has been opened will justify a reduction in the fine, reflecting the value of the contribution.

Evidently these leniency programmes are designed to bust the trust between parties to a collusive device. DOJ’s Antitrust Division warns that “applicants understood that early detection gave them a head start in the race for amnesty, and they were unwilling to gamble that the activity would not be detected by another company who would take advantage of the Amnesty Program.” Spratling (1999) further notes that:

“We frequently see situations where a company approaches the government a few days, or even less than one full day, after one of its conspirators has already approached the Division and secured its position as first in line for amnesty. Of course, as in all things, timing is everything. In two recent cases, being second in the door ended up costing companies tens of millions of dollars in fines as well as criminal exposure for the culpable executives.”

The question is what the effect of leniency programmes really is. On the one hand they increase the probability of detection, but on the other hand they decrease the expected punishment. Secondly, it is not evident in all cases that firms will be persuaded by these incentives, i.e. that trust must bust.

Must trust bust?

I should like to end by first discussing some simple leniency games that focus only on the decision of whether to confess or not. Then I will try to indicate how complex leniency games depend on the repeated nature of typical collusive devices. This allows firms to include punishment strategies in prices that may dissuade a firm from going for amnesty although this might have been profitable seen from the point of view of the simple game. My point of departure is the work of Motta & Polo (1999).

Assume that two firms have set up a collusive device, x . The firms realise that a leniency programme is available. If both firms keep silent there is a certain probability, p , that the authority

opens an investigation, detects collusion and convicts the two firms in which case both firms pay the maximum fine $f(x)$. If one firm confesses, this is sufficient evidence to convict them both. We will assume that if only one firm confesses it will pay a reduced fine $r(x)$ while the rival pays $f(x)$. If both confess, a simple toss of a coin will determine who is considered to have done so first; that firm will pay the reduced fine while the rival again will have to pay the maximum fine. Since fines are negative payoffs we assume that $f(x) < r(x) \leq 0$. Amnesty or immunity from fines correspond to $r(x) = 0$. The game played by the two firms may now be represented in the well known bi-matrix:

		firm 2	
		Confess	don't
Firm 1	Confess	$\frac{1}{2}[f(x)+r(x)], \frac{1}{2}[f(x)+r(x)]$	$r(x), f(x)$
	Don't	$f(x), r(x)$	$\mathbf{p}f(x), \mathbf{p}f(x)$

Trust may bust: It is easily shown that (Confess,confess) is a Nash equilibrium. Note, however, that (Don't,don't) may also be a Nash equilibrium if the expected fine from not confessing is larger than the reduced fine: $\mathbf{p}f(x) \geq r(x)$; in other words if the compounded probability of detection and conviction is too low compared with the leniency programme. We would then expect (Don't,don't) to be played since it Pareto dominates (Confess, confess)^x so trust does not bust in this case. This may be seen as a justification of making $r(x)/f(x)$ very low as in the case of amnesty. On the other hand if the probability is high enough^{xi} then the game reduces to the familiar prisoners' dilemma. In the latter case we know that absent repeated interaction the only Nash equilibrium is an equilibrium in dominating strategies: to confess. Now, trust must bust.

These results extend in several obvious ways.

If there are $N \geq 2$ firms and only the first to confess is granted leniency, then confess is the equilibrium choice if

$$f(x) \leq \frac{1}{N}r(x) + \frac{N-1}{N}f(x) \equiv \bar{f}(x)$$

but this is again always true if $f(x) < r(x)$. Not to confess is an equilibrium only if $\mathbf{p}f(x) \geq r(x)$ just as before.

However, with N firms it may be natural to assume that the probability of conviction is increasing in the number of firms that confess. If all firms confess they get an expected fine of $\bar{f}(x)$ where we have assumed that $\mathbf{p}(N) = 1$. The N^{th} firm would get an expected fine of $\mathbf{p}(N-1)f(x)$ from not confessing given that $N-1$ firms confess, so "confess" is a Nash equilibrium only if

$$\mathbf{p}(N-1)f(x) \leq \frac{1}{N}r(x) + \frac{N-1}{N}f(x) \equiv \bar{f}(x)$$

or if

$$p(N-1) \geq \min \left\{ \frac{(N-1)}{N} + \frac{1}{N} \frac{r(x)}{f(x)}, 1 \right\}$$

In the opposite case cartel members' mutual trust will not bust. This will happen for all (negative) values of $r(x)$, if $p(N-1) < (N-1)/N$ indicating that the confession of all parties is relatively important for successful conviction. Not to confess is an equilibrium if $p(0)f(x) \geq p(1)r(x)$.

Now consider a sequential game of leniency where the firms are queueing up in front of the office of the antitrust authority. In a subgame perfect equilibrium there will either be a rush to confess (early firms confess to get the reduction of fines because otherwise later firms would do it) or nobody will confess at all. This again depends on how the reduction of fines relates to the increase in the probability of conviction that accrues from each confession.

All these small games show that leniency programmes should be concocted for the case at hand: in order that not to confess not be an equilibrium in a situation where $p(0) = 0$ it may for instance be necessary to break the trust between firms by offering them amnesty or even a positive payment for confessing! The latter may conflict with ethics and practical problems: what is the evidence worth if the authority has paid money to get it?

The leniency games that we discussed so far have been seen in isolation from the underlying repeated game that supports the collusive device. This is a little odd and in my current research I am trying to make the connection between the dynamic price or quantity strategies of the oligopolists and how they respond to leniency programmes. The first, simple insight is that members might discourage each other from confessing by threatening to start a price war in the future. This reduces the gain from the reduction of the fine. That was the stick. But there is also a carrot: Cartel members might understand that if they all do not confess then there are two possible outcomes: They may not be convicted and can carry on with implementing their collusive device. Or they may be convicted and will probably have to stop the collusive device but could then choose to retreat to tacit collusion rather than abandoning collusion altogether.

This is to a certain extent modelled by Motta & Polo (1999) but they assume that if the parties are convicted then they will behave non-cooperatively forever after. Competition policy is probably not this potent and empirically the proposition seems dubious. Secondly, they assume that firms only have the choice of whether to collude or not. In reality of course, a leniency programme may affect the way in which (or the degree to which) they collude. A leniency programme described by $p(\cdot)$, $f(x)$ and $r(x)$ will affect the x that is optimal for the firms. Oligopolists will choose the maximal degree of collusion that is sustainable by appropriate punishment strategies. My current research endogenises the choice of collusive device and addresses these more complex leniency games. A more lenient competition policy may increase the incentive to confess but will at the same time decrease the expected punishment. Thus designing the optimal policy is a tricky question and may differ from case to case. Maybe hard core cartels are more robust to trust busters than softer variants?^{xii}

So in sum: Oligopolies may collude as long as they do it tacitly. Often they are tempted to engage in covert collusive schemes because tacit collusion may not be enough for them. Competition policy

should be designed to discourage this behaviour. This is partly done through fines but leniency programmes can be designed to foster distrust. Must trust bust? The answer is: it depends!

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Endnotes

ⁱ On competition policy harmonisation of the candidate countries, see Lorentzen & Mølgaard (2001).

ⁱⁱ The exception was resale price maintenance which, seen from an economics point of view, was odd in itself. See Albæk, Mølgaard & Overgaard (1995) or Mølgaard, Overgaard & Øhlenschläger Madsen (1996).

ⁱⁱⁱ The latter fine was issued by the Court of Frederiksberg on the other side of Solbjerg Vej!

^{iv} Thanks to Clas Wihlborg for this slogan!

^v Section 1 of the Sherman Act: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, if any other person, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court."

^{vi} *Doveray, no proveryay...*

^{vii} My translation.

^{viii} See la Cour & Mølgaard (2002) for an example of use of co-integration techniques to establish market dominance.

^{ix} In the case of SAS and Mærsk Air, SAS appeared to suffer much more from a loss of reputation than its partner in crime. Indeed, Mærsk Air was to some extent lauded by members of the business community for its effective way of handling the situation. The same cannot be said for SAS!

^x $p f(x) \geq r(x) \geq \frac{1}{2} [f(x) + r(x)]$

^{xi} $p > r(x)/f(x)$

^{xii} *Trust is the result of a risk successfully survived.* Andy Gibb (unknown date).