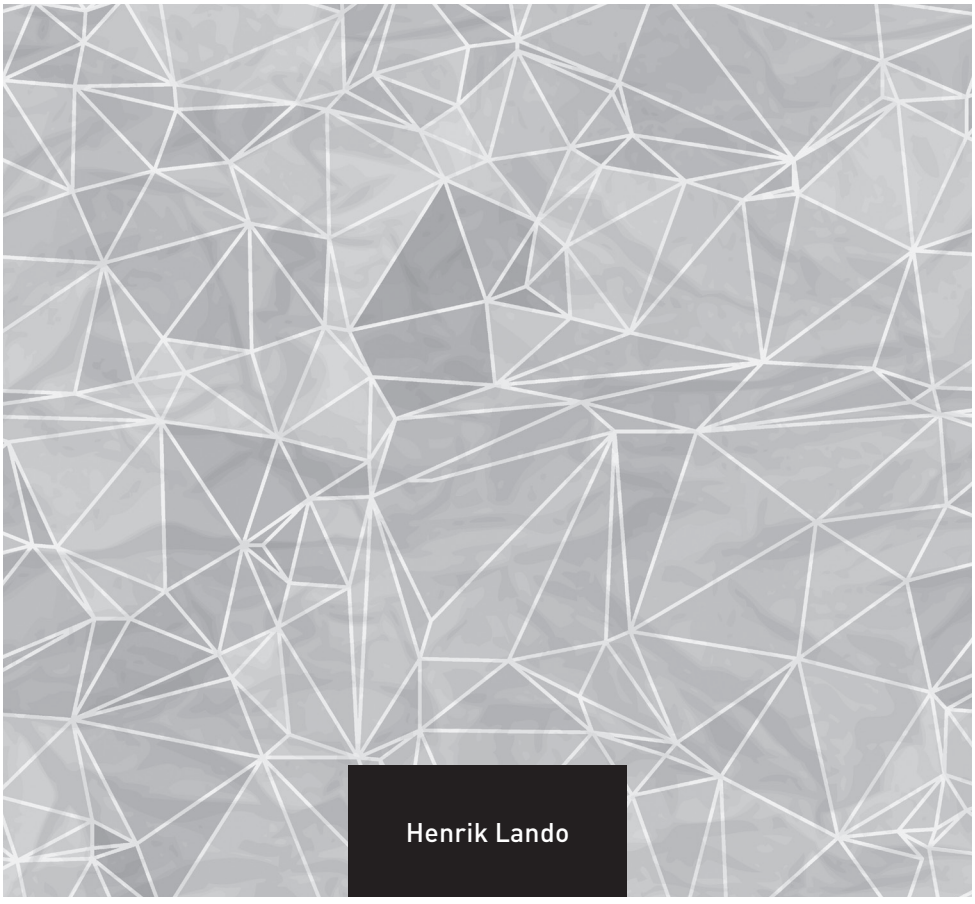

Henrik Lando

# On the sanctioning of economic crime in Denmark

## ABSTRACT

This article written for a symposium on comparative criminal law-discusses whether sanctions for economic crime have become excessive in the Danish context either in absolute terms or in comparison with sanctions for crimes involving physical harm.
The text has three parts. In the first part, I present a theoretical framework that allows for a determination of optimal levels of sanctions and enforcement of crime. In the second part, I compare actual levels of sanctions in Denmark for various kinds of crime involving either economic or bodily harm, and discuss whether differences can be explained by the theory.
In the third part, I compare a recent increase in the level of the sanction for breach of competition law and for insider trading with the theoretically optimal levels and I tentatively suggest that the increase may well have been warranted from a deterrence perspective. However, I stress that higher sanctions call for greater competence on the part of administrative agencies and courts due to the 'grey area' nature of some offenses within the two categories of regulatory crime.

# I. Introduction

This article discusses some aspects of the (increased) use of criminal sanction for economic crimes in Denmark. Some scholars[1] have been critical of what they see as 'overcriminalization' of such crimes; in their view, more harm can be averted if more ressources were applied to other crimes such as violence, robbery, sexual violation, or other similar physically harmful acts. Also, critics have argued that the increased sanctions lead to 'legal uncertainty', in the sense that severe sanctions risk being levied on innocent defendants when the crime is vaguely defined or when it can be difficult to tell whether the defendant is guilty of that which is illegal.

The paper falls in three parts. In the first part, I present a framework for determining the optimal level of enforcement and sanctioning. The framework is different from the conventional law and economics (Becker (1968)) framework in that I assume that some potential offenders cannot be deterred, due e.g. to limited rationality.

In the second part, I compare the theoretical optimum to how sanctions are actually applied for various kinds of crime involving either economic or bodily harm. For concreteness, I specifically compare the levels of sanctions applied to fraud and sexual violation and also consider two legal cases in which the sanction was nearly identical for the two kinds of crime. In public debate, it has been criticized that sanctions are not uniformly higher for crimes that involve direct physical harm, but I shall argue that similar sanctions may be warranted when crimes differ in respects other than direct harm.

In the third part, I discuss a recent increase in the level of sanctions for

1 A recent working paper by Iljoong Kim (2013) addresses the issue in a South-Korean perspective.

breaches of competition law and insider trading, and argue that it has been increased from a level that may well have been too low from a deterrence perspective. However, I stress that caution must be applied in the enforcement and sanctioning of 'grey area crimes', suggesting that it may be a precondition for the optimality of higher sanctions that the quality of law enforcement is high.

# II. On the optimal level of sanction and enforcement

The simple Becker model constitutes the backbone of economic thinking about the optimal sanction and the optimal level of enforcement. It is useful to first consider the situation in which there is no legal uncertainty, i.e. no uncertainty about what the law says or about whether an offender has violated the law.

## 1. The optimal sanction and enforcement under certainty

I shall expand on the Becker-model by assuming that some potential offenders do not consider the sanction when committing a crime (e.g. due to lack of knowledge of it, due to extreme, hyperbolic, discounting of the future, or due to low intelligence).

We can use the following notation:

$h$: the harm from the crime
$b$: the benefit from the crime
$p(e)$: the probability of (apprehension and) conviction
$e$: the cost of investigation
$s_m$: the monetary sanction which is assumed to be costless to society (a strong assumption)
$s_i$: the non-monetary sanction (incarceration) which is measured in terms of a monetary equivalent.
$c(s_i)$: the cost of the sanction $s_i$
$w$: The wealth of the potential offender for society. Monetary sanctions

cannot effectively be higher than $w$

$z$ = the fraction of deterrable offenders (the fraction who consider the sanction before offending).

We assume that the fraction, z, of offenders will commit the crime if

$$b>p(e)(s_m+s_i),$$

while the fraction $1 - z$ will commit the crime regardless of the sanction; they are undeterrable. Society wishes to minimize total costs, i.e. the harm of the crimes committed minus the enforcement and sanctioning costs. In this framework, we obtain some well-known results.

First, assuming that deterrence is worth achieving, the optimal system would set $s_m=w$, and would only use non-monetary sanctions when non-monetary sanctions have become ineffective due to the judgment proof problem.

This is an important conclusion, robust to many extensions of the model, e.g. different levels of wealth of offenders.

Second, the model reveals that there is a trade-off between sanctions and enforcement effort. It may be that incarceration is very expensive and should not be used at all. Deterrence may be achievable through monetary sanctions if enough enforcement agents are employed.

When, however, incarceration is necessary to achieve deterrence, and deterrence should be achieved, we can calculate the optimal combination of investigation $e$ and sanction from the minimization problem:

$$\text{Min } e+(1-z)c(s_i)$$

$$\text{s.t. } b=p(e)(w+s_i)$$

In the appendix, it is shown that when there is an interior optimum in which incarceration is used as an instrument, the condition that balances the effectiveness of investigative effort with the cost of incarceration reads:

$$(1-z)c'(s_i) = \frac{b}{(w+s_i)^2\, p'(e)}$$

Thus, incarceration $s_i$ increases with $b$ and $z$, and decreases with $w$, $c'(s_i)$ and $p'(e)$, as one would expect.

When stigma, $q$, acts as a significant sanction, the problem above can be stated as

$$\text{Min } e + (1-z)c(s_i)$$
$$\text{s.t. } b = p(e)(w+s_i+q)$$

assuming that stigma is a costless sanction (disregarding that the attention of the public is a scarce ressource) which means that incarceration need only be applied when

$$p(e)(w+q) < b$$

assuming that stigma does not depend on incarceration. Thus, the existence of stigma favors enforcement effort over incarceration; stigma is complementary to enforcement (adds to its deterrent effect) and, unless stigma depends on incarceration, stigma is a substitute to it.

To the extent that reputation is a more important asset to businessmen than to the average 'physical' offender, incarceration may be less needed for economic crimes than for physical offenses (or short sentences may be sufficient if incarceration in itself carries great stigma) while enforcement effort (investigation) will be likely to be more effective for economic crimes since it can draw on the force of stigmatization.

When it comes to the optimal allocation of enforcement effort between different kinds of crime, a distinction should be made between the short run and the long run. In the short run, enforcement ressources and even sanctions are fixed. Then, it is possible that enforcement effort should be concentrated on crimes for which the harm prevented through deterrence is the greatest (see Lando and Shavell (2004), although the main point of the article concerns a different kind of concentration of effort). A simple model of why concentration of effort may be optimal in the short run is this: if the benefit of the typical criminal in one area of crime is $b_1$ and in another $b_2$, the number of deterrable potential offender in the two areas of crime are $z_1$

and $z_2$, the maximal sanctions are $w_1$ and $w_2$ (which we assume here for simplicity to be monetary), harm is $h_1$ and $h_2$, and the total enforcement effort to be allocated between the two kinds of crime is $e$, which can be allocated between the two crimes such that $e_1 + e_2 = e$, then it should be considered which is higher $h_1 z_1$ or $h_2 z_2$. If the former is higher, all effort should be spent on deterring the first crime if $p(e) w_1 < b_1$ and vice-versa (if the second crime is more harmful). This is so, in this simplified, discrete model, because effort is wasted unless it deters; then effort should be directed at deterring those crimes which will be most harmful in terms of their number multiplied by their severity. This simple model could of course be expanded in several directions, e.g. by considering also incarceration.

Applied to the choice between economic and other crimes, it should be kept in mind that is it hard to shift enforcement from one area to the other; it takes skills to undertake meaningful investigation. But to the extent enforcement can be so shifted, the question is which crime is more deterrable and which is more harmful. Economic crimes presumably tend to be more deterrable, as w tends to be higher, as stigma also acts as a deterrent, and as acts of violence can be spontaneous and impulsive. On the other hand, some physical crimes are presumably much more harmful than many economic crimes, although for some economic crimes, the externalities may be significant, such as when the economic system depends on a high level of trust that may break down under asymmetric information if too many breach the trust.

In the long run, any given crime should be deterred if that level of effort it takes to deter is worth its cost. Thus, if $p(e_1^*) w_1 = b_1$, the first crime should be deterred if $c(e_1^*) < f_1 h_1$, otherwise not, and the same for the other crime.

## 2. The optimal sanction and enforcement under legal uncertainty

We now consider how legal uncertainty affects the optimal enforcement policy. The examples of antitrust violations and insider trading will be used for illustration. Two different kinds of legal uncertainty apply to economic crimes such as antitrust violations and insider trading, and to many other crimes. First, it may be clear which acts are illegal and which are not but it

may not be possible to say with certainty whether the alleged offender in fact engaged in that activity which is illegal. In the case of insider trading, the defendant may have sold shares without attempting to take advantage of insider information. The trade may e.g. have been ordered before the information arose and the person may simply have carried out an order as a matter of course.

In the case of antitrust, it may not be clear whether a cartel actually existed. The cartel agreement is rarely written down; the authorities may e.g. attempt to infer the existence of a collusive agreement from the responses of prices to changes in costs.

The second kind of uncertainty concerns which acts are illegal. It may be clear what a person has done but unclear whether the act falls under the category of punishable offenses (the question of subsumption). In the case of insider trading, it may not be clear whether an employee who learns about mismanagement within his firm is allowed to sell his or her shares in the firm based on that information.

*In an American example (from 1980) Chiarella was a worker in a financial printing company who figured out the names of the acquisition target firms of the printing company's clients and bought the stocks of the target firms prior to the public announcements. He was charged by the SEC with committing illegal insider trading, but acquitted by the Supreme Court.*

In terms of an example from antitrust law, a group of veterinarians[2] split the market outside opening hours by deciding who should stay open when. It was uncertain whether this was an (illegal) cartel agreement or a natural coordination of effort.[3]

The two kinds of uncertainty are in some respects not very different from the point of view of their consequences. If a person may choose between three different acts, A, B and C, and B is illegal, he or she may choose to

2 A verdict passed by the Western District Court, May 19, 2010.

3 Other cases that show the difficulty of defining when there is an illegal cartel agreement can be found in the CEPOS-paper (CEPOS is a conservative-liberal Danish think-tank): http://www.cepos.dk/fileadmin/user_upload/dokumenter/2012-12/Notat_Faengselsstraf_i_kartelsager_-_et_retssikkerhedsmaessigt_skred_dec12.pdf

do A but will still be found to be guilty of having done B under the first kind of uncertainty, whereas under the second kind of uncertainty, he or she may be sanctioned for having done A which turns out to be illegal. Yet, the two kinds of uncertainty are not identical in their consequences either. For example, under the former the court must set a standard of proof, i.e. the degree of required certainty must be established. Under the latter, the court must of course determine whether it is sufficiently clear that the law prohibits the given act, which involves a different (but related) set of considerations.

Whether the uncertainty is of the former or the latter kind, the uncertainty bears on the optimal sanction as well as on the optimal level of investigation, and in the following analysis, the two kinds of uncertainty will not be distinguished, as the similarities are too great to warrant separate treatment.

### 2.1 The effect of uncertainty on the optimal sanction

On the question of the optimal sanction in response to uncertainty, I shall refer in part to some of my own research (Lando 2004, 2005, 2006, 2009).

From a law and economics viewpoint the court should (and arguably does) set a standard of proof that balances deterrence and the unfairness of wrong conviction.[4] (When the sanction is a prison sentence, the cost of this sanction should also be taken into account, as in the case of certainty). We shall consider in turn how the possibility of unfair conviction and the possibility of over-deterrence affects the optimal sanction.

There are two reasons why unfair conviction should in itself call for a lower sanction.

First, if the sanction is often imposed on an innocent defendant, it is wasted in terms of deterrence. The cost of the sanction is simply incurred in vain. Second, the higher the sanction the greater the unfairness cost of innocent conviction.

Thus, for crimes that entail significant uncertainty of whether the defendant did commit the illegal act, we should, ceteris paribus, be careful

4 The unfairness of wrongful acquittal should also be taken into account but will be disregarded in the following simplified analysis.

not to sanction too harshly.

This may not mean that maximum penalties should be correspondingly reduced. I argue (in Lando, 2005) that the sanction should be set according to the weight of the evidence in the individual case such that a defendant whose probability of guilt is low (while still fulfilling a minimally required standard of proof) will receive a lighter sanction than the person whose quilt is nearly certain. I argue that the courts already do this to some extent (although not openly and not as part of doctrine). To the extent that this policy of setting the sanction according to the weight of the evidence in the individual case is not considered in accordance with legal principle, an alternative is, as mentioned above, to generally apply a lighter sanction, in view of the risk of unfair conviction.

While uncertainty about whether the defendant committed a given illegal act may cause unfair conviction, this possibility is likely to be attenuated by the reaction of potential offenders who may be careful not to undertake acts that can be viewed as illegal. This reaction, however, may prevent them from undertaking desirable acts, i.e. it may lead to overdeterrence, as shown by Shavell (1987a) and Calfee and Craswell (1986). Uncertainty, they show, leads to overdeterrence unless it is very great in which case the link between the act and the sanction may become too weak. For a moderate level of uncertainty, a potential offender will have an incentive to 'stay clear' of being sanctioned by being more careful than he or she considers likely to be legally necessary (i.e. the level of care will be higher than the expected standard). It should be noted that this result is based on the sanction being set optimally in relation to the harm and to the probability of apprehension. If the sanction is equal to the harm divided by the probability of apprehension, moderate or low uncertainty will lead to overdeterrence. However, if the expected sanction is inefficiently low taking into regard the probability of apprehension there will not be overdeterrence despite the existence of uncertainty; in that case uncertainty may increase deterrence and in fact thereby add to efficiency.[5]

To illustrate the case of overdeterrence, consider the case of a board of a

5 See for a result on the optimality of legal uncertainty for enforcement of competition law, Matthias Lang: 'Legal uncertainty, an effective deterrent in competition law', (pdf-file on the internet).

bank who ordered its management to buy back the bank's own shares[6], which the management did after becoming informed of events that would have affected the share price if it had become public. Such a possibly efficient decision to order a purchase of a company's own shares may not be undertaken if there is a risk of being charged with insider trading if information appears after the decision and before the purchase.

Or consider the veterinarians mentioned above, who split the market outside opening hours by deciding who should stay open when. An agreement on opening hours outside the normal hours may create efficiency in that clients are serviced at all times, but it may also induce higher prices (outside normal opening hours) because competition is absent. The question is how the court is likely to weigh the benefit and the cost. If the sanction for cartel price fixing and cartel agreements in general is increased to include imprisonment, such agreements, which may be considered cartel agreements but for which the social benefit may very well be substantially greater than the harm, are likely to be prevented. A similar conclusion seems likely for vertical agreements such as retail price maintenance or long-term contracts which are considered anti-competitive. Such agreements may well be efficient, and over-deterrence would seem to be a realistic possibility for acts for which maximum sentences are severe but for which the harm and the benefit are small. If many such efficient acts are deterred, the social loss may be significant.

The question of intent is worth addressing here. If a person sells shares while in the possession of insider information, it is only illegal if he abused the information, i.e. if he sold the shares in order to take advantage of the insider information. Likewise, only if the veterinarians' agreement served the purpose of increasing prices, if that was the intent, will the agreement be held to be in violation of the law. When intent is of central importance[7], and when intent is inherently difficult to prove, the court is presented with a dilemma: on the one hand it may undermine deterrence if it sticks to the requirement of the 'beyond a reasonable doubt' standard. On the other hand,

6 The socalled 'Midtbank case', U.2005.984H.

7 It may be asked why intent matters; in an incentive perspective one could argue that the expected sanction should simply be set equal to the actual harm, whether caused intentionally or not. I shall not go into this here, except to note that I believe good reasons can be given for the emphasis on mens rea more generally

it runs the risk of either wrongfully convicting the defendant and/or of creating overdeterrence, if it applies a sanction based on the signs of intent.

It is possible to consider this issue of wrongful conviction in more quantitative terms. Let us assume that the central role of intent, and the considerable uncertainty about which specific acts the law prohibits, implies that many defendants are convicted at a level of certainty of guilt between 80% and 100%. It may be that for a particular crime, the average certainty of guilt is 90%. This number may be in dispute, some will take the average number to be near 95%, some will consider it to be nearer to 75% (often in rough terms associated with 'clear and convincing evidence'); for any such estimation, it is possible to calculate the extent of unfair conviction. Thus, if e.g. average is taken to be 90% certainty, and 100 people are convicted each year for the given offense, we can calculate the extra unfairness cost of increasing the sanction by one year's imprisonment. Of the 100 people sanctioned, ten will be innocently convicted, i.e. there will be an injustice 'cost' of ten more years spent in prison. This should be added to the direct incarceration costs that will increase by the cost of a hundred prison years. These costs should be weighed against the benefits in terms of deterrence (and possibly, against the benefits of retribution).

Note that if deterrence is significant, the amount of unfairness may be lower when the sanction is higher. To the extent that the increase in the sanction leads to overdeterrence, there may be fewer people innocently sanctioned, since people may take greater precautions to avoid unfair conviction. Thus, in some cases, if deterrence is strong, the main cost of greater sanctions is overdeterrence rather than greater unfairness. Naturally, whether there will be a net cost in terms of greater unfair cost depends in part on whether the potential defendants are aware of the possibility of a sanction, i.e. on the extent to which the law is clear and whether potential offenders will naturally seek information about it.

To conclude: uncertainty (of both kinds) should lead to lower sanctions for two reasons: First, when a high sanction is levied on an innocent it may not affect deterrence at all (as when offenders are unaware of the risk of a sanction for doing something which they believe to be legitimate) or it may

lead to overdeterrence when the potential offenders realize the risk and abstain from efficient acts that may be viewed by the authorities as criminal. Second, a high sanction levied on an innocent defendant constitutes, of course, a gross injustice.

# III. On the level of sanctions in Denmark for various kinds of crime involving either economic or bodily harm

The question arises to which extent the sanctions applied in Denmark conform to the principles just explained.

Before going into this question, it is worth mentioning that the general level of sanctioning in Denmark is low by international standards. The general view among legal scholars and criminologists, a view shared by many in the general population, remains that sanctions are not a deterrent but instead lead to more crime as criminals learn how to commit crime when they are in prison, etc. However, despite of this widely held belief, sanctions have increased somewhat, for the last ten years most notably for violence and for some kinds of economic crime. Partly as a consequence, the number of prisoners has also gone up from 66 to 71 per 100,000 population.[8] Still, the incarceration rate (which is of course also determined by other factors than the level of sanctions) remains less than one-tenth of the rate in the US, about two-thirds of the South-Korean level, and about one half the (recently increased) level in Spain.

## 1. On the relative sanctions for physical and economic offenses

In the following I shall argue first that on average physical offenses are sanctioned more harshly than economic offenses but that there are exceptions. Second, I shall argue that the existence of exceptions should not necessarily be taken to prove that the Danish practice is wrong. I shall

8 Some slightly outdated numbers can be found here: http://en.wikipedia.org/wiki/List_of_countries_by_incarceration_rate

illustrate this point by a comparison between two actual cases, one concerning a physical offense and one concerning an economic offense, in which the defendant received nearly the same sanction.

### 1.1 Statistical evidence concerning relative sanctions

In 2002, a committee was set to investigate the issue of the relative harshness of sanctions, and concluded that physical offenses are generally sanctioned more harshly than economic offenses.[9] Drawing from statistics covering the period 1996-2000, the committee found that there are many more economic offenses, but per offense there is greater use of monetary

**Crimes Resulting in Imprisonment**

| | 2003 Dec. 2nd | 2004 Dec. 27th | 2005 Dec. 27th | 2006 Dec. 21st | 2007 Dec. 21st | 2008 Dec. 18th | 2009 Dec. 15th | 2010 Dec. 14th | 2011 Dec. 13th | 2012 Dec. 11th |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % | % |
| Homicide (intentional) | 6.3 | 6.6 | 5.7 | 6.6 | 7.9 | 7.7 | 7.3 | 8.1 | 8.2 | 7.9 |
| Violence | 22.4 | 24.0 | 23.7 | 25.7 | 23.1 | 23.5 | 22.1 | 19.7 | 20.2 | 19.7 |
| Arson | 1.6 | 1.3 | 1.4 | 1.3 | 1.1 | 1.2 | 1.1 | 0.9 | 1.3 | 0.8 |
| Other dangerous crimes | 2.2 | 2.1 | 2.0 | 1.6 | 2.0 | 2.3 | 3.2 | 4.2 | 4.0 | 3.6 |
| Sexual violation | 2.2 | 2.8 | 2.4 | 2.3 | 2.2 | 2.5 | 2.2 | 1.6 | 1.8 | 2.3 |
| Other sexual offences | 1.9 | 2.1 | 2.1 | 3.3 | 2.5 | 2.8 | 2.9 | 3.3 | 4.0 | 3.4 |
| Drug-related crime (Danish Penal Code § 191) | 15.0 | 17.8 | 17.3 | 20.7 | 22.4 | 19.9 | 18.0 | 16.7 | 18.7 | 18.9 |
| Other drug-related crime | 3.5 | 3.6 | 4.1 | 3.2 | 3.1 | 4.1 | 3.2 | 4.4 | 4.2 | 3.7 |
| Robbery | 16.6 | 13.8 | 12.4 | 12.0 | 11.2 | 11.6 | 13.6 | 14.5 | 14.6 | 13.1 |
| Theft | 13.8 | 12.8 | 15.6 | 11.6 | 9.7 | 10.9 | 11.5 | 9.5 | 10.1 | 11.7 |
| Other offences against property | 3.0 | 3.3 | 3.2 | 3.2 | 3.1 | 3.1 | 2.8 | 2.6 | 2.4 | 2.7 |
| Vandalism | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 | - | 0.0 | 0.1 | 0.0 | 0.0 |
| Traffic offences | 7.8 | 5.3 | 5.6 | 5.5 | 6.1 | 6.6 | 5.3 | 5.4 | 3.5 | 5.7 |
| General Penal Code | 2.4 | 3.2 | 3.3 | 2.1 | 3.2 | 2.9 | 3.8 | 6.0 | 3.8 | 3.9 |
| Specific laws | 1.2 | 1.2 | 1.1 | 0.9 | 0.9 | 0.9 | 2.1 | 2.1 | 2.1 | 2.0 |
| Unspecific | - | - | - | 1.0 | 1.5 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 |
| % in total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| No. in total | 2,709 | 2,567 | 2,994 | 2,522 | 2,380 | 2,244 | 2,415 | 2,539 | 2,508 | 2,375 |

9 The findings are summarized by Kyvsgård in https://www.djoef-forlag.dk/services/juristen/juristendocs/2003/2003_5/jur_2003_5_1.pdf

sanctions for economic offenses than for physical offenses. Thus, the average length of incarceration is greater for physical offenses, reflecting a large number of small economic offenses. The table below shows that a large part of the prison population in Denmark are physical offenders.

Moreover, it is worth mentioning that in recent years (since 2002), the sanction for crimes involving serious violence has gone up, including gang-related crime.

However, what these statistics fail to address is whether *relative to the harm inflicted*, the sanction remains too harsh for economic crime in relation to physical crime. Consider e.g. that embezzlement was, in the period covered by the report, on average sanctioned more harshly than sexual violation; the average sanction for sexual violation was nine months while it was 1.1 years for embezzlement. Maximum sentences were respectively 2 years and 5 years imprisonment. Since then the sanction for sexual violation has increased; in 2003 it was 20.1 months, but one can still wonder whether the difference between a sanction of 1.1 year and 1.7 years appropriately reflects the difference in harm. Similarly, one can compare the average sanction for fraud, of 9.7 months, with that for aggravated violence (§ 245 in the Danish Penal code) defined as a bodily attack of an especially raw, brutal or dangerous character, which (in 1996-2000) was sanctioned at an average of 3.4 months. As noted, the sanction for the latter has gone up since then, but the issue remains, as can be seen from the following more recent statistics.

**Average Length in Months of Unconditional Imprisonment**[10]

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Violent Offences in total | 4.8 | 5.1 | 6.3 | 6.9 | 5.8 | 5.8 |
| Embezzlement | 5.2 | 12 | 5 | 9.7 | 5 | 7.7 |
| Fraud | 7.9 | 6.3 | 8.3 | 7.7 | 6.4 | 5.7 |
| Cheque fraud | 2 | 4.3 | 7.2 | 2.8 | 3 | 4.8 |
| Criminal breach of trust | 10.5 | 5 | 10.7 | 2.6 | 2 | 13.2 |
| Blackmail and Usury | 10.3 | 10.3 | 11.1 | 13.4 | 8.6 | 7.4 |
| Robbery | | 14.3 | 16.8 | 18.1 | 16.2 | 16.5 |
| Severe Tax Fraud etc. | 7.5 | 21.1 | 15.9 | 14.7 | 14.2 | 12.7 |

10 The table is taken from the Danish Statistic Bank: http://www.dst.dk/da/

More specifically, we can compare unconditional prison sanctions for sexual violation in the period 2007-2012 with that for fraud:

| Sexual violation, unconditional | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Up till 14 days | 0 | 0 | 1 | 0 | 0 | 0 |
| 15 - 21 days | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 - 30 days | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 - 60 days | 0 | 0 | 0 | 1 | 0 | 0 |
| 2 - 3 months | 0 | 0 | 1 | 0 | 0 | 1 |
| 3 - 4 months | 0 | 1 | 0 | 1 | 1 | 0 |
| 4 - 6 months | 1 | 0 | 3 | 2 | 1 | 1 |
| 6 - 9 months | 3 | 4 | 0 | 1 | 4 | 1 |
| 9 - 12 months | 5 | 4 | 4 | 7 | 1 | 6 |
| 12 - 15 months | 6 | 3 | 3 | 5 | 5 | 6 |
| 15 - 18 months | 8 | 3 | 7 | 7 | 5 | 9 |
| 18 - 24 months | 14 | 11 | 9 | 11 | 10 | 13 |
| 2- 3 years | 6 | 14 | 12 | 11 | 10 | 4 |
| 3 - 4 years | 2 | 1 | 1 | 0 | 2 | 2 |
| 4 - 5 years | 1 | 0 | 1 | 0 | 0 | 1 |
| 5 - 6 years | 0 | 2 | 0 | 0 | 0 | 3 |
| 6 - 8 years | 0 | 0 | 1 | 0 | 1 | 1 |

| Fraud, unconditional | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Up till 14 days | 1 | 0 | 1 | 3 | 5 | 4 |
| 15 - 21 days | 1 | 0 | 1 | 1 | 2 | 2 |
| 22 - 30 days | 11 | 13 | 6 | 4 | 10 | 13 |
| 31 - 60 days | 10 | 7 | 10 | 12 | 24 | 23 |
| 2 - 3 months | 3 | 9 | 8 | 11 | 16 | 17 |
| 3 - 4 months | 9 | 12 | 0 | 10 | 11 | 11 |
| 4 - 6 months | 7 | 8 | 16 | 15 | 18 | 16 |
| 6 - 9 months | 8 | 4 | 4 | 3 | 9 | 11 |
| 9 - 12 months | 12 | 6 | 5 | 9 | 13 | 10 |
| 12 - 15 months | 0 | 4 | 4 | 2 | 3 | 2 |
| 15 - 18 months | 8 | 6 | 5 | 4 | 9 | 4 |
| 18 - 24 months | 4 | 2 | 4 | 2 | 6 | 3 |
| 2- 3 years | 6 | 0 | 2 | 2 | 3 | 2 |
| 3 - 4 years | 0 | 1 | 0 | 7 | 1 | 2 |

Note that while fraud can be sanctioned as harshly as sexual violation, this is not typical. Typically, low suspended sanctions are applied, but in severe cases the sanction can be high, and offenders can be sanctioned as harshly

for fraud as for sexual violation.

### 1.2 A comparison of two cases

In the case U.2008.356H, a man was sanctioned to ten months in prison for one instance of defrauding and another instance of attempting to defraud his insurance company by reporting his car stolen, in the amounts of approx. 50,000 $. We shall compare this case to that of U.2004.1984V, in which a man sexually violated his former girlfriend and was sanctioned to one year in prison, not much more than the defrauder. The latter case was randomly chosen for comparison (before knowing its particulars); the idea is to show that similar sanctions may be warranted when other factors than harm are taken into account.

One other factor is that the defrauder clearly acted with intent, whereas in the case of the sexual violater, there can be doubt in this regard. The victim apparently resisted at first but at one point during the intercourse, she was on top. The point is that the rather low sanction may have reflected doubt about his intent.

Moreover, insurance fraud is a crime that several people may be tempted to commit: the number described above by $z$, the fraction of deterrable potential offenders, may well be high for this offense. Information about whether insurance fraud pays off or not in terms of benefit and potential sanction is likely to circulate in criminal circles, and the crime is in flexible supply as you can e.g. buy a car with the purpose of committing fraud on theft-insurance. By contrast, the sexual violation of a former girl-friend is a crime in limited supply, so to speak, as the information concerning the sanction will not be disseminated in criminal circles, and few potential offenders seem likely to do the risk-return analysis. Also, it is a crime considerably more governed by impulse, suggesting that $z$, the fraction of deterable potential offenders is not as high as for the case of fraud. According to the analysis above, when $z$ is low, incarceration is likely to be an ineffective but costly instrument, whereas when $z$ is high incarceration may be worthwhile when the effectiveness of investigation is low. This represents a further difference: Investigation may well be ineffective for insurance crime; some are likely to get away with it whereas in the sexual violation case,

detection is not an issue (though proof of sexual violation is).

Finally, it should be mentioned that the extent of the violence and harm actually was low by comparison to other instances of sexual violation.

In this sense, one-dimensional comparisons of levels of sanctions between different categories of crimes can be misleading.

I now turn to an investigation of the level of sanctions for the two regulatory crimes.

# IV. On the increased use of criminal sanctions in Denmark for regulatory crimes

## 1. Sanctions before the recent increases in 2012 and 2013

In the case of antitrust, the following tables show the level of sanctions applied before the recent increase.[11]

The table below concerns court imposed sanctions and it can be derived that:

- The biggest court imposed fine since the change of law in 2002 was 5 million kr (1 $ = 5.4 kr). The penalty was 0.06 % of the firm's turnover in the relevant market and it was given because of abuse of a dominant position. The violation was categorized as a grave violation of the Competition Act (Konkurrenceloven) § 11.
- Among cases where the turnover has been public, the highest fine since 2002 has been one of 1.11 percent of turnover. The case concerned bid coordination.
- The highest personal fine imposed by the court since the change of law in 2002 has been one of 25,000 kr.
- Since the change of law in 2002, no case had been considered very grave.

11 The following information stems for the committe report which in 2012 gave recommendations concerning increased sanctions, see Rapport fra udvalget om Konkurrencelovgivningen ,: http://www.evm.dk/~/media/oem/pdf/2012/pressemeddelelser-2012/10-04-12-konkurrencelovsudvalget/rapport-fra-konkurrencelovsudvalget-marts-2012.ashx

| Firm (year) | Violation | Gravity | Penalty to the firm (kr.) | % of the turnover | Personal penalty (kr.) |
|---|---|---|---|---|---|
| **Arla (2006)** | Abuse of a dominant position | Grave | 5,000,000 | 0.06 | |
| **Danske Kroer og Hoteller (2007), Danish Inns and Hotels** | Limitation of advertising | Grave | 400,000 | 0.04 | 10,000 (Manager) 10,000 (chairman of the board of directors) |
| **Telemobilia (2007)** | Price agreement | | 125,000 | | 10,000 (Manager) |
| **Dansk Juletræsdyrker-forening (2010)** | Price guidance | Grave | 500,000 | 0.4 | 25,000 (Manager) |
| **Danske Busvognmænd (2010)** | Price guidance | Grave | 500,000 | 0.08 | 1, 25,000 (Manager) 25,000 (vice-director) |
| **Troldekugler (2010)** | Resale price main-tenance | Grave | 600,000 | 0.255 | 25,000 (Manager) |
| **Miljølaboratorier (2011)** | Bid coordina-tion | Grave | 500,000 | 1. hhv. 1.11 | 25,000 (Manager Miljølaboratoriet I/S) 25,000 (Manager Milana A/S) |
| **Dansk Kartoffelproducent-forening (2011)** | Price guidance | Grave | 500,000 | | 25,000 (former president) |
| **Dansk Transport og Logistik (2011)** | Cost guidance | Grave | 400,000 | | |
| **Erik Jørgensen (2012)** | Resale price main-tenance | Grave | 400,000 | 0.645 | 20,000 (Manager) 20,000 (Sales and marketing chief) |

The table below concerns sanctions by the antitrust agency (Konkurrenceådet), and it can be derived that:

- The highest fine on a single firm since the change of law in 2002 has been one of 2 million Danish kroner (1 $ = 5.4 kr).
- The highest personal fine since the change of law in 2002 has been 100,000 Danish kroner.

**Figure 8.2: Fines accepted (without going to court) following the law of 2002**

| Firm (year) | Violation | Penalty to the firm | % of the turnover | Personal penalty (kr.) |
|---|---|---|---|---|
| **Hempel A/S (2007)** | Resale price maintenance | 2,000,000 | 0.4 | |
| **Jockerprice Aps. (2007)** | Price agreement | 125,000 | | 25,000 (Manager Jokerprice Aps.) 25,000 (Manager Aircom Erhverv A/S) |
| **Nautisk Udstyr Aps. (2008)** | Price agreement | 400,000 | | 25,000 (Manager) 25,000 (chairman of the board of directors) |
| **7 lokalbanker (2008)** | Market sharing | 4,000,000 | 0.32 | |
| **Valsemøllen A/s (2008)** | Resale price maintenance | 1,000,000 | 0.24 | 100,000 (Manager) |
| **(International Transport Danmark (2010)** | Price guidance | 300,000 | | |
| **Louis Poulsen Lighting A/S (2010)** | Resale price maintenance | 1,300,000 | 0.28 | |
| **Danske bedemænd (2011)** | Limitation of advertising | 400,000 | | |
| **Ticket to Heaven og Bambino (2010)** | Price agreement | 500,000 | | 25,000 (Store owner) |
| **Danish Agro (2012)** | Submission of incorrect information | 50,000 | | |

While it is hard to detect any logic to the size of the fines (it is e.g. well-known that resale price maintenance may be efficiency-enhancing and it is hence surprising to see that relatively many cases concern it, and that fines are set high for it), it cannot be said that sanctions were harsh in relation to the turnover of the firms.

For insider trading (or the related offense of financial market manipulation), I do not have similar numbers but can refer to the main court cases before the recent increase in the level of sanctions:

*In the (UfR 1995.905 HD (Silcon-case), the financial director of a company*

*was held to have violated the ban on insider trading by having sold shares at a time when the firm's losses were unknown to the market. The sanction was three months in prison but due to special circumstances it was conditional (on no future offenses). He was also sanctioned an additional fine of 50,000 kr.*

*In UfR 1997.1504 HD, a person not employed by the firm in question bought sell-rights (put-options), knowing that the shares were about to fall in price due to unexpected losses. The sanction was three months in prison and confiscation of the gain of approximately 70,000 $.*

*In UfR 1999.513 Ø, a member of the board of a company bought shares in a company that his own company had, unknown to market, decided to bid for. Due to the large gain of 110,000 $, he was sanctioned to five months in prison and had his gain confiscated.*

A recent case of financial market manipulation is also indicative of the level of sanctions (U.2009.87Ø).

*A person employed by a bank put in bids for shares to increase the price, then sold shares he already owned while canceling his purchase bid. He was sanctioned to 50 days in prison (and according to his own statement in court lost his job and future prospects for finding a job in the financial sector). In setting the sanction, the court referred to a similar case (U.2001.578 H) in which the defendant traded with himself to change market prices and to profit from the deviation of price from the market equilibrium. The Supreme Court there noted that such behavior undermines the confidence in the market and that it was necessary to incarcerate (without suspension) to 'get to such crime', also regardless of whether anyone had suffered a loss in consequence of the forbidden act. However, due to a procedural mistake by the prosecution, the prison sentence was suspended.*

## 2. The recent increase in sanctions

In 2012 and 2013, sanctions were increased and procedural rules were changed for both antitrust violations and insider trading. The motive was

clearly expressed in terms of distributive and retributive justice by the Minister of Justice, in a newspaper quote (2012):

*'For us socialdemocrats, economic crime is of particular concern, and I insist that it must be made easier to sanction people who play hazard with hard-working Danish people's money. It is simply not acceptable that criminals at the top of society can cheat and get away with it.'*

In terms of the increase in the level of sanctions for insider trading, the maximum sanction was increased in 2013 from four to six years imprisonment as is evident from this table which also provides the relevant laws and regulations:

**Insider Trading (Vhl[12] § 35) and Financial Market Manipulation (Vhl § 39, subsection 1, cf. § 38, subsection 1-2)**

| Since 1995 | | Since 2013 | |
|---|---|---|---|
| **Imprisonment (1 year and 6 months)** | **Expanded Maximum Penalty (particularly severe cases)** | **Imprisonment (1 year and 6 months)** | **Expanded Maximum Penalty (particularly severe cases)** |
| Cf. Vhl § 94, subsection 1, paragraph 1. | Imprisonment up to **4 years**, cf. Vhl § 94, subsection 1, paragraph 2. | Cf. Vhl § 94, subsection 1, paragraph 1. | Imprisonment up **to 6 years**, cf. Vhl § 94, subsection 1's in the explanatory memorandum and the Danish Penal Code § 299 b. |

For antitrust violations, sanctions were increased in two ways in 2012. less serious crimes can now be sanctioned with fines up to 4 mio kroner (1 $ = 5.4 kr) whereas the limit used to be 40,000 kr., and for cartels, imprisonment was introduced as a sanction, with a maximum of 1 year and 6 months for ordinary violations (cf. LBKG 2013-06-18 nr. 700 § 23, subsection 1) and a maximum of 6 years in particularly severe cases. The increase in sanctions is depicted in the following table:

12 Værdipapirhandelsloven (The Danish Securities Trading Act)

## Sanctions for Breaches of Competition Law

| 1 $ = 5.4 kr | Since 2002 | Since 2007 | Increase of maximum sanctions in 2012 |
|---|---|---|---|
| **For firms** | • Fine<br>Less serious breaches: 10,000-40,000 kr.<br>Serious breaches: 40,000-15 mio kr.<br>Very serious breaches: above 15 mio kr.<br><br>The following is taken into account when assessing the fine:<br>• The duration of the breach<br>• The corporation's turnover<br>• Aggravating or mitigating circumstances | Lenience for the first who comes forward:<br>- withdrawal of charge<br>- reduction of fine | • Fine<br>Less serious breaches: **up to 4 mio kr**<br>Serious breaches: **4-20 mio kr**<br>Very serious breaches: **above 15 mio kr**<br><br>Following is taken into account when assessing the fine:<br>• The duration of the breach<br>• The corporation's turnover:<br>***Uniform breaches shall have the same effect on large and small companies.***<br>• Aggravating or mitigating circumstances<br>• **Max 10% of turnover**<br>NEW for Cartel<br>Imprisonment up to 1 year and 6 moths cf. LBKG 2013-06-18 nr. 700 § 23, subsection 1.<br>In particularly severe cases imprisonment up to 6 years cf. the Danish Penal code § 299c<br><br>Jail leniency for the first to come forward |
| **Natural Person** | In case law, fines are above 25,000 kr, based on a concrete evaluation | Leniency for the first who comes forward: withdrawal of charge reduction of fine | • Fine<br>Less serious breaches: min. 50,000 kr.<br>Serious breaches: min. 100,000 kr.<br>Very serious breaches: min. 200,000 kr.<br>The following is taken into account when assessing the fine:<br>• The duration of the breach<br>• Based on a concrete evaluation<br>NEW for cartel:<br>Imprisonment up to 1 year and 6 months cf. LBKG 2013-06-18 nr. 700 § 23, subsection 1.<br>In particularly severe cases imprisonment up to 6 years cf. the Danish Penal code § 299c<br><br>Prison leniency for the first who comes forward |

# V. Comments on the sanctioning of regulatory crimes

The picture that emerges from court practice is that sanctions are moderate in Denmark, also for economic and regulatory crime. For example, if one subscribes to the view that insider trading and financial market manipulation are harmful to the workings of the financial market (and that gains made in this way are illicit), a sanction of between two and five months in prison does not appear excessive.[13] This level may be necessary to deter the crimes that are likely to tempt many. Whether it is sufficient is in fact not clear; it will e.g. be interesting to see whether insiders will (continue to) earn an above-market return on their shares, as insiders are known to have done in the US.[14]

Also, in the case of antitrust violations, fines have historically been quite low and we have not seen prison sanctions yet in this area of crime.

Moreover, enforcement appears low. For example, the competition authority handed over only nine cases to the police in 2012, which was up from five in 2009, 2010 and 2011, and from only a couple of cases each year in the beginning of the 2000's.[15] The theoretical framework might suggest that greater focus should be on enforcement rather than on higher sanctions, given the role of stigma.

The main cause for concern arises in cases where it is uncertain what exactly is illegal or where it is unclear whether the defendant acted with intent (or for personal gain). In some cases, the prosecutor has demanded very large fines for violations that may not have been intentional. For example, in a recent case, two bank directors agreed to trade each other's

13 It remains to be seen whether the courts will apply the new higher prison sentences in practice.
14 See e.g. http://www.hks.harvard.edu/fs/rzeckhau/InsiderTrading.pdf
15 Ritzaus Bureau 27.02.2013.

shares at agreed-upon prices. They were not highly educated and may not have known this to be illegal; it is unclear whether they influenced the share price through their agreement, and they did not profit personally. The directors were sentenced to five months in prison and three sub-ordinates to three months in prison for carrying out their orders. On top, while one firm succumbed to the financial crisis, the firm that survived the financial crisis was fined about 900,000 $. Naturally, these sanctions sent a clear signal to banks, and are likely to have a strong deterrent effect. Still, one may doubt whether a less strict sanction would have been sufficient given that the defendants were stigmatized in their local community, lost their jobs, and probably could not find jobs in the banking sector again. A large personal fine, and a large fine to the firm(s) would perhaps have been sufficient, given that the parties may not have considered what they did to be harmful to current or prospective shareholders and did not gain personally (except that a higher share price may have made them look better as directors). From a deterrence viewpoint, it would seem unnecessary to apply very high sanctions when there was no or only limited personal gain.

On a separate note, a particular case of 'harsh sanctioning' and injustice arises when, as not infrequently happens, an innocent person is charged with a serious offense, and when that person therefore becomes the object of media attention. The media are then often quick to point to the maximum sentence, and if it is high, so will be the stigma. People who understand the matter may then keep silent because they fear being considered morally suspect by the public if they defend the person. After a long time of investigation, in which the person lives a kafkaesque-experience, the prosecution may discover that the person has done nothing wrong, and certainly nothing illegal. Then the prosecution may seek out a wrongful act that can justify the investigation. A vague standard may then be found to have been breached, and the case will then be closed. Except that the person will continue to be considered with suspicion by people who have witnessed his or her case through the media.

It is a matter of real concern how this kind of injustice can be avoided. One possibility is to educate the 'prosecutors' better both in the regulatory authorities (e.g. the competition authorities and the financial agency

(Finanstilsynet)) and in the police.

Another possibility is to grant the wrongfully charged person considerable tort compensation, which might deter the prosecutor from raising weak cases that he or she might otherwise be incentivized to raise.

## VI. Conclusion

Whether in the case of Denmark sanctions and enforcement are set optimally with regard to deterrence, the avoidance of injustice, and with regard to the relative costs of enforcement and sanctions, is of course a question that cannot be answered without careful empirical analysis and in fact without careful analysis of the particulars of any given crime. My own tentative conclusions from the analysis are the following:

1. It cannot be said that there is overdeterrence or overcriminalization of economic crime in Denmark. It could equally well be said that there is undercriminalization for certain kinds of crime for which the expected sanction may not be sufficient to deter offenders whose risk of detection is low. The recent increase in sanctions for insider trading and antitrust violations may well have been warranted.
2. It is not obvious that sanctions for economic offenses are too harsh compared with physical offenses. In general, physical offenses are sanctioned more harshly, no doubt due to their greater harm. A comparison must take into account that certain economic crimes are more deterrable than many physical offenses. It is important to deter such economic crimes which tempt many and which tend to be the result of calculation of returns and risk. Also, the current practice does seem to reflect that courts attach importance to the uncertainty of the offender's guilt. When cases can be found in which a physical offense is sanctioned no more harshly than an economic offense, it is necessary to consider the particulars of the case, e.g. the certainty of guilt or the impulsiveness of the act, to assess whether the sanctions are correct.
3. Whether the correct balance between enforcement and sanction has been achieved is not clear. It may be that more focus should be on

enforcement rather than longer sentences, especially since economic crimes are to a considerable extent deterred through the prospect of stigmatization. Moreover, the importance of the quality of law enforcement must be stressed. Understanding of the subject matter is required for anyone prosecuting economic crime. Better education can make sure that efforts are used more efficiently, to actually target the real offenders, and to avoid the injustice of unfair sanctions and unfair charges that can drag a person through the media at considerable personal cost. Also, compensation for wrongful charges seems worth considering, in order to decrease the prosecution's incentive to raise cases.

# Appendix

The first order conditions for the Lagrangian are:

The Lagrange function is: $L=e+(1-z)c(s_i)-\lambda(b-p(e)(w+s_i))$

The derivative with respect to $e$ yields: $1+\lambda(w+s_i)\ p'(e)=0$
The derivative with respect to $s_i$ yields: $(1-z)c'(s_i)+\lambda p(e)=0$
The derivative with respect to $\lambda$ yields $b=p(e)(w+s_i)$
From the latter, we obtain that $p(e)=b/(w+s_i)$
which inserted in the second equation yields
$(1-z)c'(s_i)=-\lambda b/(w+s_i)$, where
$\lambda=-1/(w+s_i)\ p'(e)$

This yields, $(1-z)c'(s_i)=\dfrac{1b}{(w+s_i)\ p'(e)}/(w+s_i)=\dfrac{b}{(w+s_i)^2\ p'(e)}$

## Bibliography

Craswell, Richard and John E. Calfee. 1986. Deterrence and Uncertain Legal Standards, *Journal of Law, Economics, and Organization* 2: 279-303.

Gary S. Becker. 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy*, Vol.76, No.2(Mar.-Apr.): 169-217.

Kaplow, Louis and Steven Shavell. 1994. Optimal Law Enforcement with Self-Reporting of Behavior, *Journal of Political Economy* 102: 583-606.

Kim, Iljoong. 2013. Overcriminalization in Korea: An Overview with Case Studies, *Working paper*, SungKyunKwan University.

Lando, Henrik. 2002. When Is the Preponderance of the Evidence Standard Optimal? *Geneva Papers on Risk and Insurance: Issues and Practice* 27: 602-608.

---2004. The advantage of focusing law enforcement effort, *International review of law and economics* 24: 209.

--2005. The size of the sanction should depend on the weight of the evidence, *Review of law and economics*, Volume 1, Issue 2 (Sep 2005).

---2006. Does Wrongful Conviction Lower Deterrence? *The journal of legal studies* 35: 327.

---2009. Prevention of Crime and the Optimal Standard of Proof in Criminal Law. *Review of law economics* 5: 33.

Polinsky, A. M. and Steven Shavell. 1992. Enforcement Costs and the Optimal Magnitude and Probability of Fines, *Journal of Law and Economics* 35: 133-148.

---2000. The Economic Theory of Public Enforcement of Law, *Journal of Economic Literature* 38: 45-76.

---2001. Corruption and Optimal Law Enforcement, *Journal of Public Economics* 81: 1-24.

Shavell, Steven. 1987. The Optimal Use of Nonmonetary Sanctions as a Deterrent, *The American Economic Review* 77: 584-592.

Shavell, Steven. 1987a: The Economic Analysis of Accident Law, Cambridge University Press.