Economic analysis of the removal of illegal gains

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Abstract

The purpose of the present paper is to explore both the motivation for confiscating illegal gain and also to look at some of its legal aspects and economic effects. It is argued that the removal of illegal gain may be able to play a significant complementary role, if only by closing the gap between the maximum punishment the law will allow and fines sufficient to represent a credible deterrent. The paper develops a deterrence model and applies it to confiscation powers introduced to help combat drug trafficking. © 2000 Elsevier Science Inc. All rights reserved.

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1. Introduction

The removal of illegal gain is a sanction which has been widely adopted in many countries. Powers available to courts range from the confiscation of the proceeds from drug trafficking to the imposition on polluting firms of a requirement that they clean up polluted soil. The idea of the sanction in each case is that the offender should not be left with the profits he has made by committing a crime or a series of crimes. The purpose of the present
paper is to explore both the motivation for confiscating illegal gain and also to look at some of its legal aspects and economic effects. We consider how it fits into the deterrence model of crime (Becker, 1968; Garoupa, 1997) and we also look at the way the sanction has developed in legal terms and how effective it has been.

In the economic analysis of crime a key finding is that under normal assumptions an optimal enforcement policy will entail the use of monetary sanctions, usually in the form of maximal fines. There are, however, some significant circumstances (such as when the wrongdoer is judgment proof) in which fines may not lead to optimal deterrence. In this case authors such as Shavell (1985) have advocated the use of nonmonetary sanctions, most commonly imprisonment. But imposing a prison sanction is costly. As a result many modern statutes regulating trade, markets, environmental pollution, crime and so on provide for alternative types of sanctions which may be imposed at lower cost. Sometimes these measures take a direct, nonmonetary form such as the shut down of a company. Some legislatures also give the judge the possibility to order that the judgment should be published through mass media. But another direction taken by legislators searching for alternatives to conventional criminal sanctions has been the development of powers to confiscate or seize assets or, more generally, the removal of illegal gain.

A flavor of the argument in favor of confiscation of illegal gain can be found in the following assertion by the Drug Enforcement Agency of the US Department of Justice:

‘Most Americans agree that criminals should not be allowed to benefit financially from their illegal acts. Federal Law provides that the profits and proceeds of designated crimes, as well as property used to facilitate certain crimes, are subject to forfeiture to the government. Asset forfeiture is one of law enforcement’s most effective weapons against drug trafficking because it takes the profit out of crime.’

To the economist this argument does not, on the face of it, look very compelling. Unless detection is virtually certain the prospect of confiscation of the proceeds from an offense may reduce, but will certainly not eliminate, its \textit{ex ante} profitability. Our principal objective in this paper is to argue that there are certain circumstances, such as where there are limitations on the size or application of fines or where fines are costly to enforce, in which the removal of illegal gain may become an especially attractive and significant sanction. Using the narrower legal definition of fines, it is very common to find limits on the multiple by which a fine can exceed the social cost of an offense or the benefit derived by the criminal. Constitutional protections for citizens against oppressive punishments, or against punishments viewed as disproportionate to the crime, may be such that the probability of detection (and thus the cost of enforcement) has to be increased if deterrence is to be maintained. The removal of illegal gain may therefore be able to play a significant complementary role, if only by closing the gap between the maximum punishment the law will allow and fines sufficient to represent a credible deterrent.

The paper is structured as follows. Section 2 develops a model demonstrating the role removal of illegal gain might play and how it can be fitted into the optimal deterrence approach. The first part of section 3 of the paper sketches briefly the use of the sanction of removal of illegal gain in legal practice and reviews its increasing popularity with legislators
and courts. The second part of section 3 seeks to apply the findings of the model set out in section 2 to the legal developments outlined in the first part of section 3. Section 4 concludes.

2. Economic analysis of forfeiture

Consider the usual law enforcement model\(^1\) where risk neutral individuals choose whether to commit an act that benefits the actor by \(b\) and harms society by \(h\). Let us assume that the illegal gain is distributed across the population according to a distribution \(g(b)\) with support in \([0, \infty)\). Each offender has a probability \(p\) of being detected and punished. The punishment takes the form of a monetary sanction \(f\) that depends on the individual’s wealth \(w\) and the illegal gain \(b\). Individuals commit an offense if and only if \(b \geq pbf\).

Becker’s main result in his 1968 paper is that when the sanction is costless to impose, it should be taken to its maximum. Consequently, the fine should be given by \(w + b\). Removal of illegal gain is part of the efficient policy, since it enables the probability of detection to be set at a lower level than would be necessary otherwise to achieve any given degree of deterrence.

In particular, assume that the government seeks to remove a proportion \(\tau\) of the illegal gain such that the sanction is \(w + \tau b\). Individuals commit an offense if and only if \(b \geq p\tau w/(1 - p\tau)\). It is clear that removal of illegal gain by itself is not optimal. Part of the sanction must affect the legal income and not only the income generated within the criminal activity. To deter crime, there must be an opportunity cost for potential offenders. If the expected loss is limited to the illegal gain, crime is an attractive lottery because, in the worst possible state, individuals get what they had before committing an offense. Therefore, the removal of illegal gain does not eliminate the use of Beckerian fines.

The removal of illegal gain increases the effectiveness of detection and punishment. For a given expenditure \(c(p)\), where \(c' > 0\) and \(c'' > 0\), the ‘multiplier’ is no longer the probability of detection and punishment \(p\) but \(p/(1 - p\tau)\). The effectiveness of detection and punishment increases with \(\tau\). In other words, if the government targets a given probability, say \(\hat{p}\), it must expend \(c(\hat{p}/(1 + \tau\hat{p}))\). Thus, the expenditure on detection and punishment decreases with \(\tau\). Removal of illegal gains permits the government to save on detection and punishment expenditure.

On efficiency grounds, we should enforce \(\tau = 1\) because it has been modeled as a costless transfer. There is no ‘corrective justice’ objective or ‘fairness’ consideration in this argument. Removal of the illegal gain serves the purpose of optimal deterrence for two reasons: (a) it is a costless transfer from offenders to the government (the Beckerian proposition), and (b) it increases the effectiveness of detection-reducing expenditure on law enforcement.

Essentially we have argued that removal of illegal gains should be part of optimal law enforcement in a deterrence perspective. But we can go further and state that incomplete removal of illegal gains within Becker’s framework is suboptimal. The crucial assumption behind the result is that removing illegal gains is a costless activity for the government. We should critically debate this assumption.

Applying the Polinsky and Shavell (1984) rationale, if removing illegal gains is costly while imposing a sanction based on wealth (that is, \(w\)) is costless, the efficient solution is to
confiscate the entire wealth, \( w \), and use the removing of illegal gains to complement the deterrence effect of sanctioning. More precisely, define \( x(\tau) \) as the cost of removing a fraction \( \tau \) of illegal gains, where \( x(0) = 0 \), \( x' > 0 \), and \( x'' > 0 \). Let us write the social welfare as the sum of illegal gains minus social damage minus enforcement costs:

\[
W = \int_{b^*}^{\infty} (b - h - px')dG(b) - c(p)
\]

where \( b^* = pw/(1 - p\tau) \).

The optimal (interior solution for) removing of illegal gains satisfies:

\[
W_{\tau} = (h + px(.) - b^*) \cdot g(b^*)b^*_v - \int_{b^*}^{\infty} px'(.)dG(b) = 0
\]

where the first term measures the social marginal gain from removing illegal gains, and the second term is the marginal cost. Let us assume that the second-order condition is globally satisfied.\(^3\)

The optimal removing of illegal gains is less than one as long as:

\[
[h + px(1) - pw/(1 - p)]g(.)p^2w/(1 - p)^2 < \int_{pw/(1 - p)}^{\infty} px'(1)dG(b)
\]

where the first term is the marginal social gain from removing all illegal gains evaluated at \( \tau = 1 \), and the second term is its social cost. The optimal removing of illegal gains is more than zero as long as:

\[
(h - pw)g(.)p^2w > \int_{pw}^{\infty} px'(0)dG(b)
\]

where the firm term is the marginal social gain from removing illegal gains evaluated at \( \tau = 0 \), and the second term is its social cost. Therefore, we can say that if \( x'(0) < \bar{x} \) and \( x'(1) > \underline{x} \), the optimal policy is \( 0 < \tau^* < 1 \), where:

\[
\bar{x} = \frac{(h - pw)g(.)pw}{1 - G(pw)} \quad \underline{x} = \frac{[h + px(1) - pw/(1 - p)]g(.)pw/(1 - p)^2}{1 - G(pw/(1 - p))}
\]

Consequently, the use of removing of illegal gains as part of a monetary sanction is less attractive than just removing the entire legal wealth if the first is more costly than the latter.

We debate this observation:

1. **Administrative Cost.** Administrative costs justify less than maximal fines, although there may be no a priori grounds for supposing that there are significant differences between the administrative costs in applying wealth-based sanctions as compared with forfeiture.

2. **Costly Verification.** The fact that it could be more costly to observe illegal gains than legal income makes the argument for applying a Beckerian fine rather than removing illegal
gains. While tax declarations could easily inform authorities of legal income, assessing illegal gains will be more complicated.

On the other hand, establishing a distinction between legal wealth and illegal gain to the satisfaction of a court can be costly. Consider a drug dealer who also gets some unemployment benefit. It is presumably easy for the government to distinguish the unemployment benefit from the gains generated in selling drugs. However, suppose our drug dealer has a small business, say a small grocery shop. For the government, it will be difficult to distinguish the gains within the small business from those generated by selling drugs.

Furthermore, offenders can (and do) engage in avoidance activities to make it more difficult for the government to identify and verify illegal gains. It is easier to hide gains generated from an illegal deal than in a legal business, because from the authority’s viewpoint, the first transaction never took place whereas the second type of activity is subject to various record keeping or income declaration requirements at some point. As Malik (1990) proposes, avoidance activities increase the social cost of crime and consequently the optimal sanction could be less than maximal. Less than complete removing of illegal gains could be justified on the grounds that it reduces avoidance cost and consequently verification costs.

3. Identification of Social Damage. A fundamental assumption of the law enforcement model is that the social damage \( h \) is observable and costlessly verifiable. Plausibly, at least in some circumstances, it will be (very) costly to identify the scale of a crime (or the damage it has caused) even with the benefit of hindsight. This possibility may well motivate the use of illegal gain as a basis for sanctions or measures, especially if the gain is easier or cheaper to measure than the harm. Identification of asset ownership, particularly specialized assets such as some of those used in drug crimes, can be used by agencies as a starting point in identifying offenders or suspects.

4. Enforcement Errors. The use of illegal gain as a basis of sanction could also reduce errors in law enforcement. Part of the cost devoted to enhancing enforcement accuracy could be interpreted as assessing illegal gains. From Kaplow and Shavell (1994) we know that enforcement and accuracy are regarded as substitutes in achieving deterrence. Therefore, using illegal gains as a form of increasing accuracy will allow the government to save on enforcement costs.

5. Money Laundering. A part of illegal gains is laundered into the legal sector. To detect and apprehend such assets might possibly disrupt some productive legal activities. Therefore removing illegal gains has an opportunity cost that is usually not zero. An extreme case is when a criminal owns shares bought with illegal gains and, as a result of forfeiture, the company must be liquidated. Of course the government could take and then resell the shares. The opportunity cost would be lower than if the company is liquidated but not zero.

Legal wealth is more likely to be reinvested in the legal sector whereas illegal wealth is more likely to be reinvested in the illegal sector. By reinvesting illegal wealth in the legal sector, resources are pulled out of illegal into legal activities. It plausibly reduces criminal activities in the future. By exempting from forfeiture illegal gains that have been reinvested in legal activities, the government might reduce criminal offenses in the future. However, the operation of laundering money reduces the expected sanction, thereby diluting deterrence and increasing criminal activities in the present.

6. Marginal Deterrence. When faced with the possibility of committing one of several
harmful acts, individuals must have clear incentives to choose the least harmful act. Consequently, fines should be lower for less harmful offenses, and should be more severe for more harmful offenses.

Removal of illegal gains should satisfy marginal deterrence. By removing illegal gains associated with each offense, the government can satisfy the principle of marginal deterrence. Without removing illegal gains, the government should only apply a fine equal to the entire wealth for very harmful offenses. Conversely, for less harmful offenses, the fine should be less than entire wealth.

We should expect the government to couple removing illegal gains with a fine imposed on legal income for each offense. With this policy, not only each offense is subjected to a different sanction, but also the marginal fine is positive for each offense. Removal of illegal gains facilitates satisfying marginal deterrence.

7. Punishment of Attempts. An attempt is defined to be a potentially harmful act that does not happen to result in harm. In a criminal attempt, offenders get zero illegal gains. Using removal of illegal gains permits application of the principle of marginal deterrence to punishing attempts as in Polinsky and Rubinfeld (1991). An attempt and the full offense could both be subjected to a maximal monetary sanction. The difference between them would be that the removal of illegal gains is zero for an attempt, while strictly positive for a full offense.

In summary, we have proposed several reasons why some (but not complete) removing of illegal gains is efficient within optimal deterrence. Removing of illegal gains (a) increases the effectiveness of detection, (b) provides a good proxy to the amount of social damage, (c) reduces enforcement errors, and (d) provides the government with an instrument to satisfy marginal deterrence (including punishment of attempts). Nevertheless, there are costs to the removal of illegal gains: (a) observation and verification are costly, (b) offenders could engage in costly avoidance activities, (c) removing illegal gains reinvested in legal activities usually has an opportunity cost, (d) it deters money laundering (i.e., pulling out resources from illegal activities).

So far we have taken a deterrence approach to forfeiture. Another possible approach is to discuss removal of illegal gains in the context of fair law enforcement and corrective justice. Many scholars have stressed that law should also aim at restoring the social imbalance which has been created through an offense. One could argue that it is fair that if it has been established \textit{ex post} that a criminal has obtained illegal gain as a result of an illegal act, this gain should be removed from him. Through this removal the social balance which had been harmed as a result of the crime could be restored in the sense that a \textit{restitutio ad integrum} is achieved. This means that the “crime shouldn’t pay” idea can support a policy of removal of illegal gains.

Using removal of illegal gains out of fairness or corrective justice considerations could conflict with optimal deterrence. From (2), suppose we have $0 < \tau^* < 1$. The government sets $\tau = 1$ because it is fair to do so. In order to achieve optimal deterrence (condition on $\tau = 1$), the government might impose a less severe fine on legal wealth or reduce enforcement expenditure to offset a too severe removal of illegal gain. These effects would depend on how the government weights deterrence objectives versus fairness considerations.
3. Analysis of the law

3.1. Legal practice

The removal of illegal gain is a rather complex sanction in legal practice. The powers of courts to impose such a sanction vary substantially across areas of the law and also across jurisdictions. For example in some countries, such as the US, the proceeds of drug trafficking can be forfeited under civil powers quite independently of any criminal proceedings whereas in other countries, such as the UK, the confiscation of such assets is only possible as a subsidiary part of criminal proceedings. In some European countries a criminal court can confiscate assets without the need of obtaining a criminal conviction. Despite its long history in various forms, powers to remove illegal gain have only recently been extended into areas such as drug trafficking. It is not so long (1970 in the case of the US and 1986 in the case of Britain) since powers of confiscation were unavailable to the courts in either country for this offense.

The terminology surrounding the removal of illegal gain has to be used with care. Confusion can arise easily in this area because when economists talk about ‘fines’ they do not always distinguish between a ‘fine’ as a punishment and a ‘measure’ such as the removal of illegal gain. From a legal point of view these two components of the total sanction imposed on an offender may be quite distinct, and are often pursued through different procedures. In the Becker model, by contrast, a ‘maximal fine’ normally has only a single element. A further important distinction is between the use of asset seizure in the early stages of legal proceedings and the confiscation of illegal gain as a sanction imposed as part of, or as a supplement to, other sorts of punishment such as fines or imprisonment. We are interested here only in the latter. We exclude the use of asset seizure during the preliminary stages of an investigation or legal action on the grounds that it has a quite different motivation, namely hostage-taking designed to pre-empt defendant opportunism.

According to legal doctrine the purpose of the removal of illegal gain is to achieve a so-called *restitutio ad integrum*. Confiscating the net proceeds from crime can ensure that ‘crime does not pay’ (at least for offenders who are detected and convicted), a goal which may not be achievable (in full) through the use of other sanctions such as fines or imprisonment. For offenses such as theft the offender can be required to return stolen goods or to pay compensation to the victim of the crime. But for ‘victimless crimes’ such as living off immoral earnings or drug trafficking the harm caused by crime is experienced by society at large rather than by individual victims, with the result that victim compensation programs, based on payments to readily-identifiable victims, are not really an appropriate remedy. The confiscation of gains thus replaces compensation of victims as the appropriate sanction.

There is a sense therefore in which the removal of illegal gain does not represent a criminal sanction in the way that a fine or a term of imprisonment does. For this reason it is sometimes referred to as a ‘measure’ rather than a ‘criminal sanction’. But there are exceptions to this. In France, for example, confiscation may be a ‘supplement’ to a criminal sanction or in some cases even the primary sanction: Kletzlen and Godefroy (1997).

Drug trafficking is the offense for which confiscation powers have been most frequently introduced. It is often treated by criminologists as an ‘economic offense’ inspired simply by
greed and thus particularly susceptible to economic analysis. Without necessarily agreeing with this argument, we use drug trafficking as the focus for the next few paragraphs. It is an offense for which the probability of detection is conjectured to be fairly low and for which the role of removal of illegal gain acts as a complement to a basic criminal sanction for the offense.

In both the UK and the US these sanctions are given in the form of ‘guideline sentences’ for offenders convicted of trafficking which courts are expected or required to follow fairly closely. Despite various differences, the sentencing guidelines in both countries share the key similarity that the recommended sentences are increasing with the scale of the offense, but increasing at a rate which declines with scale. Both sentencing schedules maintain a degree of marginal deterrence but the size of the fine (or the length of term of imprisonment) is by no means proportional to the volume of trafficking at issue. Whatever the rationale for these sentencing limits it seems clear that the confiscation of illegal gain in such settings can contribute significantly to the deterrence objective subject, of course, to the usual caveats about traffickers finding effective methods of concealing the proceeds.

Table 1 summarizes the current sentencing guidelines for trafficking of cannabis and marijuana, UK and US.

Table 1: Current sentencing guidelines for trafficking of cannabis and marijuana, UK and US

<table>
<thead>
<tr>
<th>Quantity of drug (kg.)</th>
<th>Prison term, UK* (years)</th>
<th>Prison term, US** (years)</th>
<th>Maximum fine, US** ($ US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>max 5</td>
<td>250,000</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>max 20</td>
<td>1 million</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>7–8</td>
<td>2 million</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,000</td>
<td>10–life</td>
<td>4 million</td>
<td></td>
</tr>
</tbody>
</table>

** Federal penalties as at October 1999: see www.usdoj.gov/dea/briefingbook/page10-11.html

In the US a 10-fold increase in the quantity trafficked from 10 to 100 kg increases the fine eightfold, but a further 10-fold increase from 100 to 1,000 kg only doubles the fine even though the benefits to the trafficker increase many times over. Confiscation of the proceeds from trafficking may thus play a particularly important part in the deterrence picture for major traffickers in the US.

The confiscation powers available to courts for use in conjunction with these sentences for trafficking are, at least on the face of it, substantial. Powers of confiscation were introduced into the criminal law in England by the Drug Trafficking Offenses Act 1986. A Confiscation Order is an order to an offender to pay a sum equal to the total value of his or her proceeds of crime, or to the total value of the ‘realizable property’ where this is lower. Note that this latter sanction (although it will not always apply) is basically equivalent to a maximal fine in the Becker sense, a point we pursue below.
This Act was subsequently replaced by the Drug Trafficking Act 1994 which provides (inter alia) that: (a) any money or property received in connection with drug trafficking, not just profits or proceeds of trade, is included in the court’s assessment of trafficking assets; (b) any confiscation is to be ignored when determining the appropriate sentence for the original offense and (c) the traditional burden of proof is reversed and the defendant has to prove that any property in their possession over the 6 years prior to the offense is not the proceeds of drug trafficking. It is supplemented by various other measures including the creation of a new offense of failing to disclose to a police officer a knowledge or suspicion (arising in the course of business) that another person is engaged in drug money laundering.\textsuperscript{8} This was part of the UK’s response to 1991 EC Money Laundering Directive: it does not apply to laundering the proceeds of other types of offense. Dorn et al. (1992) note that this provision is used for identifying possible suspects as well as forming the basis for confiscation orders. In terms of our model it can be interpreted as a means of reducing administrative costs or increasing the probability of detecting offenses (or both).

In the US there has been a quite different legal approach to the proceeds of drug trafficking. Unlike the English approach, which treats confiscation strictly as a complementary sanction available only in the event of a criminal conviction for trafficking, the US system allows the use of quite distinct civil powers entirely independently of any criminal proceedings. In legal terms, forfeiture in the US is an \textit{in rem} proceeding as distinct from an \textit{in personam} proceeding under criminal law: it is directed at the assets rather than at the criminal. These variations in procedural requirements, as well as differences in the substantive content of confiscation, condition the effectiveness of confiscation powers.

The success of the courts in practice in confiscating assets, despite the considerable powers they have, has been rather limited, at least in European countries. Elementary avoidance action, such as registering assets in the name of other persons, buying assets in foreign countries, holding accounts in overseas banks or simple concealment or nondeclaration of assets, is often sufficient to enable an offender to escape the effects of confiscation. Even in cases where courts have been able to identify assets judged to be the product of illegal activity there have been enforcement problems in confiscating them.

The number of confiscation orders made by the English courts, for example, increased from around 1,000 per annum in 1991 to around 1,500 per annum in 1996 and 1997, but this represented a declining proportion of offenders convicted for trafficking. Only about 40\% of the amounts ordered for confiscation result in payments being made to enforcement agencies. The result has been that the English courts have confiscated assets amounting to little more than about £5m (or $8m.) per annum. This is agreed by all to represent no more than a tiny proportion of the net value of the drug trade. Empirical studies in the UK such as Green (1998) report that drug smugglers in prison mostly claim to have accumulated considerable assets from the drugs trade which the courts have not been able to trace or recover. Kilchling (1997) reports that in many European countries such as Austria, Germany and the Netherlands where confiscation powers have been introduced the amounts recovered have increased only modestly and the underlying trade in drugs has continued to grow. The acceptance that courts have been rather naïve and unsophisticated in their efforts at confiscation has prompted various reforms to close down some of the more obvious loopholes offenders have exploited: Levi and Osofsky (1995).
In the US seizure of drug-related assets is a much larger-scale activity. In fiscal year 1986 DEA seized forfeitable assets worth $379 m. By fiscal year 1992 the sum had increased to $875 m, although it subsequently fell somewhat to $689 m in 1993, $650 m in 1994 and by 1995 the figure was $645 m: Tonry (1997). Any form of suspect property is liable to seizure, pending forfeiture proceedings, provided that the seizing authorities can show probable cause that it is subject to forfeiture. Before property can be made permanently forfeit a complaint has to be made through the court at which point the claim can be contested on grounds such as an innocent owner defense or proving that there is no probable cause that property is subject to forfeiture. This is intended to protect innocent parties, including banks and financial institutions, whose property might have been seized.

3.2. Economic analysis of legal developments

In section 2 we developed a deterrence model of illegal gain which can explain why, under certain conditions, the penalty for an offense might be structured around both the gain to the criminal and the pre-offense level of wealth. In the current section we examine whether this is a plausible explanation for the recent enthusiasm of legislators, already outlined in section 3.1, for strengthening the powers of courts to confiscate illegal gains. We argue that there are various developments making confiscation of illegal gain a more attractive legal instrument in areas such as drug trafficking.

It is a legal reality that the imposition of maxima and guidelines on the sentences available against offenders such as drug traffickers, limits the capacity of courts to impose punishments representing a significant deterrent especially in light of the modest probabilities of detection and conviction for trafficking. Further, the development of human rights and due process protections for citizens makes it increasingly difficult to justify the rather draconian nature of economically efficient punishment. However the retreat from tougher criminal sanctions has been accompanied by a more widespread adoption of complementary measures, of which confiscation of illegal gain is one, which more closely resemble civil remedies such as damages. From an economic perspective this substitution of civil (or quasi-civil) penalties for criminal ones might be interpreted as a way of making sanctions more sensitive to the wealth of individual offenders, and thus bringing them closer to the maximal fines of the Becker model. If an offender, with wealth \( w \), is contemplating an offense expected to net illegal gains which are high in proportion to original wealth \( \frac{w}{b} \rightarrow 0 \) then from an \textit{ex ante} perspective a confiscation order plus a moderate fine will have as powerful a deterrent effect as a maximal fine.

The problem in practice with both maximal fines and with the removal of illegal gain appears to be that offenders are good at avoiding these sanctions. Not only has there been a change in the balance between criminal sanctions and other measures but also there has been an up-rating of estimates of the amount of harm done by drug trafficking and other offenses for which confiscation is used. Empirical studies of those arrested for crimes (of all sorts) suggest a high proportion of offenders have recently taken drugs. This is obviously not a sufficient base from which to establish that drug-taking causes crime, since drug-taking and criminal activity could be joint products of some other cause, but it does establish an association between drugs and crime. An implication of this is that these high rates of
drug-related crime imply that drug trafficking is responsible for more social damage than previously believed, with the implication that the sanctions for trafficking offenses should be increased.

From the model developed in section 2 another element which could help explain the increased popularity of confiscation is a change in the relative costs of imposing criminal penalties (especially fines) and of confiscating illegally-accumulated assets. Improved technology and increasingly stringent reporting requirements on financial institutions make it easier to track asset movements and to trawl asset inventories. Although this may be offset to some degree by it becoming easier for traffickers to shift funds between accounts or between assets to frustrate enforcement agencies, it may still be that confiscation comes to look a more attractive sanction than criminal punishment alternatives.

4. Conclusions

The confiscation of illegal gain has become an increasingly popular sanction with legislators, particularly for ‘victimless’ crimes where the damage caused by crime is felt generally by the community rather than individually by specific victims. Using a deterrence model we have demonstrated that there are various characteristics of the sanction which can help explain this increasing popularity. We conjecture that in many quite plausible circumstances by employing a mix of sanctions, with harm-based fines (or other punishment) plus confiscation of illegal gain, courts will be able to get closer to efficient deterrence than they can when constrained to use punishments in isolation.

The success of confiscation of illegal gain in practice seems to be greatest where courts are able to use civil rather than criminal procedures and this has prompted a number of countries to reform their law accordingly. But even these moves do not guarantee greater success because of the increasingly effective avoidance action taken by criminals. Despite an expanding drug trade and increased use of measures to prevent money laundering, many countries find that they are confiscating fewer assets rather than more as time goes by. This suggests that criminals are becoming more effective at concealing wealth and it represents a significant challenge to enforcement authorities. If enforcement agencies are to make effective use of the removal of illegal gain to fill the gap left by conventional criminal sanctions they will have to develop their forensic accounting skills accordingly.

In this paper we have been concerned with the idea of sanctions for crimes based on the illegal gain to offenders. There is a clear parallel between these criminal sanctions and the remedies available to injured parties in various areas of civil law. ‘Disgorgement’ doctrines, which allow plaintiffs to recover the gains made by parties who have infringed private rights, are based on the same kind of idea as confiscation powers in criminal law. Infringement of intellectual property rights is one example and certain sorts of breach of contract another. There is clearly scope to extend some of the arguments developed in this paper to these areas of civil law.
Notes

2. It is conventional even though of some controversy to include the illegal gains in social welfare. See Polinsky and Shavell (2000).
3. As Kaplow (1990) has shown, the second-order condition for this type of problem is not always satisfied. Hence, it could be the case that the optimal removing of illegal gains is zero.
4. Tax evasion is a criminal activity in itself, and a similar rationale could be applied. It is less costly to apply a fine based on a crude estimation of evaded taxes given the tax declaration, rather than estimating the full extent of hidden income.
6. The notion of corrective justice and wrongful gain has been discussed in the context of tort law. The distinction between recovery and liability plays an important role in the definition and objectives of corrective justice. In particular, the relationship between a principle of corrective justice, the need to tackle unjust enrichment with wrongful gains (b), and the use of compensation for wrongful losses (h) is of some controversy. See Coleman (1982).
7. In the UK civil powers of confiscation are not available to supplement criminal proceedings, although the Home Office is actively considering this possibility at present: Home Office (1998).

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References


