

Assessment of Social Damage from Crime and Proportionality of Punishment to Damage: Legal Economics Approach

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Abstract

The article considers the principle of proportionality of the severity of punishment to public damage from an offense in terms of law and economics and criminology. It presents an overview of various criminological approaches to assessing social damage from different types of crimes, concluding that it is not possible to measure this damage precisely in each specific case. The methodology proposed by Sellin and Wolfgang (Sellin & Wolfgang 1964), which rates the severity of crimes based on sociological surveys, is highlighted as an effective basis for determining the severity of punishment proportional to public damage, though it has its drawbacks. The conclusion offers proposals for synthesizing all the approaches considered in the article to assess public damage from crime and establish the socially optimal severity of punishment for offenses.

Keywords

crime, severity of punishment, social damage, principle of proportionality, damage assessment

JEL codes: K14, K42

1. Introduction

The principle of proportionality of the severity of punishment to the damage caused to society by a crime is a universal principle applied in almost all legal systems. Specifically, according to Part 2 of Article 43 of the Criminal Code of the Russian Federation, «Punishment is applied in order to restore social justice, as well as to correct the convicted person and prevent the commission of new crimes.» Jurists consider punishment to be fair if it «corresponds to the nature and degree of public danger of the crime, the

circumstances of its commission, and the identity of the perpetrator» (Criminal Code ...: art. 6).

This principle also plays a crucial role in criminologists' approach to the punishment of criminals: "The sentencing-reform efforts undertaken since the 1970s by several European countries (particularly, Finland, Sweden, and, later, the UK) as well as the sentencing guidelines issued by some of these countries and some US states go one step further and, under the influence of the so-called «desert» or «retributive» theories, explicitly require the severity of the penalty to be proportionate to the seriousness of the offence" (Paoli & Greenfield 2013: 361).

Accordingly, a criminological approach to assessing the social damage caused by crimes should be the basis for the development and implementation of an appropriate policy for punishing criminals. The problem, however, is that in most cases it is not at all easy to assess the severity of a crime. The criminological approaches available today to this assessment are very different (and often contradictory), resulting in very different estimates of the public damage from crimes of the same type. These estimates can vary significantly, making it challenging to implement a consistent policy of law enforcement and punishment of criminals based on them.

It seems to us that the solution to this problem can be a synthesis of traditional criminological approaches and the approach of economists working within the framework of the research tradition of the economics of crime and punishment. The latter approach, as it seems to us, firstly, suffers less from internal contradictions compared to the approach of criminologists. Secondly, the approach of economists, in our opinion, better justifies the goal-setting of the relevant policy, and answers the questions «*why* does society punish criminals?» and «*what* does it want to achieve from them?» more convincingly.

According to criminological economists, if the main purpose of punishing criminals is *deterrence*, the severity of punishment for most crimes should not necessarily be proportional to the damage but should be ranked for various crimes according to the public damage they cause. Since crimes are defined by societal norms at a given time, the idea proposed by American sociologists T. Sellin and M. Wolfgang in their book «*The Measurement of Delinquency*» (Sellin & Wolfgang 1964) becomes relevant: why not ask the citizens themselves which crimes they consider more or less serious? This approach has been developed in many studies over the past 60 years and appears, firstly, to be quite sufficient, and secondly, to be the most promising basis for solving the problem of optimizing law enforcement policy and the punishment of criminals.

A promising direction for developing the Sellin-Wolfgang approach, from our point of view, involves transitioning from maximum detail of offenses in such surveys to highlighting broad categories of offenses. Examples include premeditated murder for selfish motives, burglary, or robbery using cold/firearms. For a comparative assessment of the severity of specific crimes within these broad categories, a more traditional accounting approach or a bottom-up damage assessment can be utilized. It is crucial to remember that, for effective crime deterrence policy, the exact accuracy of these estimates is not as important as the relative ranking of different crimes.

The present work is structured as follows: In the next section, we will explore the approach of the economics of crime and punishment, delving into the economic foundations of the principle of proportionality of the severity of punishment to the public damage caused by offenses. Section 3 provides an overview of criminological approaches to assessing social damage from various types of crimes. In Section 4, we examine the development of a sur-

vey-based approach to this assessment, specifically the Sellin-Wolfgang approach. Finally, Section 5 – Conclusion – summarizes the main findings of this work and offers recommendations for establishing an optimal scale of punishment for criminals, aimed at enhancing public welfare, by incorporating elements of all the approaches considered in the work to assess the severity of crimes.

2. Proportionality of the Punishment to the Damage Caused: The legal Economics Approach

One of the most famous, as well as counterintuitive and even provocative, conclusions of the economics of crime and punishment is the so-called ‘High Fine – Low Probability’ Becker’s result, which appeared in his pioneering article (Becker 1968). This work gave rise to the development of the economics of crime and punishment as an independent research tradition. The idea is straightforward: if the sole purpose of punishment is to deter crime (‘so that no one is offended’), and the only form of punishment is a monetary fine, the socially optimal solution is to establish the maximum possible punishment for all offenses. Criminals, albeit unequally, are restrained by both the severity of punishment and the likelihood of its occurrence. If, as Becker assumes, an increase in the severity is not associated with costs to society – monetary punishment is a net transfer – and an increase in the probability of punishment is always costly, then it is logical to first leverage the deterrent potential of increasing severity. Only after this reaches its maximum should one turn to the second component – the probability of punishment.¹

In other words, the classical objective function of a society trying to restrain crime (with the help of exclusively monetary punishment so far) looks as follows:

$$O = \max_{f, e} \left(\int_{p(e)f}^{\bar{g}} (g - h) z(g) dg - e \right). \quad (1)$$

Here:

f is the amount of the fine, the severity of the punishment for the offense established by the company;

$p(e)$ – the probability that the offender will be identified, caught and punished as a function of public law enforcement costs ($p'(e) > 0$, $p''(e) < 0$);

g – the criminal’s income from the offense (\bar{g} – the maximum possible income from the offense);

$z(g)$ is the density distribution function g ;

h – damage to society from the offense.

A target function of this type can be found in many works devoted to the economics of crime and punishment in general and the economic theory of crime deterrence in particular (see, for example, (Becker 1968; Garoupa 1997; Polinsky & Shavell 2007), etc.).

¹ Here it is worth recalling the legal so-called “principle of the inevitability of punishment”, which, correctly interpreted, means an unconditional rule, according to which the probability of punishment for a criminal offense should always be equal to one. Fortunately, this “principle” is actually just a figure of speech. If it really had the force of an unconditional principle, society would have to spend all the resources at its disposal to fight crimes, and not even the most serious ones.

In the objective function (1), the punishment of a criminal is a monetary transfer that is not associated with any costs to society. At the same time, as already noted, an increase in both the probability and severity of punishment deter crime. This leads to a logical conclusion: at the point of the socially optimal level of crime deterrence ($D^* = p(e^*)f^*$), the severity of monetary punishment should be maximum, and the probability is set at a level at which the condition is fulfilled:

$$D^* = p(e)f_{\max} \tag{2}$$

With this approach, society has the opportunity to achieve an optimal level of crime deterrence with the lowest possible cost of law enforcement.

It seems to us that the provocative and controversial nature of G. Becker’s conclusion provided the impetus for the development of economic analysis in criminal law and public law enforcement – the economics of crime and punishment. Becker’s conclusion, while appearing logically sound, is ethically unappealing, prompting researchers like S. Shavell, M. Polinsky, L. Kaplow, N. Garoupa, and others to attempt to refute it.

The outcome of these efforts has been a significant reduction in the practical application scope of Becker’s HF–LP conclusion, if not a complete refutation. In essence, the conclusion holds that the optimal solution for public welfare is to impose the maximum possible severity of punishment for all offenses, regardless of their seriousness, under the following conditions: 1) the unit costs of punishing criminals remain at least constant; 2) society can determine the probability of punishment ex post, concurrently with determining its severity; 3) the severity and probability of punishment are independent of each other.

The first condition supporting Becker’s result pertains to the costs associated with punishing offenders. In Becker’s model, where punishment is solely monetary, transaction costs related to fine collection are assumed to be not only independent of the fine’s magnitude but also zero. This reasoning can extend to scenarios where the unit costs of punishment – whether fines, imprisonment, or any other form – are either constant or decrease as severity increases. Under these conditions, proportional reductions in probability coupled with increases in punishment severity yield the same HF–LP outcome: from a societal cost perspective, there is negligible difference between punishing an offender with a one-year prison term at a 50% probability versus a ten-year term at a 5% probability. Consequently, for a society aiming to minimize overall crime damage and punishment costs, maximizing punishment severity while proportionally reducing its likelihood appears logically consistent.

However, this rationale fails to hold if the social costs of punishment increase at a rate that outpaces the severity of punishment. This scenario is particularly pertinent in the case of monetary fines: the less financial resources an individual possesses, the more challenging and costly it becomes for society to enforce additional fines (Polinsky & Shavell 1992). Essentially, the same principle applies to any form of punishment imposed on offenders.

Formally, these arguments can be presented as follows. If the social costs of collecting a fine are constant, that is, they do not depend on its size, the objective function of society (1) takes the following form:

$$O = \max_{f, e} \left(\int_{p(e)f}^{\bar{g}} (g - h - p(e)l)z(g)dg - e \right). \tag{3}$$

Here l is the cost of collecting a fine.

Clearly, the HF–LP result persists in scenarios involving non-zero fixed costs of collecting fines: it remains beneficial for society to set the maximum severity of punishment with a

proportional reduction in its probability. This approach enables savings on law enforcement costs. Furthermore, establishing the maximum severity of monetary punishment with a proportional decrease in its probability allows society to economize on the costs of collecting fines $p(e)l$.

Differentiating (3) by the costs of law enforcement e , we obtain the following optimal choice condition:

$$p'(e^*)f_{\max}[h + p(e^*)l - p(e^*)f_{\max}]z(p(e^*)f_{\max}) = 1 + p'(e^*)l[1 - Z(p(e^*)f_{\max})]. \quad (4)$$

Here $Z(p(e^*)f)$ is the cumulative distribution function of proceeds of crime at the point of optimal choice of law enforcement parameters for society (in this case, this parameter is the only one – the cost of law enforcement e).

The left part (4) represents the marginal benefit to society from reducing the number of crimes through a marginal increase in the probability of punishment. On the right side, the first term denotes the marginal increase in law enforcement costs, while the second term signifies the marginal rise in the costs of collecting fines due to a corresponding increase in the likelihood of detecting and punishing criminals.

From equation (4), we cannot definitively determine how the optimal parameters of law enforcement would adjust with the inclusion of fixed costs associated with collecting fines. The outcome hinges on the specific functions governing the density distribution of crime proceeds (z), the distribution function of these incomes (Z), the relationship between the probability of detection and law enforcement costs ($p(e)$), and the derivative of this function at the society's optimal decision point.

Next, let's consider a more realistic scenario, in our view, where the costs of collecting a fine are proportional to its magnitude. It's important to note that the escalation in collection costs as fines increase stems from the fact that higher fines necessitate the use of less liquid assets from the offender to settle them: $l = l(f)$, $l'(f) > 0$, $l''(f) > 0$.

The target function under this condition will look as follows:

$$O = \max_{f, e} \left(\int_{p(e)f}^{\bar{g}} (g - h - p(e)l(f))z(g)dg - e \right). \quad (5)$$

And in this case, we can no longer draw an unambiguous conclusion about the public effectiveness of the HF-LP result: an increase in the size of the fine not only allows society to reduce the costs of law enforcement e at a given level of crime deterrence, determined by the expected severity of punishment $p(e)f$, but also causes an increase in the public costs of collecting fines.

Differentiating (5) by f and equating the resulting derivative to zero, we obtain:

$$p(e^*)[h + p(e^*)l(f^*) - p(e^*)f^*]z(p(e^*)f^*) = p(e^*)l'(f^*)[1 - Z(p(e^*)f^*)]. \quad (6)$$

The marginal benefit to society from increasing the severity of punishment (the amount of the fine), represented by the left part (6), at the optimal point of choice should equate to the marginal costs incurred by the increase in public expenditure on collecting fines, depicted by the right part (6).

The second condition for the validity of Becker's conclusion hinges on the assumption that the severity and probability of punishment (which collectively determine the deterrent effect of law enforcement and thus influence crime levels in society) are established simultaneously by society upon detection and capture of the criminal. However, this scenario appears unrealistic: at the stage of crime registration, society can assess the damage

caused, but typically lacks information about the identity of the perpetrator. This factor is crucial in determining the optimal deterrence level, as it depends on various factors such as the offender’s risk attitude (Becker 1968; Privileggi et al. 2001), income level (Polinsky & Shavell 1991; Garoupa 2001), likelihood of evading punishment (Bebchuk & Kaplow 1993), and the accuracy of the offender’s ex ante assessment of both the severity and probability of punishment (Bebchuk & Kaplow 1992; Ben-Shahar 1997), among others. In essence, due to the variability among criminals in several characteristics, the optimal solution in terms of public welfare would be to tailor the expected severity of punishment according to individual circumstances. However, since society cannot identify the specific offender prior to the crime being committed, it must establish the same probability of punishment for all crimes of a certain type ex ante. After apprehending the criminal and determining factors such as disposable income, society can adjust the severity of punishment to achieve optimal deterrence levels for offenders with similar characteristics. Therefore, the HF-LP principle does not universally apply in such cases, and the socially optimal severity of punishment for the majority of offenses tends to align with the public damage caused by the crime.

In this case, the target function of society is very similar to function (1), but exogenously set costs for law enforcement fix the probability of punishment, and its severity remains the only variable:

$$O = \max_f \left(\int_{\bar{p}(\bar{e})f}^{\bar{g}} (g - h)z(g)dg - \bar{e} \right). \tag{7}$$

Where from:

$$f^* = \frac{h}{\bar{p}(\bar{e})}. \tag{8}$$

In other words, in such scenarios, the socially optimal fine amount shifts from being the maximum possible to being proportional to the damage caused by the offense. Consequently, Harry Becker’s HF-LP result loses its relevance.

Let the same expenses \bar{e} also give different probabilities of solving two crimes of the same type: $p_1(\bar{e}) > p_2(\bar{e})$. Let the severity of the punishment be set at the highest possible level for both crimes, and the optimal crime deterrence parameter is:

$$(f\bar{p}(\bar{e}))^* = f_{\max} p_2(\bar{e}). \tag{9}$$

In this case, there will be **overdeterrence** of crimes of the first type, the probability of disclosure of which at the same cost of law enforcement is higher than that of the second type of crimes. If we link the optimal deterrence parameter to crimes of the first type ($(f\bar{p}(\bar{e}))^* = f_{\max} p_1(\bar{e})$), that is, assume that public spending on law enforcement in volume \bar{e} will give the probability of disclosure p_1 , there will be **underdeterrence** worse than solved crimes of the second type.

The obvious socially optimal solution in this case would be to set the public costs of law enforcement at a level corresponding to (9). At the same time, the severity of punishment for crimes of the first type (better disclosed) is determined by society ex post, in proportion to the damage from the offense:

$$(f\bar{p}(\bar{e}))^* = f_1^* p_1(\bar{e}) = h. \tag{10}$$

Finally, another complicating factor in the practical application of the HF-LP principle is the interdependence between the severity of punishment and its probability: increasing the severity of punishment for certain categories of criminals may decrease its probability

for several reasons. According to the principle of maximum deterrence, punishment for a particular type of offense should be proportionate to its severity (Shavell 1992; Mookerjee & Png 1994; Friedman & Sjostrom 1993). Otherwise, individuals intending to commit, for example, bank robbery, and not deterred by the maximum punishment and its socially optimal probability level for bank robbers, may opt for methods that minimize their chances of detection. In the case of bank robbery, criminals may not consider the costs imposed on society at all. Setting the same (and maximum possible) punishment for all attempts to rob banks can inadvertently encourage robbers to eliminate witnesses, as the severity of punishment remains maximal and the absence of witnesses reduces the probability of being caught. To mitigate this, it is crucial to make the severity of punishment proportional to the amount of damage caused to society by the crime.

Another example illustrating the interplay between severity and the probability of punishment is found in victimless crimes, such as drug trafficking or other illicit goods and services, and corruption offenses (Lott & Roberts 1989; Garoupa & Jellal 2007; Lambsdorff & Nell 2007; Basu et al. 2016). These crimes involve voluntary transactions where the likelihood of detection by society tends to be extremely low: participants in such transactions typically disperse satisfied, without reporting the activity to authorities. Moreover, if such a transaction is discovered, applying the same maximum punishment to both parties does not encourage self-reporting. An evident and widely accepted solution to this issue is the asymmetric punishment of participants in criminal transactions: by penalizing only one party involved, or by making the severity of punishment contingent upon the role each participant plays or who reports the crime first, the likelihood of solving such crimes significantly increases. Moreover, awareness of this asymmetry in punishment diminishes trust between potential transaction participants, thereby reducing the occurrence of such transactions and the societal harm they cause.

The relationship between severity and the likelihood of punishment must also consider incentivizing offenders to voluntarily confess to crimes, as it reduces the social costs of law enforcement (Innes 1999; Feess & Heesen 2002). Confession should therefore be encouraged in every possible manner.

Moreover, the inverse relationship between severity and the probability of punishment is intertwined with the legal principle of reasonable doubt (Andreoni 1991): the more severe the potential punishment upon conviction, the higher the burden of proof required for judges or jurors to render a guilty verdict, thereby reducing the likelihood of such an outcome.

The objective function of the society in this case will look as follows:

$$O = \max_{f, e} \left(\int_{p(e, f)}^{\bar{g}} (g - h) z(g) dg - e \right). \quad (11)$$

Where $\frac{\partial p}{\partial f} < 0$.

The solution of this problem leads us, among other things, to the following condition of optimal, in terms of public welfare, public choice:

$$f^* = -\frac{p}{p'_f}. \quad (12)$$

In essence, when severity and probability of punishment are mutually influenced, there exists an internal optimum level of severity. Based on the aforementioned considerations, it is evident that G. Becker's HF-LP result has been effectively countered. Therefore, the

principle of aligning punishment severity proportionally with the public damage caused by the offense is justified, including from an economic standpoint. Thus, achieving the socially optimal severity of punishment requires a sufficiently accurate and plausible assessment of the public damage caused by the offense, in order to prevent both *overdeterrence* and *underdeterrence*.

Finally, it is essential to discuss how criminological economists define social damage from crime and its traditional formalization in economic models. Typically, social damage caused by an offense is exogenously predetermined as a constant. Notably, individuals are differentiated primarily by the income they gain from their own, including hypothetical, offenses, while public damage is assumed to be uniform across all offenses. Embracing this admittedly unrealistic premise significantly enhances the operational feasibility of economic models, albeit without substantial substantive compromises.

In particular, if we assume that the attribute of each individual is not only the income from the offense, but also its social damage, the objective function of society (1) will take the following form:

$$O = \max_{f, e} \left(\int_0^{\bar{h}} \int_{p(e)f}^{\bar{g}} (g - h) z(g) dg dh - e \right). \quad (13)$$

However, in most studies, society's objective function is typically constrained to a single integral. Firstly, differentiating by a variable lower limit of a double integral already considerably complicates algebraic formulations. Secondly, an approach involving the integral distribution of not just potential offenders' incomes but also social damage from crimes is meaningful only if income and this damage are significantly correlated, which is often not evident for most types of crimes.

If there is no correlation between the criminal's income and public harm – that is, all criminals, real and potential, are distributed according to a single parameter, namely income from crime – two valid modeling approaches can be considered to establish optimal deterrence parameters in law enforcement. The choice between them depends on the research task addressed by the modeling. Firstly, one can adopt a uniform average damage amount from an offense across all crimes: as noted earlier, in models, damage from offenses is often exogenously set. This approach allows linking the parameters of optimal crime deterrence, primarily severity and probability of punishment, to this constant.

Secondly, a more realistic approach in modeling is to focus on a specific type of offense and assume uniform damage across all offenses of this type. This approach is particularly relevant given the challenges in accurately assessing the actual amount of damage from crimes, as discussed later. Often, society must decide to allocate resources for solving crimes and apprehending criminals without precise knowledge of the real damage caused by each specific crime.

Finally, it is important to address how economists conceptualize the societal damage from crime, a topic that remains relevant and debatable among criminologists. While economists do not typically focus directly on this issue, in most studies, societal damage is implicitly understood in two main ways. Firstly, it encompasses the direct harm inflicted on victims of crime and third parties affected indirectly (e.g., railway passengers delayed due to a terrorist attack along their route). Secondly, the damage caused by crime also encompasses the societal loss resulting from undermined incentives. This category includes the additional measures taken to protect against crimes such as car theft, necessitating owners to regularly park in more secure but inconvenient areas, the expenses incurred in erecting high-security

fences, hiring additional security personnel, and related costs. Furthermore, it encompasses the erosion of incentives caused by violations of formal rules in what are often termed victimless crimes. For instance, imagine a scenario where society, through its legislators and law enforcement agencies, sets a fine for a specific traffic rule violation that effectively deters such offenses. If this deterrent fine is replaced by a bribe – clearly smaller than the original fine – it undermines deterrence. Consequently, this substitution increases the anticipated public damage from road accidents, leading to additional costs for society.²

It's important to note that criminologists and economists sometimes differ in what they consider as components of social damage from crimes. For economists, the value of property stolen or misappropriated as a result of a crime is not typically viewed as part of public damage. Instead, they often see this as a transfer of wealth, albeit involuntary, between individuals. The primary value of the property itself does not disappear from society entirely; however, it can diminish due to physical damage caused during the crime or because resources are inefficiently allocated when the stolen property ends up in the hands of someone who values it less than its original owner.

Secondly, economists typically do not attribute the number of similar crimes committed in a specific area over a period of time directly to the public damage caused by any individual crime. The severity of punishment for crimes like burglary, for example, is generally not adjusted based on the frequency or number of similar offenses in a particular region or city.

Finally, the social costs associated with law enforcement and punishment of criminals, as discussed by economists such as Polinsky and Shavell (1984, 1992), influence the determination of the socially optimal severity of punishment. However, these costs are not considered as part of the social damage caused by crime. The optimal severity and probability of punishment, and hence the public costs associated with them, are determined by legislators and law enforcement officers. They base their decisions on various factors, including the harm caused to society by the crime itself. Therefore, it is crucial not to conflate these categories from an operational perspective.

3. Criminological approaches to crime damage assessment

So, if the severity of the damage caused by an offense is widely considered the foundation for determining the optimal severity of punishment from society's perspective, it becomes imperative to assess this damage accurately. Criminological economists generally argue that assessing social damage from a crime is more feasible from an external standpoint compared to determining the income derived by the criminal (see (Shavell 1987)). However, the assessment of damage from offenses remains a complex and often unresolved task.

The damage to society from crimes includes both a tangible material component and a less overt yet substantial non-material component. The material aspect involves losses such as property, medical expenses, disability, and even loss of life, along with costs related to behavioral adjustments. Concurrently, the non-material component encompasses physical and psychological stress inflicted by criminal victimization, as well as the pervasive fear it instills.

² For the conclusion that corruption in law enforcement agencies always weakens deterrence, see, for example, Bowles, Garoupa (1997); Chang and al. (2000); Polinsky, Shavell (2001).

Assessing the non-material component of social costs from crimes is inherently more complex than quantifying the material losses, and it invariably involves subjective elements. For instance, a study by Miller et al. (1996) estimates the material losses incurred by victims of severe crimes such as sexual violence (\$7,300) and child abuse (\$11,400). However, these estimates appear significantly undervalued, as argued in sources like Heaton (2010). Intangible losses from crimes are often assessed using metrics such as hazard pay or compensation amounts awarded by juries to victims of relevant offenses.

The fact that the damage to society from crime is heterogeneous and consists of these two components is the most important factor that determines the parallel existence of several significantly different methodological approaches to assessing social damage from crime. Let's look at them in more detail.

The accounting approach to assessing public damage from crime attempts to identify all the individual crime-related costs incurred by individuals and society, and assess these costs in money.

One of the most referenced studies on the costs of crime is the research mentioned earlier by Miller et al. (1996). In their study, intangible costs were estimated using data on salary supplements for occupational risk and jury awards for pain and suffering compensation to victims of crime and fires. Many of the data sources and methodologies employed by Miller et al. have also been utilized in subsequent studies on the costs of crime.

For instance, following the accounting approach, M. Cohen and colleagues (Cohen 1998, 2005; Cohen et al. 1994; Miller et al. 1996) developed a widely used method to monetize the criminal careers of offenders. This technique assesses the external costs associated with an individual's criminal activities throughout their life span:

$$\sum_{ij} (1-\beta)^{j-1} \lambda_{ij} [VC_j + CJ_i + CI \cdot T_i + W \cdot T_i]. \quad (14)$$

Here λ is the average number of crimes, VC is the cost of the crime for the victim, CJ is the cost of law enforcement and conviction of the criminal, CI is the cost of one day of imprisonment, β is the discount rate, T is the time period in days, W is the opportunity cost of the criminal, the legal income he did not receive, i are crimes, j are periods.

Victims' expenses encompass both material and non-material costs, including potential risks such as death in cases of murder. The costs borne by the criminal justice system include expenses related to investigation, legal proceedings, imprisonment, parole, and probation. Additionally, lost earnings refer to the average annual income forgone due to periods of incarceration (Cohen 1998).

In his work, M. Cohen estimated the external costs of a successful criminal career for a young offender at approximately 1.5–1.8 million USD. These costs are distributed as follows: 50% attributed to a reduction in the quality of life for potential victims of the offender, 25% to the material costs borne by the victims of his crimes, 20% to the expenses incurred by the law enforcement system, and 5% to the reduction in labour productivity.

In a study by DeLisi and Gatling (2003), conducted using a similar methodology, it was determined that the average criminal career costs over 831 thousand USD in victim-related expenses, nearly 275 thousand USD in criminal justice and law enforcement costs, and more than 29 thousand USD in lost productivity. The total average cost per criminal career amounted to over 1.14 million USD.

However, it's important to note that Cohen's methodology evaluates the *external* costs associated with a criminal's career, not the net social damage caused by crimes. The latter

is likely to be lower for several reasons. Firstly, Cohen's approach does not account for the income earned by criminals from their offenses, which could potentially exceed the damage caused to others. Moreover, this income, regardless of its source, either compensates for some portion of the public damage or must be considered in the function of public welfare.

Secondly, Cohen's methodology includes the opportunity costs of the criminal, which encompass the legal income they would have earned if not engaged in criminal activities, thereby suggesting the creation of some added value. However, including opportunity costs in the external costs of crime can be contentious. Opportunity costs can be associated with almost any human activity, as not all individuals (in fact, very few) engage in the most suitable and profitable activities given their skills and talents. Therefore, it might not be entirely appropriate to categorize opportunity costs within the framework of external costs of crime.

Method of conditional evaluation (Content Valuation) relies on survey data to gauge individual willingness to pay for crime reduction. This approach is advantageous because it captures the overall willingness of individuals to invest in specific crime control programs, thereby encompassing both tangible and intangible costs. Unlike the accounting method, which focuses primarily on measurable costs, conditional evaluation is better suited to reflect intangible costs that are challenging to quantify objectively, such as fear of crime or restrictions in using public spaces due to crime.

In comparing survey responses with actual payments, researchers have shown that hypothetical willingness to pay can often exceed actual payments by several times (Harrison & Rutström 2008). For instance, individuals might express a willingness to pay \$1.2 million to prevent an armed attack on themselves (Ludwig & Cook 2001), whereas the average cost of an armed attack with serious damage is approximately \$52,000 according to British data (Atkinson et al. 2005).

The method of conditional assessment in the literature is sometimes referred to as the "top-down" approach (see, for example, (Cohen et al. 2004; Atkinson et al. 2005)). Its alternative is the "bottom-up" approach to assessing social damage from crimes, which can be viewed as an extended accounting approach. Here, all components of the costs of offenses are individually assessed. The methods employed in this approach may include not only traditional market or accounting assessments of actual costs incurred but also elements of assessment based on *hedonic pricing* (discussed below).

An example of assessing the social costs of crime from the bottom up is the study (Anderson 2011), in which the author proposes the following typology of these costs (the details of the four types of social costs of crime listed here according to D. Anderson are presented in Appendix 1):

1. Goods and services the production of which is conditioned by crime, in other words, they would not be needed in the absence of crimes.
2. The opportunity cost of time spent on crime-related activities. "Crimes also take time to conceive and carry out, and thus involve the opportunity cost of the criminals' time, regardless of apprehension and incarceration. Many individuals make crime a fulltime occupation. Society is deprived of the goods and services a criminal would have produced in the time consumed by crime if that person's life had taken a different path" (Anderson 2011: 221).
3. Implicit costs associated with the risk to life and health. "The psychic costs of violent crime include the fear of being injured or killed and the agony of being victimized. Direct expenditures on crime prevention are intended to address these costs, but pre-

ventive measures are limited in their ability to deter crime. Because crime persists, so does the substantial burden of risks to life and health” (Anderson 2011: 222-223).

4. The value of criminal transfers.

It's important to discuss the final component of public damage caused by offenses. In essence, the transfer of property from one individual to another typically does not decrease public welfare, even if the transaction was involuntary. Certain rights are safeguarded not under ownership rules but under liability rules, where their transfer still constitutes an involuntary transaction. In such cases, the intent behind a court or legislator establishing these rights is often to enhance public wealth.

However, any involuntary and illegal transaction inevitably distorts the market mechanism. In such cases, the object of ownership doesn't go to the highest bidder in a competitive market but rather to someone chosen by criteria other than willingness to pay (for instance, a stolen car sold for parts at a price below its market value). Nevertheless, in scenarios where transaction costs for voluntary exchanges are excessively high, involuntary and criminal transactions might theoretically contribute to public welfare.

An apt analogy is the legal recognition of property rights under a liability rule, where courts may permit the legal transfer of rights even without the owner's consent.

Therefore, any method of assessing public damage from crimes that solely relies on direct material damage to victims raises serious questions and may be fundamentally flawed. Additionally, evaluating society's actual losses from crimes, as approached by the accounting or broader bottom-up methods, contrasts with assessing people's willingness to pay for preventing potential crimes against themselves and their property, typical of the conditional assessment or top-down approach. These methods should be seen as complementary rather than interchangeable. Moreover, all else being equal, higher crime rates typically lead to increased spending on crime prevention by individuals.

Therefore, some researchers consolidate estimates obtained using these two approaches (see, for example: (Cohen & Piquero 2009; DeLisi et al. 2010)). An overview of frequently cited estimates of public damage from various types of crimes is presented in Table 1. It's important to note the significant discrepancies in estimates for crimes of the same type. Particularly notable, as mentioned earlier, is the disparity between figures of public damage from offenses obtained using the accounting approach and the conditional valuation method.

Finally, *the hedonic* approach mentioned earlier for assessing the social damage caused by offenses allows for evaluating how crime influences prices paid for goods or services. This primarily involves examining the disparity in housing prices between areas with low and high crime rates (see, for example, (Linden & Rockoff 2008); for a review of such studies, see (Ihlanfeldt & Mayock 2010)). The hedonic approach to assessing the social damage caused by crime is far less commonly used among researchers compared to the alternative approaches we discussed earlier. This is quite understandable.

Firstly, it is indeed challenging to attribute the variation in housing prices solely to specific types of crimes. Housing prices in disadvantaged areas are influenced by multiple factors, including various types of crimes, making it difficult to isolate the specific impact of individual crimes like burglaries or armed attacks on public wealth.

Secondly, the hedonic approach is limited in its applicability because not all crimes are tied to neighborhood or residential location. Crimes such as cybercrime, which occur in virtual spaces, cannot be effectively evaluated using this method, as they do not directly affect local property markets.

Thirdly, there is no universally agreed-upon methodology for using the hedonic approach to assess social damage from crime. While it is evident that real estate prices react to crime rates, the extent of this relationship and how much of the price variance is attributable to crime remains unclear and subject to debate among researchers.

Some researchers use the overall crime rate in the relevant area as an explanatory variable (Case & Mayer 1996; Kain & Quigley 1970), others separately assess the impact on real estate prices of crimes against property and violent crime (Lynch & Rasmussen 2001; Schwartz et al. 2003; Thaler 1978). Still others estimate the impact on these prices of the number of specific types of crimes committed – murders, armed robberies, burglaries, etc. (Gibbons 2004; Clark & Cosgrove 1990; Troy & Grove 2008). There is also no unity in understanding what the «crime rate» is: This may be the number of crimes of a certain type committed per capita, and this approach can be considered dominant (Thaler 1978; Gray & Joelson 1979; Case & Mayer 1996; Troy & Grove 2008), or per unit area (Ihlanfeldt & Mayock 2010).

In general, regardless of how crime's impact on real estate prices is assessed, a negative relationship has been found in almost all studies of this kind. Specifically, in a study by Hellman and Naroff (Hellman & Naroff 1979), the authors conclude that a 1% decrease in the overall crime rate results in a 0.6% increase in real estate values. Additionally, in the work by Ihlanfeldt and Mayock (2010), it is indicated that a 1% increase in the number of violent crimes in an area leads to a 0.25% reduction in real estate prices.

In addition to the factors mentioned above, there are several other factors that complicate the accurate assessment of the public damage from specific offenses.

Firstly, the most victimized group, accounting for a significant portion of the costs of crimes, are the offenders themselves. As observed in practice, professional criminals leading a criminal lifestyle are more likely to find themselves involved in various criminal situations. This fact complicates not so much the assessment of society's losses from a particular crime, but rather the assessment of its losses from crime as a whole. On one hand, the death of a professional criminal during a gang shootout constitutes social damage from murder, regardless of how it is evaluated. On the other hand, the criminal career of the murdered individual is thereby interrupted, and they will no longer be able to cause harm to society through their actions. This issue can be addressed, at least partially, by considering the concept of the crime market proposed by A. Ehrlich (Ehrlich 1996, 2010). Ehrlich's reasoning is straightforward: the supply in the crime market is influenced by the income criminals earn from committing crimes. If the supply of crimes is inelastic in terms of income derived from them, as is typical for crimes of passion, crimes committed by maniacs, and crimes requiring specialized knowledge and skills, the removal of such criminals from the market reduces future public damage accordingly. Unlike crimes with a more elastic supply, such as petty theft or drug dealing, where new offenders can readily replace those arrested or eliminated, crimes like those committed by maniacs do not see automatic replacements. Thus, in these cases, the victimization or removal of criminals can indeed have dual consequences for society.

If the crime supply curve is elastic in terms of income derived from crimes, which is typical for the vast majority of offenses, a new criminal can readily replace one who has left the crime market. Therefore, society's gain from interrupting a criminal career, while not necessarily falling to zero, significantly diminishes.

Secondly, the damage from different crimes of the same type can vary significantly. As mentioned earlier, attempting to rob a bank can take various forms, ranging from remotely hacking the bank's server to conducting an armed robbery with hostages and potential casu-

alties. Naturally, it is challenging to generalize about the public damage from bank robberies as a whole. One can only attempt to estimate the societal impact of a specific attempted robbery.

This variability applies to all types of crimes to some extent. Therefore, when criminological economists discuss the public damage from burglary, for instance, they typically refer to the average societal impact of this type of theft.

Thirdly, it is difficult, if not altogether impossible, to assess the impact on co-victims: the relatives of the victim and the perpetrator themselves, their friends, acquaintances, and all other individuals whose well-being is positively linked to that of the victim and/or the perpetrator. This aspect is not accounted for in empirical studies focused on assessing the societal damage from crimes, indicating a systematic underestimation of this assessment.

Moreover, in some instances, the well-being of the perpetrator and/or victim may be intertwined with the well-being of other individuals through feedback mechanisms, which could be influenced, for instance, by considerations of retribution and justice restoration. In such cases, when evaluating the net societal damage from offenses, an element that potentially reduces rather than increases this damage is consistently overlooked.

Fourthly, estimated costs of crimes are sensitive to police effectiveness – the better they perform, the more crimes are documented, thereby increasing, all other factors being equal, the public damage attributed to them.

Fifth, some crimes cause damage that society does not fully appreciate or significantly underestimates. Examples include certain instances of environmental pollution that do not immediately lead to a disaster, some forms of minor fraud, and victimless crimes where proving the crime requires a statement from one of the involved parties, which may not be provided unless there is a serious dispute between them. Therefore, these points collectively suggest a systematic underestimation of public losses from crimes.

Sixth, the damage to society from specific crimes is context-dependent, varying with time and place. As noted, “in areas characterized by a large volume of criminal activity, minor offenses might, at the margin, create only a small amount of discomfort. Therefore the costs of such crimes might be quite low. By contrast, areas relatively insulated from any criminal activity whatsoever might be adversely affected to a much larger degree by a similar offense.” (Lynch 2010: 284).

Moreover, the definition of crime itself is contextual and varies across societies and over time. “Crime does not exist. There are actions that, in the conditions of a particular society, become crimes” (Christie 2011: 18). Consequently, the social damage caused by two identical acts can vary significantly depending on the time and place of their occurrence.

Thus, based on all the aforementioned points, it can be concluded that assessments of public damage from offenses conducted using various methods cannot reliably serve as a basis for making policy decisions due to the significant contradictions inherent in each of the described approaches. Discrepancies in empirical estimates of damage from offenses calculated using different methods are illustrated in the table in Appendix 2.

4. Assessment of the seriousness of crimes based on public opinion

Let’s revisit why society might need information about the damage caused by crimes committed: “Two of the possible motivations for the development of monetary estimates of crime and criminal activity are (1) usefulness in directing scarce public resources in com-

bating crime and (2) usefulness in ensuring that sentencing guidelines are such that the punishment fits the crime” (Lynch 2010: 287). The first part of this statement pertains to the aggregate public damage from crimes, for which there is no need for precise determination of the amount of damage from various offenses.

Here we are particularly interested in the assessment of comparative damage from various types of crimes. Given the challenges described in this section regarding the accurate assessment of damage from specific offenses, a promising approach is highlighted in the work of Sellin and Wolfgang (1964), based on public opinion polls (Wellford & Wiatrowski 1975). In this seminal work, which initiated a significant field of criminological research, the authors introduced a method for quantifying the seriousness of different crimes, known as the «crime severity index». To calculate it, several groups of respondents were asked to rank crimes of different types by severity. It is worth noting that in this work a scenario approach was applied to the classification of crimes: respondents were asked to compare not abstract thefts, robberies and murders, but rather specific crimes, even with some details. In the future, this scenario approach became widespread. An example of crime scenarios from (Herzog 2006) is given in Appendix 3. It should also be noted that in (Sellin & Wolfgang 1964) and in numerous subsequent similar studies, the number of crimes (or rather, crime scenarios) that respondents needed to rank did not cover all articles of the criminal code of the country in which the study was conducted, but was limited at best to two or three dozen crimes, obviously very different from each other.

In the paper by Sellin and Wolfgang (1964), respondent groups included university students, police officers, judges, and randomly selected individuals. They were tasked with rating 141 different offenses using two scales: on an interval scale of severity ranging from 1 to 11 and on scale comparing the severity of each offense relative to a reference offense, without an upper limit. Based on the ratios of responses across these scales, the authors derived severity scores for each type of criminal event. Despite the diversity in respondent types, Sellin and Wolfgang concluded that there were minimal differences in the severity ratings between the groups (Sellin & Wolfgang 1964: 268).

Subsequently, the methodology proposed by Sellin and Wolfgang for assessing comparative damage from offenses of different types was further developed by several criminologists and became known as the “consensus model”. “The consensus model of the criminal law postulates a close match between the attitudes of various social groups toward criminal acts and their appropriate punishments, and their expression in the formal criminal law” (Herzog 2006: 58). This model has been expanded and refined in subsequent studies by researchers such as Adriaenssen et al. (2019), Borg et al. (2023), Eisner et al. (2017), Hsu (1973), Rossi and Berk (1997), Rossi and Henry (1980), Thomas et al. (1976), Warr et al. (1982). Comprehensive reviews of this line of research can be found in works by Stylianou (2003) and Sweeten (2012).

In other words, individuals belonging not just to the same society but at least to the same cultural milieu tend to construct crime severity ratings in a highly consistent manner. Therefore, it is reasonable to assert that consensus exists, if not in precise estimations of damage from various types of crimes, then at least in the ranking of this damage. For instance, Borg et al. (2023), based on surveys conducted in three major German cities, concluded that their crime severity scale is essentially one-dimensional. “The scale we found is essentially uni-dimensional and resembles the seriousness scales typically reported in the literature, ranging from petty offenses to serious crimes. In contrast to previous research, this scale is not simply an automatic product of scale construction such as simply computing mean ratings... Rather,

the scale is found embedded in a 2-dimensional plane, where every individual is represented by a single point that is positioned such that its distances to the crime points on the seriousness scale correspond closely to the observed ratings of each individual” (Borg et al. 2023:779).

Another compelling finding, which aligns with the consensus model, emerged from the previously mentioned study by Herzog (2006). Conducted in Israel, the study reflects the country’s societal divisions across three main axes: nationality (Jews and Arabs), religiosity (atheists and Orthodox Jews), and birthplace (native Israelis and immigrants). The study revealed significant disparities in the perceived seriousness of offenses, primarily between Jews and Arabs, focusing on three specific crimes. For instance, grievous bodily harm inflicted for personal reasons (such as a husband reacting to his wife’s adultery – see Appendix 3) ranked third in severity among Jews out of 18 scenarios presented, whereas Arabs ranked it thirteenth. Similarly, illegal medical abortions were rated fourteenth by Jews and seventh by Arabs, while drug trafficking was viewed as the third most serious offense by Arabs but only the tenth by Jews. These variations in crime severity ratings underscore the influence of cultural differences among respondents, consistent with findings from similar studies conducted elsewhere, such as in Pennsylvania and Taiwan.

Furthermore, several studies have identified a negative correlation between the perceived severity of crimes by respondents and the variability in their severity assessments (Cullen et al. 1985; Levi & Jones 1985; O’Connell & Whelan 1996; Herzog 2006). This suggests that as the perceived seriousness of a crime increases, respondents tend to have more consistent views on its severity.

However, despite these findings, not all criminological studies fully endorse the consensus model. Some argue that comparing crimes of different types in terms of the societal harm they cause is inherently problematic. For instance, V. Greenfield and L. Paoli contend that “it is possible to reliably evaluate the harms of criminal activities, as our examples suggest, but it is not possible—for both conceptual and technical reasons—to develop an encompassing estimate of the total harms of these activities” (Greenfield & Paoli 2013: 864).

It’s important to clarify how criminologists typically define the seriousness of a crime and its relationship to the damage caused. In criminological research, the seriousness of a crime generally encompasses two key components: wrongfulness and harmfulness. Harmfulness typically refers to the material or tangible damage caused by a crime, as understood in criminological terms. On the other hand, wrongfulness reflects the moral or ethical dimension of the overall social harm resulting from the crime.³

Despite the initial impression that only harmfulness matters in terms of social damage from an offense in a utilitarian or economic sense, this perspective is incomplete. Firstly, as emphasized by E. Durkheim (Durkheim 1949), certain actions within society can be deemed criminal even if they do not result in material harm to anyone. Examples include violating food taboos, burning a flag, or working on the Sabbath. While many such moral violations stem from religious norms, there are also secular prohibitions. For instance, someone working on Saturday in the Orthodox quarter of Jerusalem may create a significant negative external impact on others, despite causing no clear material harm.

Secondly, as jurists rightly point out, moral restrictions often arise in response to the harm caused by specific actions (Duff 2014). As noted earlier, the economic approach to assessing

3 Sometimes, the frequency with which crimes occur and/or the frequency of causing public harm by these crimes are also added to the components of the seriousness of the crime (McCoun 1998; Sherman 2007; Greenfield & Paoli 2013; Adriaenssen et al. 2020).

social damage from crimes encompasses both material (*harmfulness*) and moral (*wrongfulness*) components.

Of particular interest is the question posed by M. Warr: “If individuals were asked to rate the seriousness of this or any other crime, would they respond using the harmfulness of the act, its wrongfulness, or some weighting of the two? Or would they see no difference between the two dimensions?” (Warr 1989: 797).

Empirical studies indicate that respondents typically consider both components—harmfulness and wrongfulness—in their assessments of the seriousness of offenses (Herzog & Einat 2016; Adriaenssen et al. 2020). For instance, a study by Warr (1989) demonstrated that approximately a quarter of respondents attribute the highest level of moral significance to all crimes. This viewpoint suggests a logical association: all crimes are immoral because they constitute violations of the law. For the rest of the respondents, with a very high correlation between harmfulness and illegality of crimes ($r^2=0.85$), the following relationship was found between the severity of the offense and these two components (Warr 1989: 809):

$$\text{Seriousness} = -0,55 + 0,52 \cdot \text{Wrongfulness} + 0,47 \cdot \text{Harmfulness} \quad (15)$$

At the same time, $p < 0.001$ and $R^2 = 0.958$.

In general, drawing from a multitude of empirical studies, which in one way or another align with the tradition established by Sellin and Wolfgang, M. Tonry’s assertion appears to hold true: “Citizens’ rankings of the seriousness of crimes tells us all we need to know for purposes of sentencing and corrections policy” (Tonry 2015: 665).

However, this approach faces two significant limitations. Firstly, surveys conducted using this method are constrained by the number of offenses that can be ranked: typically, the number of scenarios in such surveys is considerably fewer than the total number of offenses defined in criminal law. Consequently, it becomes impractical to rank all offenses comprehensively within a single survey. Indeed, conducting a survey where several hundred offenses must be compared against each other would likely encounter challenges in securing a sufficient number of respondents, potentially compromising the ranking quality.

Secondly, the scenario approach used in surveys often imposes a limiting factor by comparing specific crimes rather than broader categories, which may not always be justified. For instance, comparing the severity of a theft committed under specific circumstances and costs to society with that of a similar robbery may yield vastly different rankings when scenarios are altered. Therefore, the specificity of scenarios can significantly influence the ranking outcomes.

In the final section of this article, besides drawing conclusions, we also propose recommendations for synthesizing the three approaches discussed herein to mitigate their respective drawbacks. This synthesis aims to create an optimal punishment scale for criminals in terms of public welfare.

5. Main conclusions and recommendations

1. The socially optimal punishment of offenders, both from the perspectives of jurists and economists (albeit for different reasons), should, in the vast majority of cases, be proportional to the amount of damage caused by their crime to society.
2. It is not feasible to measure this damage precisely on a case-by-case basis. Rather, we can assert, with some reservations, that there objectively exist more serious crimes in

terms of public welfare compared to others. Additionally, with reservations, we can attempt to assess the relative severity of different types of crimes – such as estimating how much, on average, society is more impacted by murder compared to rape, or by rape compared to burglary, and so forth.

3. Assessing public damage from offenses using an accounting approach (and, more broadly, a bottom-up approach) appears more realistic than a conditional assessment (or a top-down assessment) of this damage. This is primarily because in the former case, we are dealing with the revealed preferences of individuals.
4. It appears incorrect to base assessments solely on the external damage caused by an offense (and even more so to establish the severity of punishment based on such assessments). Strictly speaking, we lack convincing grounds to exclude the utility derived from criminal activities from the calculation of public welfare or to disregard the income criminals earn from their offenses in this calculation.
5. The methodology proposed in 1964 by Sellin and Wolfgang for rating the severity of crimes based on sociological surveys is not only an effective tool for assessing the comparative severity of various types of crimes, but also sufficiently enables society to establish the severity of punishment in proportion to the public damage caused by the crime.
6. A promising direction for advancing the approach based on public opinion involves shifting away from detailed classifications of crime types in surveys towards a two-stage assessment. The first stage entails the traditional survey-based ranking of major crime types, such as premeditated murder, burglary, rape, etc. The second stage involves a comparative evaluation of the severity of a specific offense relative to others of the same type. This assessment can utilize more objective methods like accounting or bottom-up assessment. In essence, this approach integrates public opinion-based methods with more traditional approaches to assessing public damage from crimes.

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Other sources of information

The Criminal Code of the Russian Federation (1996) URL: https://www.consultant.ru/document/cons_doc_LAW_10699/

Appendix 1

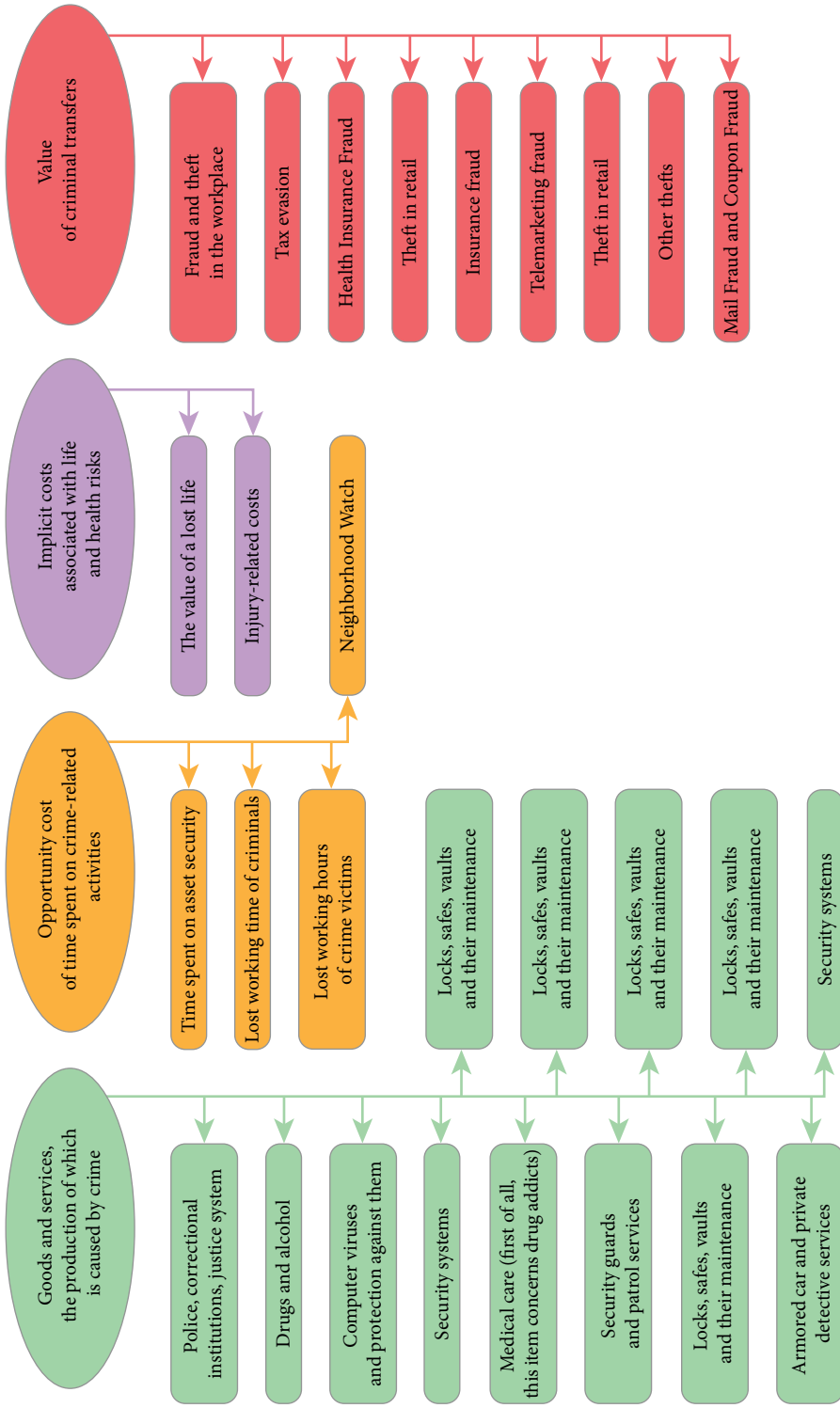


Figure 1. Typology of public losses from crimes according to D. Anderson

Appendix 2

Table A1. Alternative Estimates of Crime Costs (USD 2022¹)

Type of crime	Accounting approach		“Bottom-up” assessment			Conditional assessment method		
	Miller et al. (1993)	Miller et al. (1996)	Aos et al. (2001)	Cohen & Piquero (2009)	McCollister et al. (2010)	DeLisi et al. (2010)	Cohen et al. (2004)	Cohen & Piquero (2009)
Homicide	5 755 298	6 082 844	6 142 630	7 211 000	12 473 665	7 170 114	16 741 515	17 017 960
Rape	111,648	172,768	513,420	216,330	334,342	210,266	409,045	418,238
Armed robbery	-	-	-	72,110	-	67,859	-	403,816
Robbery	45,874	25,815	304,501	33,171	58,752	-	184,191	56,246
Serious/aggravated assault	34,697	29,787	146,560	79,321	148,608	80,948	120,815	122,587
Burglary	-	-	-	7,211	-	7,540	43,148	50,477
Larceny/ theft/ stolen property	-	735	31,575	4,038	4,905	-	-	5,769
Motor-vehicle theft	-	7,943	-	12,980	14,958	-	-	24,517
Arson	58,182	74,469	-	86,532	29,304	-	-	165,853

1 The US dollar exchange rate has been recalculated according to the data <https://www.inflationtool.com/>.

Appendix 3

Table A2. Crime scenarios proposed to respondents and related crimes (Herzog, 2006)

№	Scenario	Crime
1	A 35-year-old Arab suspects that his wife is cheating on him. Therefore, after taking his children to school and being alone with her, he stabs her several times, which led to her immediate death	Murder (of his wife) for personal reasons
2	A 32-year-old Arab businessman submits a tax return indicating an undervalued income	Tax evasion
3	At night, a 27-year-old Jew sneaks through a window into a stranger's apartment, steals money and jewelry worth 10,000 shekels and leaves the same way he entered	Apartment theft
4	A 48-year-old Arab man enters his house earlier than usual, finds his wife in bed with another man, beats her, inflicting severe bodily injuries on her	Infliction of grievous bodily harm (to his wife) for personal reasons
5	A 46-year-old Jew is called to the police station to testify about a neighbor suspected of committing an offense. In order to protect a neighbor who has actually committed an offense, he gives false testimony	Perjury
6	A 27-year-old Jew invites a girl of his own age on a date and during the meeting forces her to have sexual intercourse with him. The girl vigorously resists, but cannot overcome him	Rape (of a girl)
7	A 35-year-old Jew threatens to harm his friend if he tells the police about the illegal act he committed	Threatening a witness
8	In an atmosphere of political confrontation, a 28-year-old Arab throws a molotov cocktail bomb at a Jewish store in a nearby settlement and sets it on fire	Arson (of the store)
9	A 30-year-old Arab sells marijuana and hashish at home	Drug sales
10	A 35-year-old Jew at the wheel of a car is arguing with an Arab driver about a parking space on the main street. During the quarrel, the former pulls out a knife and stabs the latter in the chest, instantly killing him	Unplanned (street) murder
11	A 30-year-old Arab walks into a jewelry store and, threatening with a gun, takes 10,000 shekels from the cash register	Shop robbery
12	A 32-year-old Jewish man had sexual intercourse with a 15-year-old girl. The relationship is mutual. The man knows the girl's age	Illegal sexual relations
13	42-year-old Arab doctor performs illegal abortions in his private clinic	Illegal abortion
14	During violent clashes in the occupied territories, a 25-year-old Jew enters a coffee shop in an Arab settlement and throws a grenade, resulting in the instant death of a man	Murder for ideological reasons
15	A 45-year-old Jew walks into a watchmaker's shop, looks at the shelves and, while no one is looking, manages to put a 500-shekel watch in his pocket. He leaves the store without paying for it	Theft (of a watch)

№	Scenario	Crime
16	A 43-year-old Arab garage owner bills a customer for car repairs, including 500 shekels for car parts that he did not actually replace.	Fraud
17	A 45-year-old Jewish employee working in the municipality receives 10,000 shekels from a contractor, and in return helps him win a bid for the construction of a new residential area in the city	Receiving a bribe
18	A 42-year-old Arab policeman is investigating a Jewish suspect. In order to get a guilty verdict, he decides to conceal the evidence proving the suspect's innocence	Concealment of evidence

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