

## **The Use of Knowledge in Proportionate Punishment**

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Abstract:

Philosophers concerned with the ethics of criminal justice have settled upon proportionality as an evaluative standard to determine the appropriate magnitude of punishments. I present economics as a useful framework to draw attention to the practical problems of social coordination in allocating punishments proportionately. It is argued that proportional punishments cannot be calculated without market prices for the institutional inputs of criminal justice (police, courts, prisons). Because of knowledge revealing, and coordination promoting qualities, a market-based criminal justice system better represents the preferences of society for proportionate punishment compared to the current centrally-planned system.

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*In all cases a punishment appears equitable in the eyes of the rest of mankind when it is such that the spectator would concur with the offended person in exacting it. The revenge of the injured which prompts him to retaliate the injury on the offender is the real source of the punishment of crimes. That which... other writers commonly allege as the original measure of punishments, viz the consideration of the public good, will not sufficiently account for the constitution of punishments.*

--Adam Smith, *Lectures on Jurisprudence* (1978, p. 104).

## I. INTRODUCTION

The philosophical debate on criminal justice is divided between advocates of rehabilitation and advocates of retribution. The different practices are predominantly supported by different philosophical arguments, each with its own strength and weakness. Consequentialists argue, that how society responds to crime affects the safety, security, and general welfare of its members. An overly harsh criminal justice system can harm innocent people at the hands of the state, while a too lenient criminal justice system leaves victims vulnerable to crime.<sup>2</sup> The alternative (and more recently dominant) perspective relies upon deontological justification -- criminals deserve to be punished.<sup>3</sup> America's criminal justice system in practice is an outcome of these two interacting perspectives. Society neither has a completely retributive nor rehabilitative criminal justice system, and both consequential and deontological justifications are employed when convenient. Driven by concerns over escalating criminal codes, penalties, and incarceration rates, the deontological-retributive theory has been constrained by the proportionality principle.<sup>4</sup> The proportionality principle holds that "punishment should fit the crime," it is a standard to evaluate the legitimate magnitude of criminal sentencing, but a serious gap remains between theory and practice.

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2 Duff (2004) surveys the consequentialist perspective and references Wooton (1963) and Menninger (1968) who support therapeutic alternatives to incarceration. Smart (1973) and Bagaric and Amarasekara (2000) argue that allegedly unjust punishments are justified if they "really produce the best consequences."

3 See Mundle (1969), Davis (1971), Kleining, (1973), Singer (1979), Duff (1986) and McLeod (2003).

4 Beccaria (1764) and Bentham (1843) were among the first to describe proportionality standards. More recently Frankel (1972), Davis (1983), Bedau (1984), von Hirsch (1991), von Hirsch and Jareborg (1991), Ashworth (2000), Duff (2001), Ryberg (2004) and von Hirsch and Ashworth (2005) have explained and argued in favor of proportionate sentencing. In the theoretical debate proportionality seems commonly accepted, but has yet to be fully carried over to practical policy.

The magnitude of penal sentences, the widespread application of criminal punishments, and the net amount of incarcerations in America, are the highest in the world today and throughout history. Such trends do not appear to be slowing, leveling off, or reversing. Furthermore, the more subtle implication of proportionality – equality before the law, or like crimes should be punished alike – is also lacking in practice. Punishments are “unequally” applied across socio-economic groups. These trends are mirrored in survey results that investigate how different demographic groups “feel about” the current criminal justice system (Flanagan and Longmire, 1996). The outcomes of the American criminal justice system intuitively appear disproportionate to theorists and citizens alike, while proportionality theory admits an inability to objectively determine whether real punishment practices are or are not proportionate.

The proportionality principle, similar to philosophical motivations behind punishments of the past, lacks a methodology to bring theory into practice, or to update existing practices in accordance to sound theory. Hugo Adam Bedau (2005) points out this tension when he writes, “no alternative approach shows any signs of supplementing the just deserts sentencing philosophy – no matter how preposterous in practice the claim that a given punitive sentence is justly deserved may be (ibid., p. 3).” Without investigating unique theoretical frameworks the proportionality principle, like its theoretical predecessors, will likely be influenced and swayed by empirical trends. I argue that the central feature of criminal justice philosophies driving the gap between theory and practice, is their beginning assumptions of omniscient and benevolent central-planners. This paper attempts to update the assumptions of omniscience in criminal justice philosophy. I seek resolution to the philosophical debate by introducing economic theory equipped to promote social coordination despite imperfect and incomplete knowledge.

The fundamental problem of providing criminal justice services “proportionately” is one of social and economic coordination, much like any other allocation of resources.<sup>5</sup> When crime takes

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5 Hayek (1945) argued that knowledge, its uses and availability, are the central problems of social coordination:

place there are “justice demanders” -- individuals who want to secure their property, investigate the facts of the crime, bring the criminal to trial, and impose punishment. On the other side of the market are “justice suppliers” -- individuals who offer resources and expertise to provide justice services: policemen, judges, and correctional officers. Knowledge is problematic on both sides of the “market” for justice. Demanders need a forum to express their preferences for justice, and suppliers need signals to recognize profit potential for providing justice services. Individuals reveal their subjective preferences for goods and services in proportionate amounts when buying and selling. Prices communicate relevant knowledge of how individuals value scarce resources. They signal to suppliers, how much, where, when, and of what kind of products and services are demanded. Without markets to provide the institutions of criminal justice, the prices of criminal justice services do not reveal social preferences concerning crime and punishment. Proportionate provision of criminal justice services is achieved when the preferences of justice demanders are matched by the devoted resources of suppliers in quality and quantity. Neither too much nor too little, thus is the heart of proportionality.

A centrally-planned criminal justice system suffers from social discord in ways that markets systematically avoid and resolve. Markets solve knowledge problems and promote social coordination better than centralized political processes. Market processes are unambiguously conflict avoiding, the same cannot be said for politics. Market-provided punishments may not perfectly match social preferences nor ever achieve ideal (perfect) proportionality, but theory implies that when criminal sentences are perceived as dis-proportionate, profits can invoke new techniques of delivering criminal

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The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate 'given' resources – if 'given' is taken to mean given to a single mind which deliberately solves the problem set by these 'data.' It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only those individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge not given to anyone in its totality (ibid., pp. 519 – 520).

justice services. In a competitive market for criminal justice, undesired (disproportionate) punishments get replaced by preferable ones. Social norms that dictate how to respond to crime that emerge from a market are more representative of social preferences compared to centrally-planned alternatives.

Markets are better at producing equilibrium “proportionate” punishments than the current system.<sup>6</sup>

It is not because of theoretical inconsistencies or a lack of philosophically dedicated research that proportionality principles have not been accepted or applied.<sup>7</sup> Instead it is the assumptions behind proportionality theories that maintain the gap between theory and practice: (1) government is the sole legitimate provider of criminal justice services, (2) the margins of criminal severity and punitive harshness are (or can be) appropriately defined by the state, and (3) the political process and philosophical discourse corrects error and updates the criminal justice system to environmental changes. In reality, none of these assumptions hold. In fact, centrally-planned criminal justice services inhibit the expression, detection, and response to social preferences for proportionate punishment. Lacking the knowledge of social preferences over crime and punishment makes designing and applying proportionate punishments difficult if not impossible.

As Barnett has phrased it “[t]he United States today delivers law and order in the same socialist manner that the USSR delivered food and shoes – and with comparable results (Benson, 1998).” A centrally-planned criminal justice system is less capable to promote economic coordination for proportionate punishments compared to a criminal justice system provided on the market.

Proportionate criminal sentences are an output produced from complimentary institutional inputs

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6 Kirzner (1998) argues that though imperfect, social coordination may be the best available approximation of social welfare. Thorough subjectivism restrains the implications that market processes are always and everywhere social welfare increasing, at the very least it can be said that market processes promote coordination and mutual satisfaction amongst their participants in ways that political processes cannot. Furthermore, political processes create unambiguous conflicting arrangements of individual plans in ways that market processes avoid.

7 One gets the impression that philosophers believe more writing and research will influence criminal justice policy towards proportionality. Von Hirsch (1991, p. 580) writes, “expressive theories of deserved punishment best explain why punishments should be commensurate with the gravity of offenses. I have also suggested how the expressive view can give us some insight into how proportionality of sanctions should be assessed. Penal policy ultimately involves ethical choices. One can understand that policy best by thinking about the underlying ethical theory.” Frankel (1972, p. 20) writes, “there is need for a serious, carefully planned and organized course of initial study, perhaps for a month or so, devoted to this area, and largely to problems of sentencing. There should be reading, lecturing, and discussion about the fundamental questions of philosophy and penology. Prisons should be visited and studied.”

(police, courts, and prisons). Without market prices for the factor inputs of criminal justice, ideal proportionate punishment is impossible. Even if central-planners accept the insights of proportionality and implement sentencing guidelines drafted by philosophers, punishments would still not meet ideal proportionality standards because they would lack local, contextual, and dispersed knowledge that does not exist without individuals making real decisions according to scarcity constraints.<sup>8</sup> The centrally-planned criminal justice system lacks a feedback mechanism to adjust itself in the face of changing empirical crime rates and changing social preferences. When crime exists and a significant portion of the population demands institutional changes, the central-planner without market prices, has no way to decide whether to produce more police, courts, prisons, or whatever, let alone of what type.

What form should criminal sentences take: prison, rehabilitation, or restitution? What should the amount of a criminal sentence be? On what actions, should criminal sentences be imposed? What services will best deter crime and correct the harm that crime causes? The philosophical literature has drafted several proposals to address these questions explicitly, this paper is no such proposal. These questions must be understood as problems of social coordination, the question at hand is more fundamentally: what decision making process can discover new answers, systematically promote answers that reflect the diverse preferences of society, and avoid conflict? Markets are processes of trial and error that avoid and eliminate conflicting plans in favor of plans that promote social coordination.

This paper is organized as follows. Section II surveys the philosophical literature devoted to proportional punishment. Proportionality emerged as a necessary constraint on the application of retributive punishment practices. In their political and practical applications, proportionality standards have yet to live up to their theoretical counterparts. The American criminal justice system leaves a gap in meeting philosophers' and the general publics' preferences for proportionality. That gap represents

<sup>8</sup> The same argument was made during the socialist calculation debate Mises (1920 and 1951) and Hayek (1935) argued that socialism was impossible without market prices for the factors of production. The central-planner does not possess contextual prices of goods and services valued against one another. This knowledge is crucial if he is expected to invest in production lines that are proportionately matched to the preferences and demands of the consumer society.

discord that could be responded to by markets. Section III provides argument and evidence of the current criminal justice system's failing to solve knowledge problems and provide proportionate criminal sentences. Section IV gives arguments for why a market-driven criminal justice system could better solve knowledge problems and provide proportionate punishments compared to the current-centralized system. Section V offers concluding remarks.

## II. THE PROPORTIONALITY PRINCIPLE

While punishment has been a point of interest amongst philosophers for many years, consensus on the matter has changed over time. Before the 1970s philosophers doubted the morality of retributivism.<sup>9</sup> The empirical, and political realities of the 1970s put stress on the consequentialist justifications and rehabilitation programs that were in place. Crime rates and recidivism were both rising; rehabilitation was not a satisfactory response. Society began to view the criminal justice system, and its philosophical justifications with a “nothing works” attitude.<sup>10</sup> By the mid 1980s philosophical perspectives on crime shifted to embrace recidivism and deontologically-supported, desert-theories of punishment.<sup>11</sup> Today the deontological justifications for imposing penalties on criminals are generally accepted but constrained. Once again, the commonly accepted philosophy of punishment is being updated because of tensions imposed by the empirical world. With more aspects of civic life deemed criminal, longer lengths of prison sentences, and overcrowded prisons, commentators are blaming the retributive philosophy as a theoretical and moral failure. Retributive theories alone do not provide a practical blueprint for allocating punishment, let alone in the correct amount. The administration of criminal justice cannot be given free reign to levy penalties in any

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<sup>9</sup> Some writers in the 1960s supported retributivism inspired by Kant (1790) and Hegel (1820) but they were the minority. See Armstrong (1961) and Gross (1984).

<sup>10</sup> Avio (2003, p. 27) surveys Martinson (1974) who first coined the “nothing works” phrase when empirically investigating the effects of prison rehabilitation programs as a preview to Litpon et al. (1975). The “nothing works” theory has been challenged but its influence on opinion at the time was dominant. Sechrest et al. (1979), Ryberg (2004, p. 3), and Bedau (2005) all echo this historical narrative.

<sup>11</sup> Mundle (1969), Davis (1971), and Kleinig (1973) represent the key moral arguments in favor of desert inspired retributive justice.

magnitude upon any criminal offense, thus proportionality has emerged as a standard to theoretically determine the proper amount of punishment.<sup>12</sup> “[T]he [proportionality] principle has the form of a *deontological constraint* (Ryberg, 2004, p. 13).” Where the desert theory of retributive punishment has explained *why criminals should be punished*, the proportionality standard is a framework to understand *how much criminals should be punished* (von Hirsch, 1991). No different from preceding criminal justice philosophies, proportionality is confined to the theoretical realm, it lacks security against change imposed by a criminal justice system that fails to accept or implement its proposals successfully.<sup>13</sup>

The proportionality principle argues that a punishment should be well-fitted to the crime,<sup>14</sup> with two central aspects. (1) The *ordinal proportionality* of a punishment refers to its magnitude in relation to other crimes and punishments. One ordinal ranking scheme represents the severity of crimes and another must represent the harshness of punishments. For example, murder is a more severe crime than theft, and death is a harsher punishment than fines – the separate ranking scales would essentially be two complete lists, one of all possible crimes and one of all punishments. (2) *Cardinal proportionality* is maintained when the link between the two ordinal scales are well-matched. If petty theft was punished by a death sentence, one would still say that the punishment was disproportionate, even if relative crimes were punished with ordinally proportionate punishments. The ordinal evaluation scales of crime and punishment must be internally consistent, and when fitted together, they must produce

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12 Ryberg (2004, pp. 3 – 5), Griset (1991), Hudson (1987), von Hirsch et al. (1987), von Hirsch (1993), Wasik and Pease (1987), and Tonry and Hatlestad (1997) all describe the rise of proportionality as a response to real punishment practices and unrestrained criminal sentences that struck against the intuitive moral implications of retributivism.

13 Bentham (1962) once claimed the term to be more “oracular than instructive.” Ryberg (2004) does not believe “proportionalism is in the end the position that should bring philosophy to the front-line of penal practice.”

14 Proportionality is usually applied narrowly to punishment and criminal sentences. I argue that proportionality has a broader application throughout all criminal justice services (police, courts, and prisons). Corrections are not the only realm of criminal justice provision that is punitive. All criminal justice services impose unwanted costs upon criminals. Criminals would rather not be handcuffed, detained, brought to trial, or sentenced. The methods and techniques of arrest can also be held to proportionality standards. What techniques are excessive and what are too lenient for police to use when they arrest suspects? Furthermore the level of imposed punishment that is performed in society is related to the allocation of resources in the earlier services of criminal justice. If millions of dollars are given to police departments in order to make drug arrests, and much less is paid to enforce other crimes than a similar bias will likely work its way into correctional institutions as well. These questions share the same structure as the question of providing proportional punishment in corrections but there is not sufficient space to address them in this article.

“reasonable” punishment magnitudes.<sup>15</sup>

The proportionality framework consists of three related steps. First, society needs a ranking system to evaluate the severity of crimes. The relevant margins to judge a crime's severity must be defined and accepted, then crimes get ordinally ranked by according to those margins. Next, a similar ranking system must be developed for punishment. The set of “legitimate” or available punishment techniques must be clearly defined, and then those punishments also ordinally ranked by harshness. Each of the two ordinal lists must be internally consistent. More severe crimes and punishments must be allotted to the more severe sides of each spectrum. Once the crime and punishment scales are constructed, they are matched or “anchored” (von Hirsch, 1991, pp. 576 - 578) to one another to establish a cardinal exchange rate where crimes invoke specific punishments in specific quantities.

The value scale for criminal severity is often developed first because harm and culpability are the accepted margins for determining criminality.<sup>16</sup> Punishments can be geared to respond to the level of harm caused by a crime. The more harm a crime causes, the harsher the punishment.

Von Hirsch and Jareborg (1991) have offered one outline for “gauging criminal harm.” They seek to define the level of harm stemming from a “standard” form of crime -- burglary in general instead of a specific case of burglary. They describe an average victim, an average criminal, and an average offense to calculate the “standard” penalty for “standard” crimes that impose harm upon the “living standard”<sup>17</sup> of victims. For them, dealing with unique cases is a matter of describing the differences between the unique and the standard case, then calculating the proportionate difference to be added or subtracted from the standard punishment. They loosely fit the ordinal value scales of crime

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15 The application of the terms “cardinal” and “ordinal” to the severities of crime and punishment was coined by von Hirsch (1991 and 1993, ch. 2) and they have been accepted as “standard” throughout the field (Ryberg, 2004, p. 13 n. 10).

16 See von Hirsch (1991, p. 556). Von Hirsch and Jareborg (1991) admit that their process does not apply to crimes without a victim. “Davis seems to regard this as a disadvantage of the theory [(Davis, 1983)]; I consider it an advantage. Where there is doubt that conduct is reprehensible, the appropriate response is decriminalization (von Hirsch, 1991, p. 579).”

17 They borrow this concept from Sen (1987, pp. 20 - 38).

and punishment together by grouping categories within the larger body of criminal acts.<sup>18</sup> So long as the typical burglary is anchored to a standard punishment there may be divergence between individual cases of burglary, but radically disproportionate punishments are avoided. One will not be put to death for petty crimes so long as petty crimes are clearly distinguished from severe.

Davis (1983) presents another outline for specifying proportional punishments. His system takes a different sequential order from von Hirsch and Jareborg's (1991), but the general structure where ordinal rankings for crime and punishment are listed, then fit together as cardinal exchange rates is the same. Davis calls his a “retributive theory of proportionality” where punishments are “foreordained (and so long as they are not too frightful), the potential criminal can treat each penalty as the *price of the corresponding forbidden act* (ibid., *italics are mine*, p. 731).” He uses a hypothetical marginal value to determine the ordinal rankings for the severities of crime. “The least crime is the one a rational person would prefer to risk (all else equal) given a choice between risking it and risking any other of that type; the next least is the one a rational person would prefer to risk given a choice between it and any other of that type except the least; and so on (ibid., p. 739).” The same marginal ranking process is used to construct an ordinal list of punishments. He proposes an imagined “administered market” where criminals bid on government-issued licenses to commit crimes. When a judge uses this hypothetical construct, the price that a criminal would be willing to pay for his license, in theory, reflects the amount of exploited advantage he took from his victims (ibid., p. 743), therefore that price serves as a good measure to base a proportionate penalty.

These different proportionality schemes suffer from the same practical flaw -- a lack of real market prices, and an inability to coordinate dispersed knowledge. For philosophers, implementing proportionality standards is a technological problem (Primoratz, 1984). A more logically accurate method of ordinal ranking schemes, in the hands of philosophers, judges, or central-planners, will yield more proportionate criminal sentences. In order for a proportionality standard to be implemented,

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<sup>18</sup> Bedau (1984) has also argued for a “classification-based sentencing” system.

planners imagine hypothetical markets, estimate imagined prices, and use those prices to construct practical punishments. Philosophers are correct in so far as they recognize that prices reveal knowledge about the subjective values that buyers and sellers attribute to goods and services, but on another level, these proposals commit a fundamental misunderstanding of prices and the market process. No individual mind could have complete and accurate insight into the subjective preferences of another individual, let alone an entire society governed by criminal law. Only through real participation and the continual confrontation with hard budget constraints<sup>19</sup> (scarcity, competition, and opportunity costs), do market prices get infused with preference revealing knowledge. Competition and exchange are influential forces upon prices, without them prices are just hypothetical numbers assigned to objects and actions. True market prices cannot be imagined and informative at the same time, prices are residual outcomes of buying and selling, performed by real people, expressing unique contextual preferences.

After one recognizes how prices are derived on the market, it becomes obvious that the step by step approach to constructing proportionate punishments, where the margins of quality are defined before crimes and punishments are ordinally ranked, is perhaps backwards. Only after an individual buys or sells, can his ordinal preferences and margins of quality, be perceived by another. By competing with other suppliers, innovators offer new services to attract customers, they make educated guesses about the future preferences of potential customers. Without witnessing the prices that buyers pay for consumable goods and services, suppliers are ignorant of how to provide service profitably, optimally -- proportionately.

Von Hirsch and Jareborg's (1991) technique of ranking crime and punishments perhaps suffers a greater misunderstanding than Davis's (1983) marginal method. Their ranking schemes are admittedly subjective and based on singular standards of criminal severity and punitive harshness. For them,

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<sup>19</sup> Kornai (1986 and 1998) developed the terms "hard" and "soft" budget constraints to explain the shortages and inefficiencies of production in the Soviet Union and other socialist countries. Shortages do not imply that a given good or service is not being produced altogether, but it does signal that demand is exceeding supply and the production function is not updating.

*harm done to the victim* defines the extent of criminal severity. While harm is probably an essential feature of crime, it is not a sufficient margin to design a functional punishment scheme. Different individuals may evaluate the costs and benefits of crime and punishment according to different margins. As Ryberg (2004, p. 62) explains “there is no clear answer as to how different crimes, each affecting more than one interest dimension, should be ranked in relation to one another.” Who defines harm? There are several different types of harm, if not infinite, how will they be ranked?

In proportionality proposals, once the two ordinal value scales are arranged they must be fit together to develop an exchange rate between crimes and punishments. The consistent fitting between the ordinal value scales is the more complex implication of the proportionality principle. “Like cases should be treated alike (Galligan, 1981, p. 165).” The crudest method would be to link the most severe crime with the harshest punishment and follow each list down, or start from the bottom with the same procedure. This method falls short when there is not a similar degree of specificity for both crime and punishment. If there are a million different types of crimes, but only two available punishments, then complete proportionality is near impossible.

Davis (1983, p. 741) explains that the task of linking the ordinal scales must be informed by “local reasons” that “may include the likely educational effect of suffering what one has made others suffer, the satisfaction of resentment likely from such exact mirroring of the wrong, the unpopularity of certain penalties with certain social classes, and so on.” Von Hirsch and Jareborg (1991) admit that their system would allow for variation across different societies who use different anchoring schemes (ibid., p. 114). Deterrence arguments also support the ability to manipulate punitive magnitudes based on the local conditions of crime, punishment, and law enforcement. When enforcement techniques are imperfect criminals might rationally prefer to commit crime instead of legitimate action because the likelihood of suffering punishment is low (Becker, 1968). Shifting the penalty scale down so that harsher penalties are applied to lesser crimes increases the expected costs of punishment and lowers the

expected rewards of crime.<sup>20</sup>

The general framework that philosophers use to create theoretical values of proportionality is akin to a real evaluation process that individuals use when they exchange goods and services in markets. It is not the process of designing ordinal scales and linking them together that is flawed, instead the assumptions that these tasks can be achieved by central-planners is the major error of proportional punishment schemes. It is assumed that a philosopher or central-planner can and should define the essential features of crime and punishment, yet it is likely the case that no single individual is capable of making such definitions without conflicting with the interests and perceptions of others. The linking process between the two scales rests on a similar assumption that the decision maker has full insight into the contextual specificity that his local community demands. In reality, the true content of these definitions and evaluative standards is dispersed and not contained in any single mind.

The weaknesses of proportionality theory can be strengthened if philosophers recognize the knowledge revealing quality of market processes. Coordinating dispersed and subjective evaluations is what markets achieve when given the opportunity to function. The extent to which the current criminal justice system has been unable to produce punishments that meet proportionality standards is the extent to which knowledge is suppressed by central-planning. Markets are not permitted to freely function in the various provisions of criminal justice, prices do not signal preferences for crime and punishment, nor do they communicate specific cardinal magnitudes to tell justice suppliers how to provide proportionate punishment. Without the revealed social preferences for crime and punishment, pitted against hard budget constraints of engaged market behavior, no individual knows what the appropriate margins of evaluating crime and punishment are – critical starting points for any theory of proportionate punishment.

Lastly, philosophical outlines of proportionate punishment overlook the fact that the separate

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<sup>20</sup> On the justification of deterrent punishments see Nozick (1974, pp. 59 - 63). Ehrlich (1972) investigates the theoretical and empirical deterrent effects of criminal law enforcement.

institutions of criminal justice influence the relative costs and benefits of producing additional units of punishment. If there are vast amounts of wealth invested in police to enforce drug prohibition, but only a small amount of subsidy awarded for enforcing property and violent crime, that heterogeneity will likely carry into the provision of prison services. There would be more drug-offender inmates compared to attackers and thieves, regardless of the popularity of proportionality theory, or its specific moral evaluations that drug crime is “less harmful” than attacks. The key intention behind proportionality theory is to determine whether punishment outcomes are just and proportionate, but in practical terms proportionality theory cannot offer judgment nor response. Even if the criminal-justice-planner accepts proportionality, and rejects the status quo, he has no insight about how to invest across the different components of criminal justice. Should more or less money be spent on police, courts, or prisons? Without market prices for these goods and services, the central-planner can neither detect disproportionate outcomes, calculate proportionate sentences, nor re-allocate resources to bring about proportionality.

### **III. CENTRAL-PLANNING INHIBITS COORDINATION IN THE CRIMINAL JUSTICE SYSTEM.**

Philosophers and casual observers alike frequently refer to the record levels of criminal codes, the magnitude of criminal sentences, overcrowded prisons, the rate of new prison constructions, and the record high expenditures on law enforcement, as evidence that punishment in the United States is disproportionate. The United States incarcerates more criminals than any other country today, throughout history, and at an unprecedented cost. In mid year 2006 the United States held 2,245,189 inmates in prison, up from 1,585,586 inmates in 1995 (Sabol et al., 2007). Figure 1. graphs the rising trend of prison populations in the United States. Poland is second place for most inmates with 229 per 100,000 people compared to America's 724 per 100,000 (Walmsley, 2005). Table 1. lists prison populations per country observed over time. In 2005, US local governments spent over \$100 billion

on criminal justice, up 396% since 1982. State governments spent over \$60 billion, up 510%, and the federal government over \$35 billion up 730% (Bureau of Justice Statistics, 2007). Figure 2. graphs the rising trend of expenditures on criminal justice services in America. At the very least, it can be argued that the current levels of punishment in the US are not universalizable for other countries, nor feasible to continue in the future at a similar trend (a philosophical and moral red flag). Robert Higgs has sarcastically commented, “if the total incarcerated population were to continue to grow by 7.3% annually, it would double approximately every ten years, whereas the total population, growing at 1% annually, would need some seventy years to double. Hence, in the decade of the 2080s, within the lifetime of many people already born, the prison population would overtake the total population (2005, p. 96).”

Ironically writers have pointed to both of punishment's philosophical paradigms as responsible for this trend during their respective times of dominance. Frankel (1972, p. 29) complained that “indeterminate sentences,” as part of the rehabilitative ideal, lead to increased sentences and prison populations. More recently, several writers blame retributive perspectives or the “neoclassical” punishment theory (retribution updated by proportionality) as the driving force behind increased punishments.<sup>21</sup> Von Hirsch (1994) and von Hirsch and Ashworth (2005) defend the proportionality standard against these accusations. Most of this debate stems from disagreement over which policies are, and are which policies are not, proper examples of applied proportionality.<sup>22</sup> This debate exposes a unique perspective on the criminal justice debate: economic practicality, regardless of philosophical motivation, may hold more influence on the structure of the criminal justice system. Furthermore it reveals a serious lacking of proportionality theory to objectively determine if a given punishment,

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21 Braithwaite and Pettit (1990), Christie (1993), Tonry (1996), and Garland (2001)

22 Frankel (1972) is willing to refer to “the Model Penal Code,... the Federal Criminal Code (1971), the Model Sentencing Act (1963),... and the Minimum Standards for Criminal Justice (1968)” as experiments in proportionality. Christie (1993) points to the United States Sentencing Commission's grid as an applied tool of proportionality. And Gilchrist (1979) surveys near dozens of Supreme Court cases dating back to 1910 that hold the air of proportionality. Von Hirsch (1994) and in his broader body of work admits a much more narrow sample of cases as applied proportionality, cases he argues have been successful at decreasing the level of punishment.

technique, quantity, or societal magnitude is or is not proportionate. While there is disagreement over how pervasive proportionality theories have been applied, it seems more generally agreed (intuitively rather than theoretically) that the outcomes of the criminal justice system today are not proportionate.

The current criminal justice system fails at producing proportionate punishment not because proportionality theory has been ignored or undervalued, instead there are more structural impediments. Philosophical theories test their soundness according to logical consistency and moral justifications, but they all assume the state is the rightful provider of criminal justice without investigating the incentives and processes of state decision-making that work against the practical requirements of their models. To the extent that philosophers have recently begun to rely upon quasi-market-prices to reveal the subjective elements of crime and harm, they have assumed the state to possess a degree of knowledge that it does not have and cannot obtain.

In America's current criminal justice system, punishments are determined by central-planning. Voters elect political representatives, who then appoint officials (judges, sentencing commissions, and prison wardens), who then dole out punishments and other criminal justice services (or they use government funds to contract-out).<sup>23</sup> The election process is meant to represent the preferences of the citizenry. As a feedback mechanism, elections occur periodically and voters either renew their support for incumbents or vote them out of office.<sup>24</sup> Aside from political inefficiencies such as the infrequency of political elections, the rationally ignorant voter, and the incentives of politicians to appeal to the median voter,<sup>25</sup> expand bureaucratic authority, and rent-seek,<sup>26</sup> the fundamental flaw in the provision of criminal sentences is the inability to coordinate partial, tacit, and potentially erroneous knowledge. The

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23 In some states judges and county sheriffs are appointed by direct election, but this does not have a significant effect on the central structure of decision making in the overall provision of criminal justice.

24 Wittman (1989) is perhaps the biggest defender of efficient democracy. Caplan (2007) perhaps his greatest opponent.

25 Public Choice economists refer to this tendency as the median voter theorem. Where candidates appear to the most popular common denominator of policy agenda and essentially appear identical in real policy advocacy despite representing ideologically different constituencies. See Black (1948), Downs (1957), and Congleton (2002).

26 Tullock (1967, 2005), Buchanan and Tullock (1962), Buchanan et al. (1980), and Rowley et al. (1988) have elaborated on the economics of rent-seeking and capture. The "Tullock rectangle" is an illustration that helps explain how profits off of rent-seeking get bid down to zero by being held as an opportunity against all profitable endeavors. If the effort put into the political process could yield a larger reward on the market than there is no incentive to participate in politics.

political provision of punishment lacks hard budget constraints on the decisions of demanders and suppliers. Without constantly buying and selling according to property rights, prices, profits, and losses, social preferences for crime and punishment are not completely revealed nor responded to. Social coordination requires perpetual and constant action and updating to discover new opportunities and eliminate existing errors, but the political process is slow moving and limited. Today's criminal justice system produces non-proportionate sentences to the extent that Public Choice incentives are exploited in the areas where central-decision-making processes suppress markets and knowledge. Furthermore, the current system lacks a full and reliable mechanism to correct itself.

Centrally-planned punishment suffers from knowledge problems in all three stages of developing and determining proportionality. (1) Because of the monopolized role of public prosecution and the priority of state-imposed criminal sentences, victims lack a forum to express their perceived values for criminal harm. A majority of the resources and efforts used when responding to crime are subsidized or completely state-provided. Measuring the costs of crime in a setting where costs are disbursed across society is more difficult than if prices were paid by those who gained the concentrated rewards of criminal justice. Without these performed actions and revealed preferences, through prices paid, the rankings of criminal severity inferred by judges are arbitrary or tend to be expressive of private interests rather than social welfare. (2) Victims do not have the ability to influence or inform the type or quantity of punishment. Victims lack the opportunity to bargain criminal sentences directly with offenders. Without methods to reveal victims' and criminals' preferences over the ordinal harshness of crimes and punishments, their ranking scales suffer the same arbitrariness and capture problems as the rankings of criminal severity. (3) Because judges lack the knowledge of social values for crime and punishment, there is no method for constructing exchange rates between the two value scales. Wide varieties of criminal sentences are applied for similar crimes, and similar punishments are applied to different criminal actions. As outlined by philosophers, proportionality requires

knowledge of criminal severity, punitive harshness, and cultural evaluations between the two. Central-planning impedes knowledge in all three stages of constructing proportionate punishments. The current system produces systematically disproportionate results.

The current criminal justice system produces disproportionate punishments in three empirical areas, none of which can be accommodated for by current philosophical frameworks. (1) The level of punishment by incarceration is excessively high. This is not necessarily because of any philosophical influence, instead it is a direct result of bureaucratic incentives created when decision-making processes are centralized rather than left to competitive markets. (2) There is an observed inequality in the application of criminal justice across different groups of people – blacks are in jail more than whites, poor more than wealthy, etc. These outcomes stem from incentives created in the institutional structure of criminal justice. Often times they are unintended consequences. Refining philosophical debates and policies, by definition, cannot accommodate or plan around the unforeseen. (3) The ordinal severity of crimes defined in real terms by arrests, charges, and incarcerations for different types of crimes, is not in-line with proposals envisioned by most proportionality advocates. Even if proportionality was accepted across the board, there would be no incentive to discover alternative methods of law creation and enforcements. Bureaucratic incentives could still dominate. Philosophical proposals alone can only define narrowly envisioned ordinal rankings of crime and punishment, but they cannot be sure that they are ideal nor do they possess a method of implementing them.

Philosophers explain the rise in incarceration levels from the moral justifications behind punishment, without resolve, but the history of crime and punishment implies that economic incentives are the predominant influences upon criminal justice practices. The current largess, and continual growth of prison populations are better explained as consequences of the incentives that central-planners face. Without market processes to allocate criminal justice resources, central-authority decision-makers must make decisions some how. At best their decisions could be arbitrary, but these

individuals are guided by their own incentives to be re-elected (Niskanen, 1971 and Williamson, 1964). To the extent that local citizens perceive value from imposing punishments upon criminals, prison space may be overused as a common pool resource. Local authorities try to appear “tough on crime” while dispersing the costs of punishment onto a larger tax base.<sup>27</sup>

The proportionality principle demands equality before the law. Like crimes should be treated alike, regardless of differences between the individuals who commit them. More often than not the current criminal justice system is described as unequal, especially with regard to race. Table 2. reports the breakdown of American prisoners by age and race for 2005, similar reports exist as far back as criminal data has been collected. Most theories, try to explain these outcomes by one of two perspectives on crime, one where blacks commit more crime, and are rightly incarcerated more, or one where the criminal justice system is explicitly biased. But the third, under-recognized, economic perspective, explains that blacks and whites may face different costs and benefits to committing crime, and those costs and benefits are influenced by the institutional structure of the criminal justice system. The question is, are those incentives and influences equal in application? Probably not, and proportionality theory has no means to accommodate for the structural and natural heterogeneity of individuals.

Finally, the enforcement of criminal law under central-planning creates an ordinal ranking of criminal severity in real terms that does not seem to match the preferences of proportionality philosophers nor the preferences of society. Von Hirsch (1991) explicitly confines criminality to harm-doing and concludes that victim-less crimes should often be decriminalized. Figure 1. shows that the significant proportion of total incarceration is driven by increased drug enforcement. “Drug prosecutions have comprised an increasing proportion of the Federal criminal caseload – from 21% of defendants during 1982 to 35% during 2004 (Sedgwick, 2006).” The percentage of prison inmates

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<sup>27</sup> Avio (2003, p. 16) surveys Nardulli (1984), Giertz and Nardulli (1985), Benson and Wollan (1989), and Benson (1990 and 1994).

charged with drug-related crime has similarly risen from 6.4% in 1980 to 20.1% in 2003 (Chaiken, 2000 and Harrison and Beck, 2006). Are these empirics proportionate to the severity of drug crime? “By two to one, Americans describe drug abuse as a medical problem that should be handled mainly through counseling and treatment (63%) rather than a serious crime that should be handled mainly by the courts and prison system (31%) (Hart, 2002).” Which crimes are treated more severely is yet another way the current criminal justice system appears disproportionate, but proportionality theory alone has no ability to guide the content of criminality aside from central-planning, and it is central-planning that has created the current allocation of criminal enforcement.

To the extent that the current criminal justice system fails according to its philosophical motivations, and would continue to fail if guided by different philosophical standards, is a result of the system's centralized structure and assumed adherence to state monopoly. By assuming the state's role as the appropriate provider of criminal justice services, philosophical motivations negate their own practical applications because they implicitly rely upon the ability of central-planners to have complete knowledge about society's preferences for criminal justice and knowledge of the logistical methods to satisfy those preferences. Allowing markets to provide the complimentary services of criminal justice would promote, but not necessarily achieve, optimal allocation of those services. Market provision would unambiguously perform better than central-planning at matching the provision of criminal justice with social preferences for criminal justice because knowledge would be revealed and responded to through price signals that the current system lacks. While perfect and ideal criminal justice services may never be achieved, there would be motivations and incentives for individuals to improve criminal justice services according to the standards of quality defined and revealed by society.

#### **IV. MARKETS COULD ACHIEVE PROPORTIONALITY BETTER THAN POLITICS.**

A criminal justice system provided by free markets would better solve knowledge problems and

achieve proportionality in punishment compared to the current centrally-planned system. Markets spontaneously mimic the same processes of ordinal and cardinal evaluations that have been described by philosophers as necessary hypothetical exercises. When law enforcement services such as police, courts and prisons are provided on the free-market the defining qualities of criminal law and criminal severity emerge from the bottom up. The continual process of buying and selling for criminal justice services pits the production of these services against hard-budget constraints. The allocations of criminal justice services and punishment on the market better reveal the tastes and preferences of society. The resources of criminal justice flow to their most highly valued use, and entrepreneurs are constantly alerted to new profit opportunities when they arise. Markets are self-correcting.

Imagine a world without state provided criminal justice institutions. When crime occurred (or preemptively), individuals would purchase criminal justice services. The first decision for a victim of crime would be whether or not to seek justice at all. For a victim to invest in criminal justice services, the market price must be less than the perceived utility he would gain from the service. For example, say my car had been stolen. My first decision would be, should I hire someone to investigate the crime? If I perceive the utility from the thief being detected, brought to trial, and punished (discounted by the probability of success) to be greater than the utility I would have gained from spending the money on something else, then I will pay.

The criminal justice process is barely underway but there is already a wealth of knowledge conveyed to help promote proportionality in the general provision of criminal justice services and the specific provision of punishment. First, there is the obvious signal that certain crimes are menial and not worth the high costs of enforcement. As a crude categorization of criminal severity, the market has separated severe from menial crimes at a given market price. If the market price for criminal justice services were to change, then so would the sets of crimes worthy and unworthy of enforcement. Higher prices of law enforcement would mean more crimes go ignored and vice versa. Prices

communicate the relevant opportunity costs of spending more on criminal justice services.

Second, the market has instigated entrepreneurship to guide resources to their most highly valued uses. The supplier of criminal justice services must pay expenses in order to bring his service to market. He will only offer his services if the market price exceeds the spent costs of his inputs. In the case of criminal justice, input costs could be police salaries, training lessons, uniforms, weapons, courts, judicial salaries, prison construction, etc. Given a constant market price of inputs, suppliers will offer their services to those customers willing to pay the highest price, thus maximizing the difference between revenues and expenses. Who will be willing to pay the highest prices for criminal justice services? First, those with low opportunity costs of spending – extremely wealthy people who can afford the service. This seems unfair, but wealthier citizens buying up criminal justice services, regardless of their “need,” may actually be a good thing to ensure proportionality. If thieves are rational agents, and attempt to maximize the benefits of their criminal actions, then securing the most valuable areas of wealth could serve as a deterrent against crime. Also, when criminal justice suppliers witness high prices of final products and low prices for factor inputs profits attracts new entrants into the market. If the rate of profit in criminal justice services is higher than in other markets, new financial, physical, and human capital resources flow in from other industries. This drives down the market price for criminal justice services and makes them more affordable for less-wealthy more “needy” purchasers.

Markets help to allocate resources to their most needed geographic location and customer-base, they also allocate resources according to preferred quality standards. Individuals with greater needs are those who perceive a higher utility from criminal justice services given the costs of crime. Their high willingness to pay for criminal justice services is driven by their high perceived costs of crime and their assumed high perceived utility for responding to crime effectively with criminal justice services. These high prices reveal more knowledge than just where crime takes place. When the provision of criminal

justice services is provided on the market, the actions of suppliers are aimed at discovering and satisfying consumer preferences. The goal of the criminal justice entrepreneur is to satisfy customers (better than competitors) at the lowest cost and maximum profit. His incentives are naturally aligned to discover real deterrents to crime, real abilities to solve crime, real techniques to win criminal cases, and real methods of punishment that satisfy customer preferences for justice and fairness. If he does not, his competitors, eager to subsume his profits will discover these opportunities instead. Compare these incentives to the central-planner, whose interest was to be re-elected. Voters determined where criminal justice resources were needed, once every few years. And the technologies of criminal justice services were a fixed set of standard provisions provided according to budget constraints.

Over time as several individuals level criminal accusations against one another at the market rate, a recognizable code of criminal law may develop. Firms providing the services of criminal justice seek standardized reliable production processes in order to lower costs and more effectively maintain long term contracts for their capital inputs. This standardization process could mimic the categorization of crimes alluded to by criminal justice philosophers. Criminal investigations and arrests may likely be priced according to several variables: geographic travel, the violent nature of the crime, or the difficulty that the investigator faces in solving the case.

Up until now the criminal and his subjective evaluations have been overlooked. At first thought, it seems appealing to ignore the criminal – who cares what he thinks, he is a criminal? But his subjective evaluations of the costs and benefits of crime influence the rate of criminal behavior and the structure of the criminal justice system. His actions reveal crucial knowledge that when understood properly can be responded to thus diminishing the costs of crime.

On the market, the costliness of law enforcement (detecting, catching, and punishing criminals) would be driven by the real costs endured by suppliers in providing service. Most of these costs are imposed by the criminal. When he travels long distances, is extremely stealth, or uses advanced

technologies to evade capture, he signals his perceived values for succeeding in crime and his perceived costs in being punished. The higher the value of criminal success, and the lower the probability of actually being detected, caught, or punished, the more willing the criminal is to invest in resources, talents, and energy that make his detection more difficult. The criminal has a real ability to increase the costs of law enforcement that is likely to be reverse incentivized.

If I have stolen a car, I face the decision to evade capture or turn myself in. If I turn myself in, and return the car, the costs of law enforcement for this case and therefore the harm done by my crime are maintained at a low level. If I evade I face the probability that I will succeed and the inverse probability that I will be captured. In the case that I am captured I have risen the costs to capturing me and the harm done by my crime. I can expect to be awarded a higher punishment as a result of this higher cost, because the increased harm has induced an increased investment from the victim or the supplier of criminal justice (assuming they did not give up, in which case I would succeed with my crime). The cost of my investment for evading law enforcement had to have been lower than my expected cost of enduring punishment when I chose to invest, but if I have fair knowledge of the increased liability I am inclined to avoid increasing the harms caused by my crimes.

Once a criminal has been detected, arrested, and tried, what would his criminal sentence be on the free-market? Purchasers of criminal justice would be willing to pay to administer punishments so long as the benefits exceeded the costs. The market holds a potential for entrepreneurial discovery and innovation that the centrally-planned system lacks. What influences the perceived costs and benefits of demanders in the market for criminal justice? Firms are motivated to satisfy consumer preferences to the best of their ability at the highest price. Services that better satisfy customer preferences, customers are willing to pay higher prices for. Firms that have more efficiently standardized production functions of imposing criminal punishment will be able to yield higher profits on the market by maximizing the difference between their low input prices and high product sales. One major potential cost that private

firms providing criminal punishment would face, that current state-providers do not, is the potential for error and liability of falsely imposed punishments.

A suspected criminal will be willing to pay to defer a punishment so long as the market price of deferment is less than his perceived utility of avoiding the punishment. This willingness to pay invokes entrepreneurial incentives for firms to discover methods of administering criminal justice in ways that maximize their own profits according to the ability to really effect the perceived utilities of customers. In other words, when firms provide a service that really effects the ability of innocent people to avoid the costs of crime preemptively, they can earn profits as a function of the market price for punishments. When the perceived benefits of crime outweigh the costs of overcoming security technologies crime will still persist. The remaining level of crime will determine victim's willingness to pay for ex-post criminal justice services.

Justice firms are inclined to discover methods of awarding utility to customers while minimizing the potential liability of falsely imposed punishments. This would likely be a varied basket across the market for criminal justice services. Firms would employ various techniques such as refined investigation techniques to assure accurate arrests, and precisely honed criminal punishments that avoid broad liabilities. These incentives have caused some theorists to predict that criminal punishments on the free-market would most likely take the form of financial penalties rather than physical punishments or confinement. Monetary restitutions paid from criminals to victims simultaneously provide real utility to criminal victims, while avoiding the backward immobility and imposed costs of physical punishments. Redistributing falsely imposed financial sentences is easier to correct for error than is retrying and calculating a new liability as a result of an imposed incarceration, physical punishment, or death penalty.

## **V. CONCLUSIONS**

This paper has responded to the philosophical debate over criminal punishment. The philosophical community has recently embraced proportionality as a meaningful standard to evaluate the legitimate magnitudes of punishment. The paper accepts proportionality as a good standard and agrees with philosophers who have attempted to use pricing mechanisms to overcome the problems of subjectivism in providing proportionate punishment. But hypothetical prices do not have the same knowledge-revealing qualities as real market prices. Without market prices to signal the preferences of where, when, how much and of what type, the central-provision of criminal justice is arbitrary or biased. If philosophers are to resolve the practical dilemmas of proportionate punishment they must return to their beginning assumptions that criminal justice is and must be provided by a central-authority.

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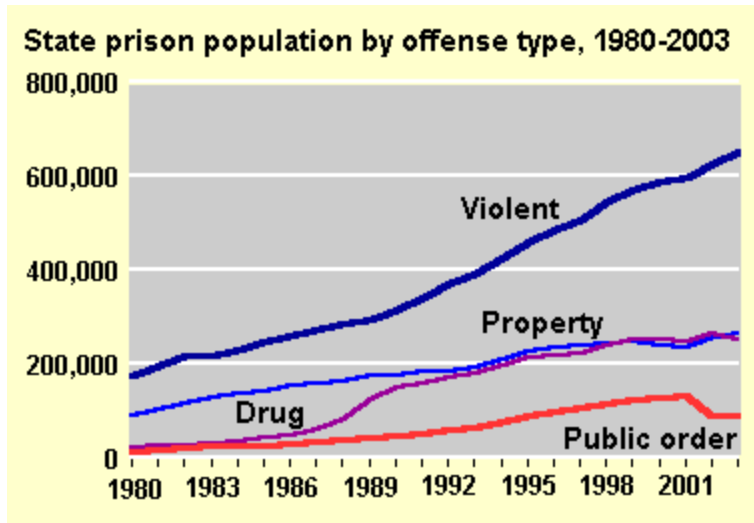
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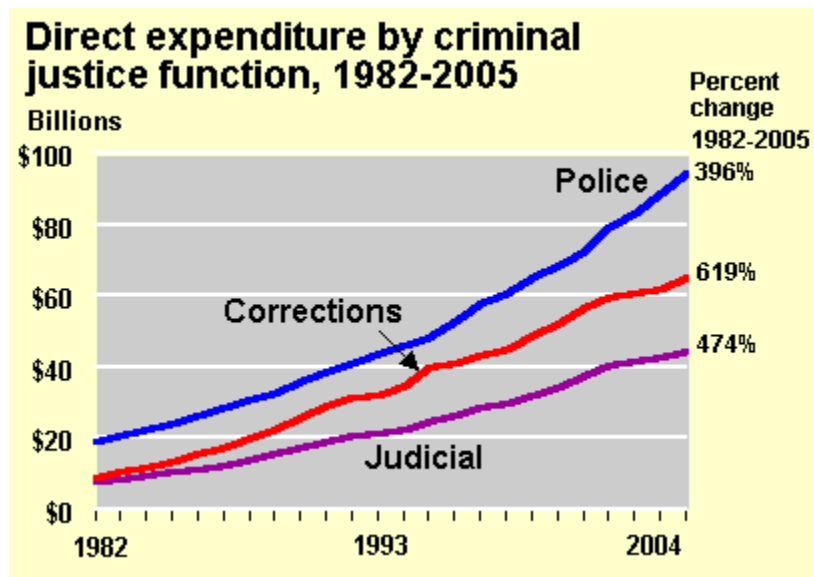
## TABLES AND GRAPHS

Figure 1.



Sources: Chaiken (2000) and Harrison and Beck (2006).

Figure 2.



Source: Bauer and Owens (2004).

**Table 1. Cross Country Prison Populations**

Number	Country	Prison Population Trend						Prison rate per 100,000 population					
		Early 1	2	3	4	5	Recent 6	Early 1	2	3	4	5	Recent 6
1	United States	1295150	1585586	1816931	1961247	2135335	2245183	505	600	669	685	723	750
2	Russia	722636	920685	1009863	923765	847004	889598	487	622	688	638	587	628
3	Belarus	33641	54869	63157	55156	42806	41538	327	535	620	554	437	426
4	Georgia		8048	10406	7688	6654	18138		171	231	176	154	401
5	Puerto Rico	11238	11525	14876	14516	14380	14239	314	310	388	377	369	356
6	Ukraine	129500	202590	239100	198885	193489	160046	248	395	478	406	410	345
7	South Africa	111788	118731	154576	181944	156175	159961	282	280	387	409	333	335
8	Estonia	4778	4401	4791	4803	4576	4463	306	295	330	351	339	333
9	Singapore	5413	8500	10829	14704	16835	13611	196	297	312	359	392	309
10	Latvia	8340	9457	10070	8831	8179	6676	314	374	410	373	353	292
11	Taiwan PR	41654	48942	56800	55476	56786	64279	200	228	256	248	250	281
12	Chile	20989	22023	26871	34717	38064	43723	155	155	181	225	238	262
13	Moldova (Rep)	10258	9781	10521	10037	10591	8876	276	263	287	276	293	247
14	Poland	58619	62719	57382	70544	80093	89805	153	163	148	183	210	236
15	Lithuania	9175	12782	13628	9516	8063	7983	250	351	383	273	234	235
16	Israel	10144	10148	8683	9421	10164	13909	201	189	147	153	163	209
17	Azerbaijan		24851	23504	18321	18259	16969		317	291	224	219	202
18	Mexico	85712	93574	128902	165687	193889	216290	98	102	133	164	183	198
19	Uruguay		3037	3192	3927	7100	6947		97	100	121	209	193
20	Czech Rep.	12730	18753	21560	21538	17277	19145	123	181	209	210	169	186
21	New Zealand	4443	4553	5547	5955	6802	7644	129	128	146	157	168	183
22	Morocco		40067	45934	54288	54542	50933		152	171	191	177	161
23	Luxembourg	352	469	392	357	548	744	89	114	92	80	121	160
24	Hungary	14810	12703	13405	15539	16507	15720	143	124	132	152	163	156
25	Slovakia	6311	7412	7409	6941	8873	8380	119	138	138	129	165	155
26	Romania	39609	43990	45121	48267	42815	32292	171	194	200	215	197	150
27	Bulgaria	8022	8529	11541	8971	10066	11436	93	101	139	110	129	148
28	Spain	35246	40157	44763	46962	59224	66129	90	102	114	117	138	147
29	Dominican	10800	12663	13700	15340	13836	12725	146	162	166	178	157	143
30	Zimbabwe	20248	20248	19099	19376	19608	17967	193	180	168	150	151	136
31	Albania		2922	3053	3778	3491	4300		87	90	121	111	136
32	Netherlands	7397	10249	13333	15246	20075	21013	49	66	85	95	123	128
33	Colombia	33491	37428	51693	54034	68545	60158	100	107	127	126	152	128
34	Australia	15559	17428	19906	22458	24171	25790	89	96	107	116	120	125
35	Portugal	9183	12343	14598	13500	13563	12803	93	124	146	131	129	120
36	China		1236534	1440000	1428126	1540000	1565771		101	115	111	118	119
37	Serbia	3623	5150	6160	7487	7775	8600	37	52	76	100	104	117
38	Vietnam			43000	55000	88414	98556			56	71	105	116
39	Turkey	31582	49895	64907	61336	71148	82742	54	82	102	89	100	112
40	Philippines			35864	70383	67798	89639			55	94	86	108
41	Austria	6913	6180	6962	6915	9000	8991	87	78	87	86	110	108
42	Canada	35235	38516	37401	35533	34154	34244	123	131	126	117	108	107
43	Jordan				3749	5621	5589				74	109	104
44	Armenia	5354	7648	7281	5479	2873	3342	143	202	192	171	89	104
45	Macedonia	796	1156	859	1518	1618	2026	37	59	43	75	80	99
46	Korea (Rep)	57169	61019	70303	62372	57902	46477	130	136	152	133	121	96
47	Germany	57448	66146	78592	80333	81166	76629	71	81	96	98	98	93
48	Croatia	1371	2388	2119	2623	2803	4127	29	51	46	59	63	93
49	Belgium	7116	7561	8271	8764	9243	9597	71	75	81	85	88	91
50	Greece	6252	5887	7129	8343	8760	10113	61	56	68	79	82	91
51	Egypt				80000	56587	61845				121	81	87
52	Malta	169	196	260	257	277	352	47	53	69	65	69	86
53	France	48113	51623	50744	46376	55028	52009	84	89	86	78	91	85
54	North Ireland	1811	1740	1531	877	1295	1462	112	105	91	52	76	84
55	Sweden	5431	5767	5290	6089	7332	7175	63	65	60	68	81	79
56	Switzerland	5400	5655	6041	5137	5977	5888	79	80	85	71	81	79
57	Norway	2477	2398	2519	2666	2975	3533	58	55	57	59	65	75
58	Venezuela	23200	22791	24710	14196	21342	19853	111	102	106	59	83	74
59	Ireland	2155	2054	2648	3025	3083	3080	61	57	71	78	76	72
60	Finland	3295	3018	2569	6040	3446	3595	65	59	50	59	66	68
61	Italy	46152	49642	49050	55136	56090	39348	81	87	85	95	96	67
62	Denmark	3406	3438	3413	3150	3762	3626	66	66	64	59	70	67
63	Slovenia	836	825	756	1148	1070	1301	42	41	38	58	54	65
64	Japan	45082	47398	52713	65508	76413	77932	36	38	42	51	60	61
65	Bangladesh	41618	44096	59003	75233	76328	86000	36	36	46	52	54	59
66	Pakistan		72950	72700	78938	87000	89370		54	50	51	59	57
67	Iran					15000	16308					60	54
68	Indonesia	41121	41353	55026	67960	97671	116688	21	21	26	31	44	52
69	Iceland	101	119	103	110	115	113	39	44	38	39	39	36
70	India			281380	313635	326519	332121			28	30	30	30

The data in this spreadsheet was collected from the six editions of the World Prison Population List (editions 1 – 6)

**Table 2. Number of sentenced prisoners under State or Federal jurisdiction, by gender, race, Hispanic origin, and age yearend 2005.**

Age	Number of sentenced prisoners							
	Males				Females			
	Total <sup>a</sup>	White <sup>b</sup>	Black <sup>b</sup>	Hispanic	Total <sup>a</sup>	White <sup>b</sup>	Black <sup>b</sup>	Hispanic
Total	1,362,500	459,700	547,200	279,000	98,600	45,800	29,900	15,900
18-19	26,300	7,200	11,800	5,600	1,200	500	400	200
20-24	218,700	62,700	94,200	50,400	11,900	5,300	3,600	2,300
25-29	244,800	67,000	106,600	59,600	15,300	6,700	4,700	2,900
30-34	224,200	69,800	92,000	51,100	17,400	8,100	5,100	2,900
35-39	207,200	72,300	81,600	41,600	19,400	9,000	6,000	3,000
40-44	185,200	70,900	71,000	31,600	16,500	7,800	5,100	2,400
45-54	189,800	76,300	71,100	29,500	13,800	6,500	4,300	1,800
55 or older	63,500	32,900	17,600	9,000	3,000	1,800	700	300

Note: Based on estimates by gender, race, Hispanic origin, and age from the 2004 Survey of Inmates in State Correctional Facilities and updated from jurisdiction counts by gender at yearend 2005. Estimates were rounded to the nearest 100. See *Methodology* for details.

<sup>a</sup>Includes American Indians, Alaska Natives, Asians, Native Hawaiians, other Pacific Islanders, and persons identifying two or more races.

<sup>b</sup>Excludes Hispanics and persons identifying two or more races.

Source: Harrison and Beck (2007).