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# Knowledge Problems and Proportionality

DANIEL J. D'AMICO\*

*The proportionality standard demands a meaningful link between the severity of crimes and the punishments received for them. This article investigates the compatibility between this philosophical demand and the practical means most commonly associated with criminal justice provision: governmental decision making. In so far as criminal justice systems require the coordination of real human and physical resources, certain forms of knowledge and incentives are required to calculate, produce, and distribute outputs proportionately. Whereas markets rely upon pricing mechanisms to generate and coordinate information and incentives across diverse stages of complex production processes, governmental decision making often lacks a calculation mechanism comparable to market prices through which knowledge about societal needs and demands can be conveyed and may thus inevitably result in some forms of punitive disparity.*

**Keywords:** proportionality, punishment, criminal justice, knowledge

*Our knowledge is in proportion to the number of our ideas. The more complex these are, the greater is the variety of positions in which they may be considered. Every man hath his own particular point of view, and, at different times, sees the same objects in very different lights. The spirit of the laws will then be the result of the good or bad logic of the judge; and this will depend on his good or bad digestion, on the violence of his passions,*

*on the rank or condition of the accused, or on his connections with the judge, and on all those little circumstances which change the appearance of objects in the fluctuating mind of man.*

Cesare Beccaria-Bonesana

*The economic problem of society is ... 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.*

F. A. Hayek

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## 1. Introduction

The proportionality principle requires punishments to be meaningfully linked to the severity of crimes.<sup>1</sup> Despite philosophical support from several, sometimes conflicting paradigms<sup>2</sup> and various policy efforts to gauge sentences justly and accurately, punishments in the United States remain plagued by racial disparity,<sup>3</sup> and prison population rates persist far above those of comparable nations.<sup>4</sup> I argue that this disjoint between theory and practice is partly the result of a tension between the philosophical aims of proportionality and the practical means by which criminal justice services are produced and managed. In short, governmental decision making often lacks access to the forms of dispersed and tacit knowledge necessary to proportionately assess material and human resources against their alternative uses. In so far as punitive proportionality depends to a certain degree upon the efficient allocation of resources, it will also require some mechanism to communicate knowledge about societal demands for their optimal calculation and coordination. How much should criminals be punished, given both society's needs for justice and the limitations imposed by the realities of scarcity? In the contexts of traditional goods and services, resource flows tend toward proportionate ratios relative to societal preferences across complex stages of production and distribution, via the self-adjusting tendencies of market prices. In so far as government-organizational patterns suppress and/or displace market prices in the various resource phases of

producing criminal justice services, these processes will lack the relevant forms of knowledge and incentives conveyed by pricing signals, and punitive outcomes will likely suffer some comparable form(s) of disproportionality.

Joachim Savelsberg suggests that most explanations for punitive severity have ignored the roles of "intervening forces of knowledge and institutionalized decision making," and calls for an attempt to explain how "the impact of the institutionalization of ... knowledge production in the public, political, and academic sectors" shape punishment.<sup>5</sup> I argue similarly that attempts to implement proportionality have taken for granted the methods by which said services are produced and managed, mainly democratic elections, governmental financing, and bureaucratic decision making. Punishment philosophies typically begin from the premise that criminal justice is a necessary and legitimate arena for state authority,<sup>6</sup> but very little attention is paid to how government processes can effectively comply with the demands of moral reasoning. Furthermore, very little attention is given to the potential for informational and/or incentive biases inherent in governmental processes.<sup>7</sup>

As an exercise in comparative political economy I describe a hypothetical market-based criminal justice system wherein police, courts, and prisons are provided via private, for-profit trades. This hypothetical system is not meant to represent a normative or practical ideal, but merely offers a basis of comparison from which to assess the

knowledge and incentive operations within governmental arrangements. In a market context, prices in earlier stages of service production such as police, courts, and prisons appear crucial to the proportionate levels of later-stage punishment resource allocations. In short, how much an individual should be punished depends at least in part upon the availability and affordability of the resources required to administer said punishment. When governmentally financed and managed, the intermediate combinations of resources are no longer clearly connected to their respective market prices and thus lack meaningful information regarding society's evaluations of their alternative uses. Government decision makers also lack similarly practical incentives to guide efficient production and consumption rates. Hence political processes suffer knowledge and incentive problems with respect to maintaining proportionality, especially when external market conditions change over time. In fact, several facets of democratic elections appear to structure knowledge and incentives in ways that bias outcomes towards severity regardless of community preferences or practical needs.

Some readers may object to my reliance upon economic theory and methods, given the subject matter, but this article is not attempting to justify criminal punishments via economic or consequentialist reasoning. Nor does this piece offer or rely upon a normative justification for market-based justice services. I take the philosophical merits of proportionality as given. The market construct deployed in this article is merely a tool of comparison through which to highlight the potentials and limitations of real resource trends within the production

and distribution processes of governmental organizations. Such an analysis may offer insight into the organizational features required to promote proportionality and can thus serve to strengthen or weaken its normative justifications based on such insights. For example, if ideal proportionality is simply impossible to achieve within governmental organizational patterns, such a conclusion may imply a weakness or an incoherence of proportionality. Tangible scarcities and relative price ratios shape the way in which a community chooses to best arrange resources for criminal justice services and punishment outcomes. How well different communities respond to such conditions in constant flux will thus have a bearing on the perception of their services as proportionate and/or just. Some organizational patterns may be better suited to promoting and acting upon the knowledge needed for proportionality than others. If proportionality and governmental structures are both considered necessary for just punishment, this analysis may help to highlight what particular organizational patterns are best used and/or which ones are to be avoided.

If different punitive standards, such as deterrence, incapacitation, rehabilitation, or retribution, are preferred over proportionality, such a comparative method may still be useful to discern their respective practicalities, but the analyses will likely differ in substantial ways. In other words, the value of the specific argument presented here is largely dependent on the preliminary acceptance of proportionality. If this philosophical approach to punishment is perceived as unjustifiable, then concerns regarding proportionality's practical challenges are relatively moot.

Michel Foucault noticed early that punishment inevitably requires real physical and human resources.<sup>8</sup> For such practical implementations to conform to proportionate intuitions, some process of calculation and coordination must occur regarding costs and benefits, the severities of crimes, and the severities of punishments. Furthermore, such calculation rubrics must be implemented via some social decision-making process and/or political regime. Subject to structural errors and/or biases of said political contexts, such schemes shape society in unique and sometimes unforeseen ways.<sup>9</sup> Not all governments are organized similarly, nor are all regimes equally just. Hence some investigation is needed to highlight what operational or organizational features systematically foster or hinder proportionality relative to others.

Resources are limited by scarcity and entail costs via foregone opportunities, as materials, labor, and time can all be deployed for alternative uses. Similarly, human beings, including government decision makers, possess limited knowledge and their motivations are imperfectly aligned. Hence, my central argument is that in so far as the normative justifications for criminal punishment require adherence to the proportionality standard, and in so far as real punitive processes require the calculation and coordination of human and physical resources, some consideration should be given to the level of effectiveness with which governments can generate and interpret knowledge and incentives for the proportionate allocation of said punitive resources. Despite normative claims that government authority is the proper and or necessary means of

determining punishment, epistemic and incentive limitations inherent in governmental organizational patterns may foster biases for disparate and/or excessively punitive results.

The economist and Nobel laureate F. A. Hayek argued that the knowledge properties of governmental bureaucracies are systematically different from market processes.<sup>10</sup> In market economies, prices emerge from the dispersed trading of buyers and sellers who assess production and consumption decisions against locally known and subjectively evaluated alternatives. The pricing mechanism thus serves a communicative role in coordinating proportionate productions, distributions, and consumptions throughout society and over time. Neither too few nor too many inputs, mid-stage resource combinations, or final consumable outputs persist relative to societal values and needs, because, informed by marginal price changes, buyers and sellers are both informed and incentivized to curtail or expand quantities in correlation with changing demand. Abundance drives down prices and scarcity inspires mark-ups as producers and consumers seek to maximize benefits and minimize costs.

Hayek and his colleague Ludwig von Mises argued that rational economic calculation without market prices is essentially impossible.<sup>11</sup> Without price information concerning inputs, producers lack a meaningful and adaptive mechanism to know how much, of what type, for whom, when, or where to produce outputs in accordance to societal preferences at efficient costs. Furthermore, comparable information cannot be substituted via hypothetical constructions. Prices in market economies are real costs requiring sacrificed payments

and forgone alternatives by producers and consumers. Buyers curtail the quantities they demand when marginal costs exceed benefits.<sup>12</sup> Hence, without market prices, systemic disproportionalities such as shortages or surpluses persist.<sup>13</sup>

The production of criminal justice services in society, in so far as it requires the coordination of real human and physical resources, can also be understood as a complex social process similar to economic production that is thus in need of some comparable degree of rational calculation, communication of knowledge, and constrained incentives to maintain proportionality. Given the dispersed and subjectively varied preferences for criminal justice services along with the logistic constraints of limited resources, decision makers require calculation and communication mechanisms akin to those provided by market prices for traditional goods and services. Current criminal justice systems, however, instead rely upon democratically appointed decision makers and bureaucratic networks that structure knowledge in ways distinct from market mechanisms. Governments must bid laborers and materials away from existing markets and then allocate mid-stage production combinations and final outputs without contiguous price information or costly incentives. To give only one example, calculating the marginal value of existing prison space against alternative uses is a significantly different task from calculating the initial production costs of prison space, largely because there are no comparable “markets” for prison cells akin to those available for construction materials, equipment, workers, etc. As a result, the allocation of cell space, other criminal

justice resource combinations, and final punitive outputs in criminal justice bureaucracies reflect neither societal preferences for justice, nor practical security via profit and loss signals; they are instead guided by electoral politics and bureaucratic decision making.

The informational and incentivized feedbacks faced by governmental actors are relatively loose and indirect compared to those that market agents encounter. Whereas consumer choices continuously shape production decisions via buyers awarding profits to industries and suppliers that use resources in ways that most efficiently satisfy wants, governmental decision makers lack comparable tacit and dispersed forms of knowledge and incentives. Second, governments tend to host incentive structures promoting the accumulation and distribution of resources for the preservation and expansion of political interests. Thus, production and distribution tend to reflect political incentives for election, and bureaucratic motives for greater labor forces and revenue quantities, as well as special interests for social control.

This article offers two unique contributions. First, it notices and explains a tension between the philosophical aims of proportionality and the means of government decision making. Second, it begins to develop an original theoretical framework for identifying a potential source of systemic punitive disparity, mainly knowledge and incentive dilemmas within the production channels of criminal justice services. Further theory development and research is needed to explain how the knowledge and incentive problems potentially inherent in government decision making may relate to the historic

and contemporary patterns of crime and punishment around the world.

The remainder of this article is organized as follows: Section 2 describes the substantive content of the proportionality principle. Section 3 presents a description of a market-based criminal justice system.

Section 4 describes some key knowledge and incentive problems apparently inherent to governmentally financed and managed production of criminal punishments. Section 5 describes areas of interaction between the two systems. Section 6 offers some conclusions.

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## 2. The Proportionality Principle

The proportionality principle holds that punishments should be well fitted to the crimes to which they respond and it aims to maintain a societal balance between crimes and punishments by resolving the legitimate quantities and qualities of punishments across various cases. Hence, particular frameworks aim to derive meaningful and just options for relative punishments to be levied against various types of criminal behaviors. Many theorists admit that punitive rates should vary with the cultural norms and preferences of different societies,<sup>14</sup> so that some variance is to be expected across culturally different communities, while rates should be consistent between nations with similar cultural traditions. Even given the wide diversity of outcomes across similar countries, application of punishment in a nation like the U.S., where recently accumulated incarceration rates lie far above the norm of similar nations, where great racial disparity of prison populations persists, and where the death penalty is more frequently applied, is perceived as excessive and systematically disproportionate.<sup>15</sup>

Designing proportionate penalties consists of three related steps. The scale for gauging crime is often developed first because harm and culpability are the most popular and

meaningful margins for determining severity.<sup>16</sup> Once defined, crimes are ordinally ranked. Murder, for example, is a more severe crime than auto theft. Ideally, all possible crimes would be known and differentiated. Next, a similar scheme is developed for punishments. Legitimate techniques are identified and also ranked. The death penalty is more severe than prison terms, and longer incarcerations more severe than shorter ones. Each of the two lists should be internally consistent, with more severe crimes and punishments located at the proper ends of each spectrum.

Once the two scales are complete, they are linked or “anchored” to one another<sup>17</sup> to establish an exchange rate so that particular crimes are related to quantifiable penalties. Cardinal proportionality<sup>18</sup> is maintained when the two scales avoid significant inconsistency, and punishment magnitudes are intuitively reasonable. If petty theft were punished by a death sentence, the punishment would still be deemed disproportionate even if more or less severe crimes were punished with relatively similar penalties.

Andrew von Hirsch and Nils Jareborg offer a framework for “gauging criminal harm,” and punitive severity. They loosely fit ordinal scales by grouping general categories of



criminal acts.<sup>19</sup> They then describe an average victim, criminal, and offense, ranked by the harm inflicted on the “living standard”<sup>20</sup> of victims. Dealing with unique cases is then a matter of describing the differences that distinguish them from the average case, and then calculating proportionate differences to be added or subtracted. If typical crimes are anchored to some standard, punishment disproportionality may occur in individual cases, but system-wide disparities will be avoided.

Michael Davis makes explicit the parallels between hypothetical proportionality standards and rational preferences in market economies: “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.”<sup>21</sup> He proposes an “administered market” where criminals bid on government-issued licenses to commit crimes. In theory, the imaginary price paid for a criminal license would reflect some measurable value obtained by the criminal and could be compared to the perceived loss suffered by victims.<sup>22</sup> With this hypothetical pricing system in hand, a judge then has some conceptual measure on which to base a proportionate sentence.<sup>23</sup> In such frameworks, proportionality is essentially conceptualized as a methodological problem<sup>24</sup> where a more logically accurate or detailed method of ranking crimes and/or penalties in the hands of judges or officials should yield more proportionate sentences. Such theoretical proposals have been difficult to implement, however, and have produced ambiguous results.<sup>25</sup>

Various policies aimed to satisfy principles of proportionality long before its philosophical popularity. The architectural design and proliferation of panoptic penitentiaries in the eighteenth century were intended to better deter criminal behavior by decreasing the uncertainty of punishment. Time-based sentences were believed to offer calculative refinement for the unique circumstances of individual cases.<sup>26</sup> Criminals deemed more malicious or dangerous could be awarded lengthier sentences and/or specialized attention without manipulating social incentives to increase crime.<sup>27</sup> Yet it is difficult to argue for variations in length of incarceration as a successful approach to maintain proportionality, since imprisonment patterns do not appear to be linked to real crime rates.<sup>28</sup>

Similarly, since the 1970s nearly every U.S. state has experimented with some form of proportionality reform.<sup>29</sup> Sentencing commissions are panels of experts assigned to develop practical standards of severity and to provide guidance on judicial decisions. Several states have further designed and implemented formal sentencing grids.<sup>30</sup> Though these grids have minor differences, the general structure of most formalizes the theoretical process of proportionality explained thus far in similar ways. In the words of Kathleen Bogan: “One axis... is usually a crime seriousness scale, which ranks all offenses subject to the guidelines in order of relative seriousness; the second is an axis that arrays criminal histories.”<sup>31</sup> Here, too, the effects of sentencing grids have been mixed and localized and do not lessen or reverse the perception of U.S. excess.<sup>32</sup> Interestingly enough, such standards have been

cited in recent years as promoting severity and exaggerating racial disparity.<sup>33</sup>

Given the variety of proportionality reforms implemented and their ambiguous effects, I investigate the operational features of the decision-making arrangements within which they are typically nested. Proportionality proposals rely heavily upon economic concepts such as ordinal evaluation, cardinal exchange ratios, marginal choices, and opportunity costs. Yet decision making for the design and application of sentencing significantly differs from the market contexts of traditional economic exchange. If the harms of crime are

the primary starting point for gauging severities, and the pecuniary costs of crime and punishment in part shape such harms, then the appropriateness of any list of options for punishments is in part subject to change if the associated costs of crime and/or punishment change. Hence, implementing and maintaining proportionality seems more likely dependent upon how well the administrative decision-making process reacts to changes via informational detection, interpretation, reaction, and adaptation rather than on how well attuned or precisely specified any particular sentencing schemes used by the decision makers are.

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### 3. Knowledge and Proportionate Production in Criminal Justice Markets

Traditional markets produce and distribute goods and services proportionately, without systemic shortages and or surpluses. Such distribution is accomplished without an omniscient authority, between a variety of diverse agents with relatively conflicting interests largely because the price mechanism is a self-adjusting conduit of knowledge and incentives. When buyers want more of a good or service, they bid up the price and entice more supply. When sellers run low on stock, they similarly raise the price and deter frivolous consumption. Financial capital, human labor, and material inputs flow to where and to whom they are most highly valued. Competitive entry inspires innovation and drives down consumer prices. Over time, societal needs are more easily satisfied with fewer capital resources.

Market participants mimic the process of ordinal ranking described by punishment philosophers as prerequisite for proportionality.<sup>34</sup> An individual makes choices, as she perceives marginal costs and benefits relative to her personal preferences and available alternatives. Were it not for monetary prices, efficient production and distribution would be difficult because of the varied and potentially conflicting nature of preferences and material scarcities throughout society. How would producers know what to produce, how to produce it, in what quantities, and to whom to sell, without constant error? Prices essentially translate the infinitely complex and diverse array of ordinal preferences throughout society into quantifiable and actionable information. Cardinal exchange ratios, expressed in financial prices, allow producers to calculate resource

combinations so as to make profits. So long as production costs are lower than revenues, firms earn profits, and so long as those returns are greater than potential earnings by competing firms or alternative industries, those business models persist. Proportionate flows of consumer goods are thus dependent upon the functional operations of market processes in earlier stages of production. Without prices for input resources, firms cannot accurately set prices for their final outputs to assure profitability.

Let us set traditional normative justifications for governmental authority over criminal justice aside for the moment to investigate how knowledge and incentives may operate regarding proportionate outcomes in a market-based context, so as to have at least some point of comparison to assess the knowledge and incentive operations within contemporary governmental systems. Would similar processes and tendencies towards proportionate productions, distributions, and consumptions operate if criminal justice services were provided in such a framework?

First, imagining a world without state-provided criminal justice is not impossible as this was the reality for most of human history prior to the modern legal era. While pre-modern legal systems did not possess formal markets for criminal justice services per se, several researchers<sup>35</sup> have noted that decision-making processes therein were sufficiently performed by private individuals and or non-state authorities to foster self-adjusting and evolutionary tendencies akin to market processes. Similar, quasi-market-based legal processes also operate in several alternative and contemporary social contexts.<sup>36</sup> In such

environments, individuals provide and obtain services privately and suppliers coordinate resources and obtain returns (sometimes monetarily and sometimes otherwise) so as to recuperate expenses and earn profits. For the sake of simplicity let us presume that the market for criminal justice services is competitive, meaning that several firms exist, none significantly larger than the others so as to manipulate general price levels. Second, let us also assume that units of criminal justice come in bundles of complementary services. For example, purchasing a contract entails all of the typical services under current methods such as police response, trials, sentencing, and punitive sanctions.

The first decision for a victim would likely be whether or not to seek justice at all. Victims will purchase a service, when, and only when, the market price is below the perceived value gained. For example, say my car has been stolen. Presuming that I do not know who stole it and/or lack the direct means to investigate or reclaim my property, my first decision would be whether or not to hire specialized services. If I perceive benefits from the detection of the thief and his or her being brought to trial and punished (all discounted by the probability of success) to be greater than the value I could have gained from spending the necessary funds on something else, then, and only then, will I purchase services.<sup>37</sup>

The criminal justice process is barely under way, but knowledge has already been conveyed and provides incentives akin to those the proportionality principle demands. First, as a crude categorization of criminal severity, the market has separated

severe from menial crimes at a given price. If the price for services were to change, the crimes deemed worthy and unworthy of payment would adjust as well. Higher prices would mean that more crimes would go ignored and lower prices would cause more crimes to be paid for and investigated. At the higher price, buyers would demand fewer units of service. Say, for example, that there is a shortage of trained and knowledgeable detectives. When deciding to purchase criminal justice services, I notice that the price has risen so that I must economize. I either have to consume less of all other goods to still afford the same amount of criminal justice, purchase fewer units or lower-quality services, or seek substitutes to meet my needs.

Similar adjustments would occur if the price of criminal justice remained constant but the severity of crime changed. More severe crimes would likely inspire a greater willingness to pay for services, while the opposite would be true if severity fell. For example, I may ignore the theft of my car if it is an older model with low resale value, whereas I may be more inclined to pay for investigation if it is newer and/or more expensive.

Suppliers are also inclined to economize input resources and supply stocks in proportionate ways. Sellers must expend costs to bring services to market. They will only offer supply if the market price exceeds their production outlays and any profit potentials of spending those resource efforts on producing other goods. Given constant market prices for inputs, suppliers are inclined to maximize the difference between revenues and expenses. If suppliers perceive increases in consumers' demands via greater quantities

purchased at current prices, they will either garner more inputs at constant prices to increase supply, or adjust consumer prices upward to avoid shortages and overconsumption. Inversely, they will be motivated to offer lower prices if fewer units are demanded.

The profit motive encourages suppliers continuously to experiment with capital inputs to provide better-quality services at lower costs. In such a context, quality margins might include faster emergency response times, more accurate and sophisticated detection techniques, more successfully administered restitutions, lower recidivism, or similarly provided quality services at lower prices. The entrepreneurial incentive to innovate across any or all such margins is said to be omnipresent because suppliers are similarly inclined to discover low-cost production methods under conditions of increased prices for factor inputs, increased consumer prices via greater demand, or open competitive entry without price changes.<sup>38</sup> Suppose the price of labor has been driven up by an exogenous factor such as high wages in the plumbing industry, attracting officers away from police work. With the price shock, consumers either afford fewer other goods, fewer units or a lower quality of justice, or ignore crimes to which they previously requested a response. Suppliers can regain previous customer bases by finding substitutes for police labor. Perhaps fewer police officers equipped with superior squad cars can cover more territory, or perhaps surveillance cameras can monitor areas with fewer officers. In so far as the prices for technology are affordable relative to the higher-priced labor, then criminal justice services will become more

capital intensive, thus pressuring consumer prices back towards their initial levels prior to the shock in labor prices. In essence, this process is identical to what would occur if consumer preferences shifted demand outward and raised market prices. Suppliers who discover an arrangement of inputs that produces services more affordably than their competitors will profit. When the criminal justice industry entails lower costs and higher profits than other industries, investment dollars, resources, and labor units flow accordingly. So long as access is open to new entrants and not encumbered by subsidies or biased by regulations, resource allocations throughout criminal justice and across other industries will tend towards proportionate equilibria.<sup>39</sup>

Criminals perceive punishments as costs weighed against the benefits they obtain from criminal behavior. If costs exceed benefits, individuals will be deterred from crime. In contrast, suppose a criminal has a high demand for crime relatively unaffected by punishment. One example might be a criminal who can resell stolen property above the market value—perhaps to a buyer with unique preferences. In so far as the criminal's perceived gains from crime outweigh the costs of punishment, the rational criminal is willing to invest resources to succeed or become a better criminal up to the amount at which profit between benefits and costs still remains.<sup>40</sup> In the absence of such investment, how high a criminal values crime remains unknown, but in the presence of resource and effort expenditure, some meaningful information is revealed, mainly a minimal estimate of crime's value to her, which must be at least greater than that which

she has expended plus the discounted probability of suffering through punishment.

In so far as the costs of criminal justice are some function of the difficulty related to capturing criminals, production costs should increase in correlation with criminal investments. In basic matters of theft, this investment is likely to invoke a proportionate response from suppliers. First, the willingness of victims to invest to regain their property is likely similar to the criminal's willingness to invest, as both are driven by the financial value of the stolen property. Again, I would be more inclined to invest in LoJack or GPS tracking for a more expensive car, just as criminals are likely to invest more effort to steal more valuable automobiles. Second, if a criminal invests effort so as to evade capture but is captured nonetheless at higher costs, she has in effect increased the costs of her crime. Hence when the criminal is taken to court, my claim will also be greater. Thus, under a basic system of enforced property rights akin to current civil liability<sup>41</sup> each marginal investment in criminal behavior is reverse-incentivized by a proportionate cost.

Here we see a basic application of what economists refer to as the Coase theorem,<sup>42</sup> which states that when the costs of trading are zero and the effects of the lost or gained property upon the wealth of the agents are low, resources will flow to who values them most, regardless of the initial delineation of property rights. Criminals will succeed in crime in so far as success is a function of their investment for evasion and happens to be greater than their victims' willingness to pay to coordinate justice resources. This brings up an interesting point about the qualitative effects



of knowledge and incentives upon the types of criminal laws likely to be enforced in a market context.

Coasean effects seem most likely to hold for tangible forms of wealth with commonly known market values. If my car is valued at \$20,000, I have a measurable limit as to how much I will pay to protect and/or regain it, and in so far as there is some secondary market for exchanging stolen cars, its value therein sets a similar limit for criminal investment. If the criminal's willingness to invest is larger than my own, then he likely succeeds. Thus investment in criminal justice services not only disincentivizes crime, but in turn provides incentives towards voluntary trades. By dissipating some of the profits from stolen goods, paying for criminal justice resources inclines criminals to seek voluntary means of compensating victims through legitimate trade and thus to avoid the expenses of a criminal justice arms race. Harold Demsetz recognizes a similar dynamic in the spontaneous evolution of property rights, which he sees as having emerged from interacting self-interests seeking to minimize the costs of conflict and to maximize reliable access to resources.<sup>43</sup>

Here we see local agents such as property owners and victims possess forms of relevant knowledge regarding the value of stolen goods and their own willingness to pay for justice services that cannot be replicated without market prices. Furthermore, in so far as Coasean effects dissipate the profits associated with crime against tangible forms of property, they free up resources to be potentially more focused upon behaviors such as crimes of malice, vengeance, or those committed by

individuals with psychological disorders. The basic incentives and knowledge of victims, suppliers, and criminals as explained above gives some indication as to the norms most likely to emerge in a market-based criminal justice system. First, victims are most likely to invest in securing their own persons and property when the possibility of regaining value is high. In other words, there seems to be little incentive to pay for the enforcement of laws against victimless crimes such as those surrounding illicit drugs or prostitution.<sup>44</sup>

Second, supply firms that better satisfy customers without taking on additional risks or liabilities are likely to profit over others. One potential cost that private firms would face arises from the errors and liability of falsely imposed punishments. Again, a basic system of private liability akin to tort procedures would incline criminal justice suppliers towards restraint in their standard practices of policing and punishment. With competitive entry into the market, as the severity of arresting and punishing criminals increases, so too does the potential liability of erroneous arrest and/or excessive penalty. In such a system, firms are inclined to rely upon clear and objective standards for arrest, as well as measurable and standardized penalties associated with criminal types. Whereas corporal and physical penalties are difficult if not impossible to retract and/or compensate for, returns of property, fines, and financial restitutions are more easily reversible without added liability. Monetary restitutions paid from criminals to victims provide real utility to victims, thus incentivizing their reporting of crimes and participation in justice processes.<sup>45</sup>

#### **4. Knowledge Problems in State-based Criminal Justice Systems**

Governmental decision-making structures knowledge and incentives relating to the flow of material resources differently than markets. In markets, consumers channel expenditures towards those firms with higher-quality and lower-cost services. Practices and strategies of firms with larger profits are benchmarked by competing firms, or profitable firms displace rivals and thus gain market share. In either case, the supply of criminal justice resources tends to reflect the aggregated demands of consumers. Governmental processes have different properties with respect to obtaining knowledge about societal demands, as they lack the calculative nuance and incentivized precision provided by pricing mechanisms and profit-based competition.

In the U.S. criminal justice system, resource flows are primarily determined by political and bureaucratic means. Various cities, counties, states, and federal jurisdictions differ in their particular electoral processes and as to whether certain decision-making roles are selected by appointment or election, but all are systematically different from market processes. In short, voters elect representatives (mayors, governors, presidents, etc.), who sometimes appoint official decision makers (sheriffs, judges, sentencing commissioners, and prison wardens), who manage bureaucracies and coordinate resources to produce services such as police, courts, and prisons. At each stage, material and labor resources must be bid out of existing markets for alternative production channels. While similar integration patterns

occur in private firms, governmental provisions are first responsive to electoral rather than consumer interests; and second, they are relatively devoid of competitive pressures from substitute producers.

The election process is the primary means of communicating and expressing the preferences of the citizenry regarding the production and distribution of criminal justice resources. The informational and incentivized feedback from elections is more vague and indirect than that provided by competitive markets. Voters cannot express as nuanced or as particular a set of preferences through elections as they can in markets. First, elected representatives are responsible not just for criminal justice policies, but also for various other issues often far removed from the topics of crime and punishment. In short, voters must select bundles of policy positions expressed by particular candidates. Politicians aiming for appointment and re-election are incentivized to appeal to the largest block of voters and hence tend towards median positions.<sup>46</sup> In so far as victims represent a minority population, or criminal justice issues are less prioritized than other concerns, relevant preferences regarding criminal justice resources are diluted in the political process.

Democratic elections also occur episodically (not necessarily in synchronicity with needed reforms), and voters have weak incentives for investing time and resources to become well informed about the realities of crime or criminal justice

performance. Some theorists see the average voter as behaving rationally by remaining relatively ignorant, since the potential benefits from a marginal vote are small, while private costs of information gathering are high.<sup>47</sup>

Academic research suggests consistently that the public is extremely ill-informed with respect to issues of crime and punishment and systematically biased in favor of severity. Individuals tend to overestimate the incidents of and harms from crime, and simultaneously underestimate the frequencies, magnitudes, and costs of punishment. Similarly, voters report general support for increased funding. Reality tells a different story, where public opinion does not track real crime trends, while approval ratings do not accord well with real performance measures.<sup>48</sup>

In the current framework, criminal justice services are significantly subsidized and managed by government authority. Individual citizens are not charged marginal prices for additional consumption and voters are afforded the ability to support expanded spending without directly assessing the potential values of having dedicated resources to alternative avenues. From a voter's vantage point, criminal justice resources are relatively free and available for use or over-use because the perceived benefits of security and deterrence are concentrated locally, while the financial costs and social consequences of inefficient services are distributed across the electorate.<sup>49</sup>

Several reasons may account for the public approval of severe penalties.<sup>50</sup> First, vengeance may simply be a natural bias<sup>51</sup> as individuals regard their own interests more

highly than those of others. When accused, a rational criminal would prefer more mild penalties, yet, when victimized, he or she prefers severity.<sup>52</sup> Second, voters may prefer severe penalties simply because they do not know of feasible alternatives. Without knowing precisely how to resolve the complex challenges of crime in society, voters at least feel a sense of accomplishment by voting for tougher penalties.<sup>53</sup>

Third, punitive opinions may persist amidst rising public expenditures and social consequences because citizens lack individuated rewards for updating their beliefs. Given this asymmetry, in so far as citizens are biased in their beliefs about crime and punishment, they are "rationally irrational."<sup>54</sup> Demographic breakdowns of public opinion on crime and punishment corroborate this position. Those who more directly bear the costs of severity—relatively poorer minorities—hold lower opinions of the criminal justice system.<sup>55</sup>

Policymakers and criminal justice authorities also face unique incentives to appease punitivity. Kenneth Avio surveys the work of several scholars who describe federal prison growth and overcrowding and comes to the following conclusion: "[T]he cost of delivery does not fully constrain the local demand for confinement. The tendency to prison overcrowding in the federal part of the system and to underbuilding in the local part follows directly."<sup>56</sup> Sobel and colleagues have similarly discovered politically cyclical rewards for judges to increase criminal penalties.<sup>57</sup>

Through majority voting, democracy favors interests that are coordinated together en masse. By utilizing



bureaucratic systems, the criminal justice process fosters groups whose interests align to support the expansion of bureaucratic size, budgets, and their scope of discretionary authority.<sup>58</sup> In turn, initial spending

increases can grow interest group size and thus affirm growth in future periods.<sup>59</sup> Over time, resource allocations represent political interests rather than logistical needs or social preferences.

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## 5. Interactions Across Systems

Governmental criminal justice systems confront knowledge problems in all major stages of production—police enforcement, sentencing via criminal trials, and prison management. The majority of resources used when responding to crime are subsidized or completely state-provided. Such state monopolies crowd out and distort potential market prices for these goods and services. Laborers within the criminal justice system choose their contracts against alternative opportunities. Every officer, public attorney, judge, and warden could have been employed elsewhere. Demonstrated preferences suggest that they garner the greatest utility from their chosen profession at current market prices, but because governmental production and allocation decisions are not motivated by profits or constrained by traditional budgetary limits, democratic and bureaucratic decision-making processes are less self-adjusting than market processes subject to price changes. When salaries in alternative industries rise, the criminal justice system must rely on the political process constrained by public opinion to support increased wages to retain talented labor. The same is true for changes in the costs of physical resources. Only in so far as voters recognize and value the logistical changes in criminal justice resources relative to

other political preferences will resource patterns adapt towards greater enforcement efforts.

Judges similarly lack the local knowledge flows and adaptive incentives regarding the costs of crime and the alternative uses of criminal justice resources. Thus, they lack the forms of knowledge presumed necessary for maintaining a meaningful and consistent link between the ordinal scales of crime and punishment. In this vein, practical strategies aimed to promote and maintain proportionality, such as sentencing commissions, grids, mandatory minimums, and three-strikes laws suffer similar inefficiencies as governmentally planned economic models and price controls.

Last, all material resources used within state-run criminal justice systems have alternative uses in other market-based production processes. Every security camera, weapon, uniform, squad car, piece of courtroom furniture, office supply, and prison facility is comprised of some combination of material resources that could have been used in alternative production processes. Hence, the costs of producing criminal justice services even via governmental processes will inevitably be shaped in part by the pattern of price ratios throughout the larger market economy. And here is the essential dilemma of normative justifications for proportionate

punishments. While a certain punishment or scheme may be perceived as morally just and perhaps even morally required for a certain crime, such reasoning says nothing about how resources are to be practically arranged to actually produce and apply said punishment. If punitive costs double, quadruple, or exponentially increase, is the applied punishment's moral legitimacy at all affected? Is the government's normative responsibility to impose punishments at all constrained by the practical affordability of punishment resources? By subsidizing the production of punishment resources, governments can leverage and apply said punishments beyond what is feasible when input prices rise. Hence, with abundant punitive resources in place, a particular regime can more easily enforce some forms of prohibitions and social regulations that are impractical and/or socially undesirable under alternative decision-making arrangements.

Given the contextual nature of government decision making nested within broader market contexts of alternative uses for labor and material resources, real punishment practices and outcomes will inevitably be shaped by the price ratios and affordability constraints regarding those resources. For example, suppose two jurisdictions face different availabilities and costs of labor. In one town, labor is abundant and affordable so that hiring police officers away from alternative industries is relatively easy for local governments, relative to the other town. Consequently, fewer patrol officers in the second town may allow for higher crime rates and a subsequent need for greater resource investments in court and prison services. Alternatively,

such investment flows and punishment outcomes may be shaped by political incentives rather than logistical scarcities. If prison guards within a region organize to form a substantial interest group so as to leverage voting power for increased budgets or expanded labor forces, such abundant punitive resources would lower the costs of applying prison sentences to marginal cases or lengthening sentences across cases.

So far, this analysis has been concerned only with the allocation of physical and human resources, and has thus said very little of relevance to other, perhaps deeper, normative issues of criminal justice, such as the comparative potentials for markets or governments to satisfy alternative standards like retribution or rehabilitation, the question of which system may better protect against corruption or collusion by suppliers, or which one will better satisfy egalitarian concerns for providing justice to the least advantaged. That is not to say that such alternative concerns cannot be investigated through similar comparative analysis. In short, outcomes from market processes will reflect various normative standards in so far as consumer preferences align for such standards. As suppliers recognize profit potentials for assuring alternative quality margins, broader markets comprised of various suppliers can service niche markets through heterogeneous product offerings. Governmental processes tend to be shaped more by geographic territories and patterns of legislative and executive authority. For that reason, diverse provisions are less likely as political actors are again most likely to appeal to average voters and clustered voting blocks.

At first glance, profit motives seem to motivate firms towards unnecessary cost cutting, appealing to wealthy interests alone, and/or collusion among industry leaders. But, as is the typical result of collusive efforts, the extent of the collusion is directly related to the accrual of profit opportunities for defection from the collusion.<sup>60</sup> Hence, competitive pressures tend to diversify market offerings as firms discover resource combinations servicing lower income brackets, putting downward pressure on prices and increased pressure on quality. Hence, punitive outcomes under market conditions will align with

justice in so far as consumer preferences constrained by scarcity and opportunity costs align and market entry remains competitive. A firm can only maintain monopoly status in so far as it is willing to coercively suppress competitive entry, whereas governments possess such monopolized authority by definitional default. In so far as such normative concerns deserve practical consideration, efforts in markets ought to be taken to assure competitive entry, just as legislative efforts in governmental processes ought to be framed as effective checks and balances against arbitrarily excessive punishments.

## **6. Concluding Remarks**

Criminal justice philosophers have recently embraced proportionality as a standard to evaluate punishment magnitudes throughout society. In a thought experiment in comparative economic systems, the motivations behind proportionality were taken as given, while the traditional methods of government decision making were investigated for their practical capacity of producing proportionate outcomes. Proportionality theorists imply that prices are effective mechanisms to garner information regarding the subjective evaluations of actors involved in criminal processes. But hypothetical prices do not have the same knowledge-revealing qualities as real market prices. Without market prices or some comparable epistemic mechanism to signal the information and incentives of where, when, how much, and what type of punishments need to be produced, the governmental decision-making

process confronts knowledge problems and creates unique incentive structures. In so far as punishments operate as prices between those requesting services and suppliers of criminal justice in general, they cannot be calculated optimally without the constituent input prices of the earlier resources used to provide criminal justice services such as police, courts, and prisons.

This article has pointed out a logical tension between the current production of criminal justice services and the goals of proportionality. Governments lack the ability to harness knowledge and incentives towards the proportionate production and maintenance of punishment resources. This conclusion can be interpreted in two distinctive ways: one could value the necessary role of authority in the provision of punishment beyond the supposed philosophical merits of proportionality. This article would then

serve as an argument against proportionality. Or perhaps proportionality is an unachievable ideal. If this is the case, the question would then be to determine what paradigm of criminal punishment is achievable according to the assumed necessary means of government decision making.

Second, while this article does not imply that a completely non-governmental or fully market-based criminal justice system is feasible, preferable, or just, neither does it imply that such a system is inherently impossible or unjust. Further research is required to investigate the potentials of more diverse provisional arrangements for criminal justice services.

Last, this article represents a potentially unique contribution to the more focused literature surrounding cross-

country variations in punitivity and imprisonment. While some theorists have argued and noticed that nations with more bureaucratized governments throughout their societies appear to avoid penal largess,<sup>61</sup> the analysis in this article suggests focusing more narrowly upon decision making specifically within the production of criminal justice services. In turn, the political economy implications of knowledge and incentive flows here discussed suggest that hierarchical organization within criminal justice decision making may relate to difficulties in maintaining proportionate outcomes. Further research investigating the way different organizational patterns occur across legal sectors in different nations is necessary to substantiate this suggestion.

## Notes

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1 The *lex talionis* of the Old Testament early called for a form of proportionality phrasing the principle as “eye for eye, tooth for tooth” (Deut. 19:21). Cesare Beccaria and Jeremy Bentham were among the first to formally describe proportionality standards. More recently, Michael Frankel, Michael Davis, Hugo Bedau, Andrew von Hirsch, Nils Jareborg, Andrew Ashworth, Antony Duff, and Jesper Ryberg have explained and argued in favor of proportionate sentencing.

2 Hart, *Retribution*, 1–27; Ten, *Crime, Guilt and Punishment*, 81–5; Lacey, *State Punishment*, 46–56; Primoratz, *Justifying Legal Punishment*, 137–43; Cragg, *Practice of Punishment*, 59–67; and Scheid, “Constructing a Theory.” All agree that disproportionate punishments carry unintended consequences, potentially encouraging rather than deterring criminal behaviors. See also Mandeville, *Causes of Frequent Executions*; Bentham, *Rationale of Punishment*, 36; and Becker, “Crime and Punishment.” In

“How to Say Things,” A. J. Skillen argues that desert-based retributive punishments must be gauged proportionately to retain justification. Similarly, Jesper Ryberg argues that proportionality operates as a form of “deontological constraint” against excessive retribution: *Ethics of Proportionate Punishment*, 13. Joel Feinberg, in “Expressive Function of Punishment,” and Antony Duff, in *Punishment, Communication and Community*, suggest that communicative justifications also require proportionality considerations.

3 Carson, “Prisoners in 2013.” Young African American males, 13% of the total U.S. population, comprise approximately 35% of the country’s prison population. See also Western, *Punishment and Inequality*, and Alexander, *New Jim Crow*.

4 See Mauer, “International Use of Incarceration”; Newman, *Global Report*; and Walmsley, “Global Incarceration.”

5 Savelsberg, "Knowledge, Domination," 911.

6 See Duff, *Punishment, Communication and Community*.

7 Benson, "Evolution of Commercial Law" and *To Serve and Protect*, and Koppl and Sacks, "Criminal Justice System" represent significant exceptions.

8 See Foucault, *Discipline and Punish*, 148, 180, 232, 244–5.

9 Hugo Bedau and Erin Kelly explain the process by drawing on Foucault in their article on "Punishment": "Foucault invited us to view the practice of punishment under law as subject to general forces in society that reflect the dominant forms of social and political power—the power to threaten, coerce, suppress, destroy, transform—that prevail in any given epoch. And he also cultivated a deep suspicion toward the claims that contemporary society had significantly humanized the forms of punishment by abandoning the savage corporal brutality that prevailed in the bad old days, in favor of the hidden concrete-and-steel carceral system of the modern era."

10 See Hayek, "Use of Knowledge."

11 See Hayek, *Collectivist Economic Planning* and "Socialist Calculation"; and von Mises, "Die Wirtschaftsrechnung" and *Socialism*.

12 James Kornai coined the terms "soft" relative to "hard" budget constraints in reference to the limited knowledge production agents possess in central planning bureaucracies. See "Soft Budget Constraint" and "Concept of Soft Budget Constraint."

13 Several applied examples of Hayek's knowledge problems exist. See Boettke, *Why Perestroika Failed* on the knowledge problems of Soviet transition; Coyne, *After War*, on the challenges of post-war reconstruction; and Sobel and Leeson, "Knowledge," on recovery after natural disasters.

14 Michael Davis 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." "How to Make the Punishment Fit the

Crime," 741. Andrew von Hirsch and Nils Jareborg admit that their system would allow for variation across different societies which use different anchoring schemes. See "Gauging Criminal Harm," 114.

15 Beckett, *Making Crime Pay*; Garland, *Culture of Control*; Roberts et al., *Penal Populism*; and Whitman, *Harsh Justice*; all deem U.S. punishment trends excessive.

16 See Hirsch, "Proportionality," 556.

17 See *ibid.*, 576–8.

18 The application of the terms "cardinal" and "ordinal" to the severities of crime and punishment was first suggested by Hirsch (in "Proportionality in Philosophy of Punishment" and *Censure and Sanctions*) and has been accepted as "standard" in the field (see Ryberg, *Ethics of Proportionate Punishment*, 13n10). Interestingly, John Hicks and R. G. D. Allen use the same language and concepts in "Reconsideration" to distinguish forms of utility in economic analysis.

19 See Hirsch and Jareborg, "Gauging Criminal Harm." Hugo Bedau has also argued for a "classification-based sentencing" system. See "Classification-based Sentencing."

20 They borrow this concept from Amartya Sen. See *Standard of Living*, 20–38.

21 Davis, "Make the Punishment," 739.

22 *Ibid.*, 743.

23 See Akerlof, "Market." Judges and criminals in such a hypothetical administered market would likely possess asymmetric information. Knowing more accurately the social harms associated with different crimes, judges, as suppliers of criminal licenses, would be inclined to sell first those opportunities least harmful to their interests.

24 See Primoratz, "On Retributivism."

25 Bentham once wrote that the term proportionality was more "oracular than instructive." *Rationale of Punishment*, 32. Ryberg does not believe that "proportionality is in the end the position that should bring philosophy to the front-line of penal practice." *Ethics of Proportionate Punishment*, 2.

26 Bentham summarizes the goals in the following way: "Morals reformed—health

preserved—industry invigorated instruction diffused—public burthens lightened—Economy seated, as it were, upon a rock—the gordian knot of the Poor-Laws are not cut, but untied—all by a simple idea in Architecture!" *Rationale of Punishment*, 31.

27 Bernard Mandeville is perhaps the first to notice the unintended consequences of leveling equally severe penalties across different punishment types when he argues in *Causes of Frequent Executions* that a sudden rise in executions cannot be explained by changes in social morality but must be the effect of policy failures. Similar structural incentives are described by Bentham: "If the punishment is the same for simple theft, as for theft and murder you give the thieves a motive for committing murder." *Rationale of Punishment*, 36. See also Becker, "Crime and Punishment."

28 Émile Durkheim posited early in "Evolution of Punishment" that incarceration serves political interests beyond crime control. Foucault most notably popularized the research program to support Durkheim's claim in *Discipline and Punish*. Most recently, Thomas Marvel and Carlisle Moody, in "Prison Population Growth," show that oscillations in crime do not predict prison growth for U.S. states. See also Cappell and Sykes, "Prison Commitment", and Jacobs and Carmichael, "Politics of Punishment."

29 See Tonry, "Politics and Processes."

30 See Hirsch, Knapp, and Tonry, *Sentencing Commission*, 179 and 183, for recreations of Minnesota's and Washington's grids.

31 Bogan, "Constructing Felony Sentencing," 471.

32 Marvel shows in "Sentencing Guidelines" that sentencing guidelines declined prison growth in six of nine states. Marvel and Moody demonstrate in "Prison Population Growth" that of 10 U.S. states with determinate sentencing policies between 1976 and 1984, prison populations in Indiana grew while those in Minnesota and Washington declined.

33 See *Kimbrough v. United States*, 552 U.S. 85 (2007).

34 See Menger, *Principles of Economics*.

35 See Benson "Legal Evolution," 773–4, for a thorough survey.

36 For a survey, see D'Amico, "Prison in Economics," 476.

37 A similar calculus is obviously also at play prior to the commission of a crime, regarding the purchase of insurance. Low-valued automobiles are more likely to remain uninsured than expensive ones.

38 See Kirzner, *Competition and Entrepreneurship* and *Meaning of Market Process*.

39 At this point, such equilibrium tendencies have no substantial relevance to the deeper normative issues of criminal punishment, such as the claims that government possesses a unique and sole legitimacy over private institutions. Such issues will be discussed further in section 5.

40 See Tullock, "Welfare Costs of Tariffs," and Krueger, "Political Economy." Such a calculation is similar to the process of "rent-seeking," defined as the spending of resources so as to increase one's share of existing resources without actually producing additional ones.

41 See Barnett, "Getting Even."

42 See Coase, "Problem of Social Cost."

43 See Demsetz, "Theory of Property Rights." See also Hume, *Treatise of Human Nature*, 484–501; Menger, *Principles of Economics*; Posner, "Theory of Primitive Society" and *Economics of Justice*; Johnsen, "Formation and Protection"; Baden and Thurman, "Myths, Admonitions and Rationality"; and Benson, "Legal Evolution" and "Spontaneous Evolution."

44 Hirsch and Jareborg, admit that their process does not apply to crimes without a victim. Hirsch explains, responding to Michael Davis, that he does not view that as a problem: "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." "Proportionality in the Philosophy of Punishment," 556. See also Hirsch and Jareborg, "Gauging Criminal Harm," 579.

45 See Schafer, *Restitution*; Barnett and Hagel, Introduction; Benson, "Restitution



in Theory and Practice"; and the works of Randy Barnett cited in the bibliography.

46 See Downs, "Economic Theory."

47 See *ibid.*

48 See Walker and Hough, *Public Attitudes in Sentencing*; Flanagan and Longmire, *Americans View Crime*; Roberts et al., *Penal Populism*; and Enns, "Public's Increasing Punitiveness."

49 See Mueller, "Public Attitudes," and Mellman Group "Public Opinion on Sentencing."

50 See Buchanan, *Cost and Choice*; Dzur and Mirchandani, "Punishment and Democracy"; Habermas, *Structural Transformation*; Garland, *Culture of Control*; and Kennedy, "Monstrous Offenders." Nobel prize-winning economist James Buchanan explains the difference between latent demands (I want a Ferrari) and expressed demands (I am unwilling to buy a Ferrari at current prices) in a way akin to Dzur and Mirchandani, who liken punitive preferences to Habermas' distinction between "mere opinion" and more meaningfully "public opinion." Garland's description of contemporary vengeance as "expressive" makes similar allusions.

51 See Greene, "Secret Joke"; Houser et al., "When Punishment Fails"; Guala, "Reciprocity"; and Mocan, "Vengeance" 2008. These authors imply both in their theories and their experimental research that individuals harbor and express punitive preferences and biases across ethnicities, demographic backgrounds, and political environments. Mocan reports that "[t]he magnitude of vengeful feelings is greater for people in low-income countries, in countries with low levels of education, low levels of the rule-of-law, in collectivist countries and in countries that experienced an armed conflict in recent history." "Vengeance" 2008, 3. In "Vengeance" 2013, Mocan focuses on individual-level data showing that previous victimization and high-crime surroundings promote vengeance.

52 I have discussed the fact that such preference for severity on the part of victims is a reason for governmental authority over punishment elsewhere: "Paradoxically, it was not a consequence of under but over provision that led theorists to reserve criminal punishments to government authority ... Barnett (1986, p. 40) summarizes this opinion, '[w]hen one seriously compares the potential responsiveness of each system [government v. market-based criminal punishments] ... [c]ompeting jurisdictions would most likely be too responsive to their customers ... creating serious social disruption.'" (D'Amico, "The Prison," 464). See "Prison in Economics." See also Hobbes, *Leviathan*; Locke, *Second Treatise of Government*; and Nozick, *Anarchy, State and Utopia*, 11.

53 See Brennan and Lomasky, *Democracy and Decision*.

54 See Caplan, "Rational Irrationality," "Rational Ignorance," and *Myth of the Rational Voter*.

55 See Huang and Vaughn, "Support and Confidence."

56 Avio, "Economics of Prisons," 16. See also Nardulli, "Misalignment"; Giertz and Nardulli, "Prison Overcrowding"; Benson, *Enterprise of Law* and "Public Goods"; and Benson and Wollan, "Prison Overcrowding."

57 See Sobel, Ryan, and Hall, "Electoral Pressures." See also Bottoms, "Philosophy and Politics"; Beckett, *Making Crime Pay*; Beckett and Sasson, *Politics of Injustice*; and Beckett and Godoy, "Power, Politics and Penalty."

58 See Niskanen, *Bureaucracy*.

59 See Buchanan and Wagner, *Democracy and Deficit*.

60 See Stigler, *Capital*.

61 See Savelsberg, "Knowledge, Domination" and "Punitiveness"; Sutton, "Political Economy."

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