

The Social Provision of Punishment and Incarceration

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ABSTRACT. Standard economic theory proposes that public goods (equally available to everyone) will be underprovided by private markets. Individuals can benefit without having to pay, so there is little incentive to invest or manage resources efficiently. The punishment of criminals is an example of this, since everyone in a society benefits from reduced crime whether they pay to apprehend criminals or not. On that basis, it is widely presumed that governments must provide criminal justice services, including prisons. But the evidence in favor of that view is ambiguous. Stateless societies throughout history have found ways to maintain public order without ever building a prison. Nations with adequate social safety nets and a high degree of equality are also likely to rely on alternatives to incarceration. Strong forms of public goods theory, when applied to punishments and prisons, are shown to be false, since crime control does exist without a centralized state. Furthermore, the available evidence suggests that centralized government provision and management can also suffer inefficiencies from overproduction. Only comparative institutional analysis can speak to the efficiency potentials of punishment, wherein the costs of underproduction are assessed against the likely consequences of overproduction.

I. Introduction

The United States quintupled its prison population during the last few decades of the 20th century. With nearly 2.3 million inmates and 710 prisoners per 100,000 capita, the United States in 2012 was the world's leader in incarcerations. Prison growth also transcended U.S. borders, as the prison population of most nations grew during similar periods

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(Walmsley 2003). Furthermore, the effects of imprisonment in many countries have been unequally concentrated upon young and poor ethnic minorities. These trends have been collectively labeled “mass imprisonment” (Garland 2001). Many commentators argue compellingly that reforms are needed to limit the scope of what is sometimes called the “prison-industrial complex.”

But, if mass imprisonment is perceived or presumed to be inefficient, several questions arise. What does socially optimal punishment or incarceration entail? What are the proper functions of imprisonment, and how is performance to be assessed? What is the proper role of government in the provision of punishments and prison services? Finally, which feedback processes assure optimality?

The thesis of this article is that services to enhance public safety may not be optimally provided if their financing and management are centralized. Centralized bureaucracies foster systemic incentives that contribute to predictable forms of failure (Tullock 1965; Niskanen 1968). The evidence suggests that mass incarceration correlates with the growth of centralized criminal justice bureaucracies. In practical terms, limiting the growth of the prison-industrial complex may require developing strategies to decentralize the management of punishment institutions. Such is counterintuitive, as the centralization of public bureaucracies is the typically proffered response to inefficiencies. The issue here is not whether privately operated prisons are more efficient than prisons run by the government, since private facilities are still financed by centralized government. The issue is whether centralization of incarceration by government is a necessary part of providing public safety. Fair and optimal punishments rather than prison services *per se* are the proper vantage from which to think about public safety as a public good.

Most citizens living under stable political regimes take for granted a criminal justice system replete with legislature, police services, a judicial system, and prisons. Similarly, social theorists across disciplines presume such services are properly conceptualized as “public goods.” Whereas most non-economists view the punitive roles of government via their normative commitments, many economists use public goods theory to explain the need for centralized state action in terms of certain logistical shortcomings inherent to voluntary arrangements. Those

economists would argue that society requires government because private contracts cannot assure optimal outcomes. According to them, marginal inefficiencies are best resolved by transferring operations to the public sector, which has the effect of further centralizing operations (Becker and Stigler 1974; McKenzie and Tullock 1975; Landes and Posner 1975; Cowen 1992). However, critics of public goods theory raise doubts about the efficiency of government management.

The standard public goods approach does not, however, provide much practical insight regarding how incarceration services are to be effectively financed or managed. The governmental provision of any public good or service must resolve knowledge and incentive problems, such as how much of it the public wishes to pay for with higher taxes (Schmidtz 1991; Cowen 1991). By what means should punishments and prisons be produced, in what quantity and quality, and through which financing processes? Insofar as alternative strategies exist, real tradeoffs must be made. How can or should centralized authorities best make these decisions? Only by comparing the answers to such questions to the potentials and limitations of other institutional arrangements does the standard optimality claim or its associated policy inferences hold. Centralization can only be considered optimal or efficient insofar as it resolves these coordination challenges better than institutional alternatives.

I argue that society is mired in the challenges of mass imprisonment today partly because public goods theory has been too indiscriminately applied to favor centralized management of criminal punishments and incarceration without sufficient understanding of other options. Several generations of economists have been trained to believe that government should step in whenever there is a possible market failure. In the case of criminal justice, economists have implicitly assumed that private efforts to provide public safety will fail, leading to a default position supporting statecentralization in financing and management (V. Ostrom 2007). This article deploys comparative sociology, a method that draws heavily on Elinor Ostrom (2010) and the Bloomington School (Aligica and Boettke 2009). That school of thought recognizes that decentralized, self-governing groups can supply many non-market services. Furthermore, such decentralization is crucial for the production of knowledge and incentive flows needed for institutions to improve

through time. I investigate a relatively broad swath of social contexts seeking evidence to confirm or reject some of the typical implications of public goods theory.

Public goods are commodities or services that are widely presumed to be best produced and managed by some level of government and that benefit all individuals throughout a community. They are often identified by two consumptive characteristics. First, public goods are said to be “non-excludable,” which means that it is difficult to keep non-payers from using them. Second, public goods are considered “non-rivalrous,” which means that additional consumers do not detract from the benefits received by other consumers. Public goods supposedly lack viable ways to assure payments from beneficiaries and exclude non-payers. Hence, the incentives that typically guide optimal outcomes in private markets do not hold for public goods, which is why government action is presumed necessary to maintain social efficiency (Samuelson 1954; Hardin 1994).

Recent research has cast doubt on the idea that public goods must be financed and managed by government. Studies investigating lighthouses (Coase 1974), roadways (Benson 1994; Klein 1990), water infrastructure (E. Ostrom 1991), and social safety nets (Beito 2003) have fostered new appreciations of institutional diversity (E. Ostrom 2005). These authors have provided historical examples in which services normally regarded as public goods have been provided socially, with substantially less formal government involvement. Various institutional forms have been shown to be capable across social contexts of resolving the incentive challenges and collective action problems associated with non-rivalrous and non-excludable services (Olson 1965). Local actors often discover and implement mechanisms to sufficiently invest resources and monitor behaviors to provide and maintain common resources despite the absence of centralized authority.

Prison “privatization” straddles the ambiguous conceptual space between private, for-profit markets and centralized governments. Contracting for prison services limits the carceral role of government to legislation and financing, rather than management. Comparative research typically investigates the technological efficiencies of contracting private services compared to publicly managed facilities (Avio 1998). Similar performance outcomes occur across a variety of margins (Tabarrok

2003). But such studies merely investigate the relative technological efficiencies of public and contracted services. Such research does not speak directly to broader questions of social welfare. Private prisons are perhaps the most contentious venue of privatization, inspiring substantial counter-activism and commentary. Jung (1990), DiIulio (1991), Christie (1993), and Sparks (1994) all argue that punishment is purely the right of governments.

Knowing that contracted prisons in the United States have similar inmate conditions and recidivism rates as public facilities does not provide insight as to whether incarceration is a preferable punishment over other strategies, or whether expanding or contracting prison resources is socially efficient relative to opportunity costs. In short, very little work has investigated the potentials of providing punitive legislative authority or financing through decentralized or nongovernmental institutional channels.

Among libertarian and public choice thinkers, there is no definitive view on which types of punishment should be used and by which institutions in order to maintain social order. Friedman (1989: 171, 191) argues that the societal question of optimal punishment remains uncertain. A number of authors have described the potential of private institutional arrangements for the provision of criminal justice (Friedman 1989; Rothbard 1970, 1973, 1985; Benson 1990a, 1998b). Some have surveyed the activities of prisons only briefly and without reaching definitive conclusions about the role they should play in a well-ordered society (Rothbard 1970: 223–227; 1985: 85–96; Benson 1990: 352–364; 1998: 285–318; Barnett 1986; D’Amico 2010: 465).

Section II of this article investigates traditional public goods theory as applied to the social provision of incarceration. There are good reasons to suspect that punishment and incarceration outcomes will deviate from neoclassical definitions of optimality. Standard theory implies three hypotheses related to the social provision of incarceration. The first hypothesis is perhaps the boldest. Given the inherent potentials for positive externalities and free-rider problems, markets for punishments and incarcerations will likely unravel without centralized authority, effectively yielding zero private provision of those services. The second is a milder correlate of the first proposition. Given the weak incentives for private investment, the social provision of incarceration will be

inefficiently low without institutional centralization. Third, if optimal punishment levels are a byproduct of centralization, then we should see some meaningful correlation between decentralized institutions and insufficient punishment. Public goods theory predicts that there will be some meaningful link between centralization and efficiency.

I survey two bodies of research to create a broad sample from which to investigate these implications. Section III summarizes research about relatively stateless social orders. In ancient or medieval proto-states, primitive tribes, frontier spaces, and underground economies, the typical institutional structures of modern governments are absent. Hence, such cases can provide insight as to the potential of deterrence, punishment, imprisonment, and other methods of maintaining order without centralized authority. Section IV surveys empirical research regarding institutional correlates and contemporary cross-country incarceration rates. In neither stateless societies nor in other countries is there evidence that demonstrates the viability of prisons without formal states. The sample of stateless social orders contains no instances of formal prison construction or incarceration of criminals. Societies without states are also societies without prisons. Inversely, all modern nation-states produce and manage incarceration facilities, but there is extreme variation among them in the use of prisons and alternative punishment norms.

Counter to standard theory, stateless societies dedicate resources for criminal law enforcement. Hence, the boldest implied hypothesis from public goods theory, that zero public safety services will be supplied from private sources, is rejected by the mere existence of these practices. The milder postulate is less certain. Customary punishments have a demonstrated capacity to foster social order across a variety of social settings, sometimes more effectively than the use of prisons. But, in some contexts and on certain margins, customary norms are less desirable than contemporary state-based systems. Primitive legal systems and underground societies tend to be governed by strong networks in which reputational mechanisms and rigid hierarchies prevail. Punishment techniques also tend to be more severe and corporeal. However, such systems often demonstrate more adaptability and responsiveness to changing social conditions than contemporary nation-states and fewer tendencies towards bureaucratic excess.

Furthermore, no evidence suggests a consistent correlation between decentralization and suboptimal punishments. Contrary to standard theory, which presumes that centralization effectively secures optimal provision, there exists a loose correlation between more centrally managed punishment institutions and mass incarceration. That pattern conforms to Tullock's (1965) observation that centralized bureaucracies incentivize excessive rather than optimal production rates. Niskanen (1968) also argued that public bureaucracies have an inherent tendency to expand, since expansion increases the opportunities for advancement of the people working in them. Hence, a fuller analysis comparing the costs of over-provision to under-provision of punishment and incarceration is required before making strong claims about social optimality or efficiency.

This evidence comports with the general insights of institutional diversity outlined by Elinor Ostrom (2010). The practical challenges of determining what constitutes an efficient level of prison services vary across social environments and thus require informational and incentivized feedback to maintain error correction over time. Again, determining social optimization or lack of it requires comparative analysis regarding the costs, benefits, potentials, and limitations of different institutional arrangements.

II. Traditional Public Goods Theory

Individuals who are not confident in the security of their persons and property will lack an ability to plan their future and the incentives to improve their condition. Economic development and social prosperity rest upon the foundations of social order (Fukuyama 2008). The entire population benefits from stability regardless of who pays for or manages law enforcement services. Insofar as a fair, equitable, and transparent rule of law is a prerequisite for social order, law enforcement services can be conceptualized as a public good (Samuelson 1954).

The social benefits of criminal justice are neither excludable to non-payers, nor rivalrous in their marginal usages. All citizens benefit from safety, and one person's benefit does not diminish another's. Hence, law enforcement services bestow positive externalities. There is little incentive for optimal private provision and management of those

services because the person paying receives only a small portion of the total benefit. Suppose I pay a security guard to patrol my property, suppress burglars, and report suspicious individuals. Getting my neighbors to voluntarily contribute to this expense is difficult, even though my neighbors will also benefit from the reduced criminal behavior in the neighborhood. A neighbor who does not pay still enjoys benefits just as one who voluntarily contributes. But, unlike government, I do not have authority to force my neighbors to pay for the service or the right to exclude them from enjoying benefits. The potential to be a "free rider" is pervasive and widely recognized. In the extreme scenario, all residents recognize that they are personally better off by receiving a service without paying for it. Thus, any viable market for private security can unravel, and the result may be zero provision.

A milder prediction is that private investments will be weak rather than absent. Some security services can and will be purchased privately, so long as the purchaser perceives that benefits exceed costs. But, the amount spent on security services will be less than the amount that would have been spent if payments reflected the full scope of benefits potentially received by the larger community. Though everyone may agree that security ought to be provided, no individual citizen has sufficient incentive or capacity to provide optimal resources. The lack of institutional enforcement means the service will be undersupplied. Paying for the service out of a tax-supported common fund is the most obvious and common resolution to this collective action problem. Hence, policing is predominantly considered the proper role of government financing and management.

Similar to the example of security guards above, there are obvious incentive dilemmas underpinning the voluntary provision of punishments within a broader system of criminal justice services. In short, positive externalities accrue to non-payers if punishments effectively reduce crime through incapacitation, deterrence, and rehabilitation.

There is an obvious positive externality and public good associated with deterrence. Akin to buyers and sellers in the marketplace, citizens respond to incentives regarding the costs and benefits of crime. If individuals perceive benefits to exceed costs, then they will be inclined to commit crimes. If the costs of crime increase, *ceteris paribus*, less crime can be expected, and vice versa. Punishment after the fact is thus the

most obvious form of cost incurred by criminal behavior. Hence, this basic economic model predicts that an increase in the severity of punishment, combined with a higher probability of it being applied, should deter criminal behavior (Becker 1968). Substantial empirical research has mapped the effects of different punishment types and levels. Those studies confirm the general influence of harsh penalties applied to violent crimes (Levitt 2004). However, the fear of penalties is much less effective for victimless crimes such as drug dealing or drug use (Corman and Naci 2000; Kuziemko and Levitt 2004). In addition, an increase in the probability of being arrested is a far more effective deterrent than an increase in the severity of penalties (Levitt 1998).

Some authors, such as Boonin (2008), reject the legitimacy of all forms of punishment. Others consider incarceration unjustifiable. For them, the criminal justice system does not provide net positive externalities because they are likely to perceive the social damage caused by incarceration as a negative externality that outweighs the benefits of reducing crime. However, that is not a common view. For the purposes of this article, I presume that criminal punishments and incarceration are justified and widely accepted as such by individuals within the relevant community. As a consequence, externalities will be deemed positive.

Insofar as criminal punishments incapacitate and or rehabilitate criminals, deter potential crimes, and satisfy citizens' preferences for justice, such benefits are non-rivalrous and non-excludable. Thus, they are positive externalities and imply that the social provision of punishment for criminal behavior confronts problematic incentives for optimal or efficient outcomes. Non-payers have weak incentives to make voluntary contributions. As long as the benefits are freely available to all regardless of contribution, all individuals recognize it is preferable to "free ride" than to pay. Hence, it is likely that punishments will be under-provided through voluntary arrangements.

This analysis also holds when incarceration is the particular form of criminal punishment. In fact, it could be argued that incarceration produces a greater scope of positive externalities than other punishment types. Whereas execution and exile served to incapacitate criminals or deter crime in the past, incarceration eventually provided a more reliable means of achieving similar outcomes. Prisons also provided a

unique opportunity to experiment with rehabilitation and other socially progressive models.

Crimes vary in type and severity. While corporal penalties are relatively blunt deterrents, prison sentences can be fine-tuned to the unique circumstances of individual cases. An important early proponent of incarceration was Jeremy Bentham, who designed a prison structure called the Panopticon, so named because a guard could view all prisoners from a single vantage point. Bentham ([1787] 1995: 31) zealously advocated this idea of prison reform as a means of solving every social ill:

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!

Bentham ([1830] 2004: 36) also believed that incarceration could avoid creating faulty incentives with unintended consequences, which cruder punishment norms were likely to produce: “If the punishment is the same for simple theft, as for theft and murder, you give the thieves a motive for committing murder.”

Hence, prisons were believed to represent a technological advancement towards more humane and more proportionate sentencing (Beccaria 1764: 8–9; Smith [1763] 1978: 104; Bentham [1830] 2004: 37; Kolber 2009, 2011; D’Amico 2015). For that reason, they were thought to provide better incentives for enforcing law and order as well as a better mechanism for maintaining contributions to finance the broader basket of public goods and services (Gaus 2011). However, prisons are expensive. They entail unique physical construction costs along with operating expenses such as guards and living materials for inmates (Friedman 1999). Hence, the collective action problems associated with the provision of prisons are likely greater than those involved in providing other types of punishments. There is perhaps a greater need for centralized state authority for their optimal provision and/or management.

This article proceeds by surveying two categories of cases to investigate the implications of standard public goods theory to the social provision of criminal punishments and prison services. Because of the incentive challenges inherent in socially provided criminal punishment

and incarceration services, it is expected that one of three conditions will be met:

- 1) No punishment or prison services will be provided without centralized state authority.
- 2) The level of punishment or prison services without centralized authority will be lower than socially optimal.
- 3) There will be a correlation between central financing and management of punishment and incarceration with more optimal rates of production. What optimal punishment production particularly entails remains unclear, though mass incarceration levels are widely perceived as inefficient. Thus, we should at least expect some relationship between centralization and the successful avoidance of mass imprisonment.

III. Stateless Social Orders

In ancient societies (Maine 1861; Friedman 1979; Posner 1981; Ober 2008; D'Amico 2010), primitive tribes (Hoebel 1954; Benson 1991; Clay 1997), frontier spaces (Ellickson 1994; Anderson and Hill 2004), and underground economies (Gambetta 1996; Venkatesh 2006; Leeson 2007, 2009; Skarbek 2014), the formal institutional components of modern governments are mostly absent. Even in the absence of a formal system of governance, however, property rights can exist that need to be protected by punishing those who violate them. Hume ([1739] 2005: 484–501), Menger ([1871] 1994), Demsetz (1967), Posner (1980, 1981), Johnsen (1986), Baden et al. (1981), and Benson (1988, 1989) all explain the development of property rights and contract enforcements as a spontaneous process ancillary to state design. Thus, at each stage of social development, we should expect to find institutions established to criminalize infringements on property rights.

By looking at the data compiled by the above authors, we can evaluate the strongest implications of public goods theory. The boldest hypothesis of public goods theory—that zero services will be provided socially—may be valid with regards to the production and administration of formal prison services, but it can be rejected with regard to the

more general provision of criminal punishments (Leeson and Skarbek 2010; Leeson 2009, 2014a, 2014b). In every society, there is some support for social infliction of punishment in order to maintain order.

Social settings without monopolized state authorities do not typically contain prison facilities as they often lack the necessary scales of population, material wealth, and technologies needed for large-scale infrastructure projects. Hence they also probably lack the capacity to resolve the collective action problems associated with coordinating such high cost and labor-intensive public works projects. But, those societies or communities typically contain customary or spontaneous legal systems that regulate and punish the sorts of behavior that are considered criminal in modern societies. Though such processes are often undesirable or inefficient from a modern vantage point, the transition to modern, centrally managed systems cannot be attributed to inadequate provision of punishments under customary rules or spontaneous order.

Without monopolized state authority, legal processes tend to evolve from a plurality of sources of customary authority. Such plurality creates and fosters incentives for disputants to rely upon third-party adjudicators for conflict resolution and contract enforcement services. Tribal elders and respected family leaders often serve as such judicial authorities because they have public reputations and aligned incentives for the general welfare of the community. Contestability of ruling authority and the alignment of long-run reputations thus provide competitive incentives for disputants to abide by customary norms and rulings, as well as for legal authorities to maintain fair and predictable standards. Where and when such competition is lacking, capture and rentseeking ensue, and social stability wanes.

In such contexts, rather than law being formally designed and imposed by centralized authority, legal and social norms emerge locally within small groups. If different localities interact through time, or splinter into multiple smaller units, individuals are afforded opportunities to exit and select alternative legal norms and jurisdictions (Tiebout 1956; Olson 1993). Hence, such pluralism of legal decisionmaking is argued to foster competitive incentives for legal innovations and evolutionary processes over time. The successful legal legacies of Ancient Greece and the British common law have been credited to that sort of legal pluralism (Ober 2008; Berman 1985; Hogue 1986).

Absent centralized enforcement authority, punitive processes under customary law are typically referred to as “self serving,” which means that private parties impose the penalty. Though competitive judicial and adjudication services exist under stateless conditions, private individuals and groups are responsible for financing and administering enforcements and imposing punitive sentences. Hence, aggregate levels of punishment within a community tend to be constrained by the resource opportunities and willingness-to-pay levels of private individuals. Furthermore, winning disputants tend to prefer strategies that enable them to regain tangible forms of wealth. Thus, customary legal systems commonly operate according to norms of restitution rather than retribution or overtly designed rehabilitation (Benson 1996).

Customary legal systems have been described as sufficiently effective in fostering social order within small to mid-sized communities (Landa 1981; Bernstein 1992). It is difficult to assess the qualitative features of spontaneous legal orders compared to modern state-based legal systems as they tend to be grounded in different causal origins and are thus motivated by alternative intentions and interest groups. While customary legal systems exist as a residual reflection of social norms, government legislation must adjudicate across perceived aggregates of societal interests and particular political motives of ruling decision-makers (Benson 1992).

Research surrounding the origins of prisons and incarceration typically references the use of slave labor in ancient Egypt and the practice of solitary confinement in religious monasteries (Peters 1998). Imperial regimes often leveraged bondage and indentured servitude as mechanisms of social compliance during and after wars of conquest, but not as a standard consequence of criminal behavior (Perrin and Coleman 1998; Geltner 2008). The historic rise of imprisonment as a criminal penalty is loosely linked to the origins of formal nation-states and the formal monopolization of the criminal justice process by centralized governmental authority.

Orthogonal to standard public goods narratives, the first formal prison facilities in modern legal times were developed in Scandinavian countries during the early modern period, as surplus armories and military outposts were used as holding cells for criminals (Spierenburg 1991). Rather than a reaction to social under-provision of punishment,

early transitions towards centralized law enforcement claimed to be a response to excessive punishment by private means (Barnett 1986: 40). The same position was held by Hobbes ([1651] 1995) and Locke ([1690] 1980) and more recently restated by Nozick (1974: 11):

Men who judge in their own case will always give themselves the benefit of the doubt and assume that they are in the right. They will overestimate the amount of harm or damage they have suffered . . . punish others more than proportionately and exact excessive compensation.

Others have argued that monopolization of criminal justice ultimately represented efforts by states to gain tax and regulatory control (Goebel 1976; Benson 1992).

Early prisons under relatively new governmental legal authority were not designed or constructed to cope with a lack of punitive resources, but more often in response to a common perception that punishments had previously been inhumane, excessively severe, and supposedly captured by elite interests. Bentham's ([1787] 1995) Panopticon was claimed to be a preferable substitute for transportation (to Australia), and his general design was quickly replicated around the developed world. Early investigations into American facilities were conducted by political representatives such as Beaumont and Tocqueville (1833: 98–99). They concluded that the decentralized structure of early U.S. political institutions assured the relatively effective application of prison management styles that limited the budgetary and punitive growth of the system at the national level.

The earliest criminal justice and punishment resources in frontier areas and colonial territories operated similarly to ancient and primitive legal contexts but with updated communication and resource technologies. Anderson and Hill (2004) and Ellickson (1994) describe spontaneous legal developments motivated by private efforts to secure property and resolve conflicts. Such norms proved sufficiently effective for them to argue against the common caricature of the supposedly "wild" West. Rothman (1971) similarly tracks a vibrant system of civil society organizations and voluntary half-way houses that helped usher outsiders, who lacked reputational capital, into close-knit townships, even amidst criminal conflicts. Those organizations and voluntary activities were largely displaced

by state institutions that received large-scale subsidies from the federal government during and after the New Deal.

Governance procedures within criminal syndicates and underground economies comport similarly with these general conditions under statelessness. Criminal syndicates possess at least some minimal potential to provide conflict resolution and punishment, and to maintain social order within their ranks. Gambetta (1996), Leeson (2009), Skarbek (2014), and others report similar processes of emergent self-governance within criminal organizations. Their rules are designed to deter violence, resolve interpersonal conflicts, and provide checks and balances against abuses of discretionary authority. All such norms are generally unified and evaluated according to their potential to maximize the profits of the criminal organization (Levitt and Venkatesh 2000; Leeson 2012). The same reason governance is demanded in other settings—the need for security of persons and property—applies to individuals who join and or rely upon criminal authorities, especially when traditional governments fail to provide similar services.

We have now observed two patterns that are contrary to the expectation of the theory of public goods. First, we saw that centralization of criminal justice services is *not* a direct byproduct of under-provision by private sources. Second, we have found that the demand for social provision of those services can be linked to under-provision of them by central authorities (Skaperdas 2001; Varese 2011). Again, such norms tend to be make punishment more severe and corporeal than modern progressive sensibilities accept, but harsh punishment, particularly in underground economies, may be a result of black market conditions, which prevent people from using formal institutions. State action, such as the war on drugs, blocks those involved in black markets from gaining access to the courts and thereby causes people in those markets to use violent forms of punishment or retaliation (Miron 2001).

IV. Contemporary Cross-Country Incarceration Rates

As we have seen, stateless societies provide a unique opportunity to investigate the potential of punitive institutions to exist without centralized authority. In this section, we turn to a comparison of empirical patterns of crime and punishment across countries. That will give us

insight as to the generality of the implied hypotheses linking efficient provision to state centralization. The theory of public goods hypothesizes that punishment of crime will be under-supplied in the absence of state control. If that is true, then nations that spend little on prisons and have low incarceration rates should logically have higher crime rates. Furthermore, if mass incarceration is correctly a form of social inefficiency, then more centralized forms of governance ought to better avoid mass incarceration outcomes. As we shall see in this section, the available evidence does not support a consistent link between state centralization and optimal incarceration or punitive outcomes. In contrast, mass incarceration appears consistently correlated with more hierarchically managed criminal justice authority.

Empirical studies of cross-country incarceration rates have broadly converged upon an institutional theory to explain prison growth and the structural accumulation of mass imprisonment outcomes. In short, cross-country incarceration rates are not predominantly or sufficiently explained by variations in real crime rates, the proportion of the population in urban areas, or ethnic fractionalization. Instead, countries with relatively similar political, economic, and cultural systems seem to host comparable criminal justice processes and punishment outcomes. Substantial debate remains as to what particular features and causal processes amidst these institutions particularly shape incarceration outcomes.

Cavadino and Dignan (2006) have emphasized that cross-national incarceration rates can be fitted onto a general set of institutional categories regarding their alternative forms of capitalism, as defined by Hall and Soskice (2001). Market liberal societies such as the United States possess the largest incarceration rates in conjunction with high crime rates, high levels of income inequality, low levels of social safety nets and welfare programs, and low regulatory constraints on market operations. Countries with more centralized and regulated economies such as French civil law nations, European corporatist countries, like Germany, and social democracies such as the Scandinavian countries, possess substantially lower incarceration rates. Japan maintains even lower rates. Taking market liberalism as the baseline or norm, it appears that alternative forms of capitalism preemptively fend off the sociological effects of crime by systematically operating social welfare programs

and by reacting to criminal behavior with rehabilitation programs rather than simple incarceration.

Similarly, Lacey (2008) highlights the role of different voting systems across varieties of capitalism. She notes that winner-take-all elections in single-member districts, common in countries with market liberalism, foster only limited opportunities for minority interests to elect representatives. Hence ethnic minority groups, disproportionately affected by mass incarceration and underrepresented in legislatures, have a hard time coordinating political reform efforts.

D'Amico and Williamson show that socialist experience, legal systems based on British common law, and French, German, and Scandinavian civil legal origins hold the strongest and most robust correlations amidst reasonable controls such as crime rates, GDP per capita, urban density, and ethnic diversity, over other institutional schemas: "French legal nations have smaller prison populations by approximately 143 inmates (per 100,000 capita), German by about 133 (per 100,000) and Scandinavian by approximately 233 (per 100,000) (2015: 598)." They argue that public welfare bureaucracies are effective mechanisms for social control under civil law nations, but income security programs carry high start-up costs under the common law. Hence common law countries have greater incentives than civil law countries to make use of imprisonment.

From such empirical research, no consistent link can be demonstrated between centralized authority and punitive efficiency. At the extreme end of the spectrum of administrative centralization, totalitarian regimes, both socialist and fascist, are well known for creating the most severe and torturous systems of punishment and social control (Applebaum 2004). "Communism increases non-drug related inmates by about 279 per 100,000" (D'Amico and Williamson 2015: 607). Contemporary legal scholars have noted that criminal justice processes under the common law have recently become more hierarchically managed at the federal level than the local level in conjunction with growing criminal justice failures and mass incarceration (Stuntz 2011; Murakawa 2014). Socialist regimes and contemporary common law nations are increasingly afflicted by "cartel federalism," under which the federal government controls substantially more revenue and states or provinces compete with each other for federal grants (Greve 2012).

Since prison construction is a key avenue of such grant programs, the countries with this cartel structure lead the world in prison population rates and represent the most centrally managed criminal justice systems.

On the other end of the spectrum, polycentric stateless societies are typically devoid of formal incarceration facilities, but they invest resources in, and contain institutional processes for, criminal law enforcement. Early common law jurisdictions were more centralized than fully stateless contexts, but with overlapping jurisdictions of competing legal authorities. Prisons were initially developed within centralized political regimes, and then adopted within common law territories, as state power monopolized criminal justice processes.

Hence we see a consistent spectrum from least to most oriented toward incarceration as a method of punishment: from customary legal systems, which are the least centralized contexts, to historically decentralized common law jurisdictions, to contemporary civil law countries, to contemporary common law countries, to socialist regimes. Hence the available evidence seems to show a general correlation between incarceration rates and the associated social inefficiencies of mass incarceration with centralization as opposed to a strong linkage between central administration and optimal outcomes. If mass incarceration is in fact a meaningful expression of socially inefficient punishments, i.e., an overproduction of imprisonment, it appears to be consistently related to more centralized management of criminal justice decisionmaking. Hence, centralization does not guarantee or assure optimal production rates, but instead may create unique opportunities for inefficient overproduction.

V. Conclusions

This article began by surveying the traditional theory of public goods as it relates to the social provision of criminal punishments and imprisonment. Three related hypotheses are implied by standard public goods theory. First, because the benefits of public safety are non-rivalrous and non-excludable, private efforts to finance and manage criminal punishments are predicted to produce socially inefficient outcomes. Second, centralized government action is presumed necessary to promote socially optimal outcomes. In its boldest form, standard theory predicts

zero social production of public goods like punishment and/or incarceration. More mildly, public goods theory suggests that social provisions will be suboptimally low without government interventions. Third, some consistent correlation should hold between efficient allocations of criminal punishments and/or prison resources on the one hand with statecentralization of criminal justice institutions on the other.

To investigate these implications, I surveyed research from two sets of social contexts. First, stateless societies provide a unique opportunity to understand the potentials of punishment and incarceration in the absence of formal governments. Second, empirical research related to cross-country incarceration rates provides insight into the types of political and economic institutions that correlate with different national prison population rates.

In short, these evidentiary sources do not strongly confirm the traditional implications of public goods theory. While formal prison facilities are essentially absent from stateless societies, they do have functioning and self-regulating criminal justice institutions that impose punishments. Furthermore, insofar as the broad range of social contexts can be fitted into a spectrum of institutional centralization, no strong relationship holds between centralization and efficiency, but a loose correlation holds between centralization and mass incarceration.

While these findings do not provide strong support for traditional public goods theory, they generally comport with the basic insights of bureaucratic centralization as explained by Tullock (1965) and Niskanen (1968). In short, centralized bureaucracies contain and foster incentives for inefficiently excessive production functions. Hence, in accordance with E. Ostrom's (2005) general insights about institutional diversity, social optimization can only be discerned through comparative analysis. While the absence of incarceration in stateless societies is likely an example of social inefficiency, this can be discerned only by comparing the social consequences of under-provision with the consequences of bureaucratic over-provision. The optimal level of incarceration may lie somewhere in the range between stateless systems and centralized bureaucracies. Furthermore, not all institutional forms are available or viable in different social settings. Efficiency, in this sense, is as much contextual as it is comparative. The institutional arrangements for criminal punishments and imprisonments that prove more effective and

sustainable than alternatives in one social setting are unlikely to prove to be so in other contexts. Insofar as diverse institutional types exist across unique social environments, institutional effectiveness is less a byproduct of state or market identities than it is its degree of centralization and the incentive-based feedback within the relevant institutional decision-making processes. These results are especially counterintuitive in light of the typical ideological and institutional preferences of reformists against mass incarceration. No strong evidence suggests a meaningful link between either pro- or anti-governmental ideologies and prison outcomes. Instead, mass imprisonment seems to relate most to institutional centralization. If correct, insofar as reform proposals leverage and enhance centralization, they may prove ineffective or counterproductive.

This analysis does not definitively prove that prisons or criminal punishments are not correctly modeled as public goods. Nor does it determine if treating prisons as public goods is socially optimal or inefficient. Nevertheless, ambiguous linkages between public goods theory and historical and contemporary evidence indicate that most standard implications do not strongly hold. Therefore, it is warranted to consider alternative conceptual models for understanding the economic organization and social provision of incarceration. Perhaps prisons or punishments are not the proper locus of investigation but rather a mere component of a broader and more abstract social provision of the rule of law. Reframing the issue in that way would leave room for constitutional perspectives akin to those prominent in development economics (Acemoglu and Robinson 2012). Good economic performance is observed in nations that effectively constrain centralized authority from imposing harmful forms of predation and uncertainty. Perhaps the social provision of criminal justice is also most effective when there are effective checks and balances on centralized authority.

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