

LIFE IN THE GULAG: A PROPERTY RIGHTS PERSPECTIVE

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No, it isn't done especially to torture people. A sentenced prisoner is a laboring soldier of socialism, so why should he be tortured? They need him for construction work.

—Aleksandr I. Solzhenitsyn

Introduction

One of the most interesting applications of modern economic theory has been to the analysis of slavery. This work began in the pathbreaking article by Conrad and Meyer (1958), and was extended and revised by Fogel and Engerman (1974). This analysis, including a growing body of further extensions and critiques, focuses on the case of slavery in the antebellum South.

In this paper we show that the analysis of slavery based on the economic theory of property rights can be extended beyond the antebellum South to a more recent institutional phenomena—the large-scale use of political prisoners as forced labor in modern socialist states. These cases are amenable to a straightforward application of modern property rights theory, which offers a rational explanation for key differences between these examples of forced labor and slavery in the antebellum South.

The Plantation

One of the key insights of the modern economic literature on slavery is the importance of a highly developed, efficient capital

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market for slaves in the slave-holding region of the United States prior to the Civil War. This market determined prices for slaves based on the discounted present value of the future income streams expected to result from their labor services, as in the case of any other long-lived capital asset. The slave capital market existed in two major forms, a rental and a purchase market. Rentals were usually for periods ranging from a day to a year, and served as a transactions cost-minimizing device allowing the use of slave labor for temporary jobs with a flexibility similar to that of nonslave wage labor. The sale of slaves on organized slave markets is estimated to have averaged 50,000 per year, implying that on average 1 slaveholder out of every 22 sold a slave in a given year (Fogel and Engerman 1974, p. 53).

The point we wish to emphasize here is that the expected future value of a slave's labor services, which were a function of the slave's health, fitness, education, training, and other characteristics (and to a degree represented levels of discretionary investment by the slave owner), was reflected in the price of the slave determined on a capital market. Slave owners were not restrained by law from neglecting, injuring, or otherwise abusing their slaves. However, they were restrained by economic incentives from reducing the capital value of their slaves as assets.

In fact, there is evidence that rational maximizing behavior on the part of slave owners led to effective maintenance of the health and physical welfare of slaves. Slaves were not worked to death at early ages, but treated well enough so that their average life expectancy at birth was evidently similar to that of whites (Fogel and Engerman 1974, p. 126). Childbearing by slaves was encouraged, and the intentional breakup of slave families was usually avoided (Fogel and Engerman 1974, p. 142). Available evidence suggests that slave diets were nutritionally balanced (in fact, probably better balanced on average than the diets of freed slaves in the South in the later 19th century; Fogel and Engerman 1974, p. 113). In short, while antebellum slavery was an institution based on coercion and exploitation, slave owners had economic incentives to maintain the physical requirements for the basic health and welfare of their slaves.¹

¹It might be argued that legal protection of slaves in the South contributed an additional constraint on the mistreatment of slaves by their owners. In fact, 10 Southern states made it a crime to mistreat a slave, and the law of 6 states required the master to provide suitable food and clothing for his slaves. However, these laws were rarely enforced. No slave could legally testify against his master, and in some states a black could not testify against a white man at all. Hence, these laws were irrelevant to the master's decision concerning the optimal level of investment in slave maintenance. Interestingly, states commonly compensated masters if slaves were sentenced to capital punishment for crimes. For example, an 1824 law in Alabama entitled slaveowners to claim one-half of the assessed value of slaves put to death; in 1839, Virginia appropriated \$12,000 to pay owners of executed slaves compensation. For a discussion of these matters, see Friedman (1974, pp. 198–200).

There was another feature of antebellum slavery based on private property rights with important consequences for the well-being of slaves. Owners, as full residual claimants in both the capital value and output derived from slave labor, were motivated by economic incentives to maximize slave productivity. Critics of the economic efficiency of slave labor have tended to argue that slaves, unlike free laborers, were not residual claimants in the value of their human capital stock, and hence did not bear the cost of shirking except in the form of punishment. Given that punishment is the only form of control that masters have over slave labor, slaves must be externally monitored during labor. Free labor tends to require less costly monitoring and to be partially self-monitoring for reasons involving residual claimancy.

However, Fogel and Engerman (1974, pp. 147–49) demonstrate that Southern slave owners did not rely exclusively on the lash for supplying slave worker motivation, but supplemented physical coercion with economic incentives in the form of output-based rewards. The use of rewards for motivating slaves was widespread. Even profit-sharing arrangements between slaves and their masters were occasionally employed. Further, rewards in the form of occupational advance were employed. Although the occupational opportunities of slaves were restricted by comparison with those of white nonslaves, advance within the occupational hierarchy of the plantation based on individual effort was possible. Taken together, these forms of reward constituted an incentive structure which partially replaced monitoring and control by the slave owner with self-monitoring by slaves who were made residual claimants in the production process.²

The Gulag

Contrary to popular belief, slavery in the antebellum South is not the last significant example of a system of slave labor in recent history. The forced labor camps in various socialist states in this century constitute a well-documented but poorly understood modern system of slave labor to which the same basic analysis as that outlined above

²It should be noted that Fogel and Engerman's work on antebellum slavery has generated considerable controversy. Several critics of *Time on the Cross* published a book-length detailed critique (David, et al. 1976), based on primary source material. Of particular relevance here are Sutch's article, which argues that Fogel and Engerman exaggerated the nutritional content of the slave diet (David, et al., pp. 231–301), and Gutman and Sutch's article, which maintains that whipping and other forms of corporal punishment of slaves were significantly more important than Fogel and Engerman claimed (David, et al., pp. 53–93). However, despite the controversy, both sides agree that slaveowners tended to preserve the value of slaves as capital assets and that this behavior was economically motivated.

applies. Obviously, there are important differences between the system of forced labor in the Soviet Union and that of slavery in the antebellum South. Our purpose is to emphasize the economic importance of some of these differences.

Unlike slavery in the antebellum South, individuals committed to forced labor in the USSR are convicted criminals and political prisoners. Therefore, forced labor camps, unlike *slave plantations*, are designed in part to punish their inmates. However, the forced labor camps are also productive enterprises generating a nontrivial proportion of the output of the Soviet economy.

According to one recent estimate, the total number of *zeks* (inmates in forced labor camps) in the USSR at any given time is about five million adults (Orlov 1979, p. 68). Dallin and Nicolaevsky (1947, p. 15) claim that the camp population was between 7 to 12 million prisoners in any given year throughout the 1930s and 1940s. Following Stalin's death in 1953, the camp population fell by about two-thirds. Since 1957, however, it has trended upward (Conquest 1971, p. 21).

This forced labor pool is allocated to activities such as mining in remote and inhospitable regions (such as eastern Siberia where the bulk of the large labor camps are located). Forced labor has played a leading role in the economic development of resource-rich areas of the wilderness in Siberia and elsewhere in the USSR. This is not to imply that the use of forced labor in the Soviet Union is efficient relative to voluntary labor, but merely that forced labor camps have been responsible for producing significant economic output in absolute terms. Forced labor is a productive input and not only a form of punishment.

But the most relevant difference between slavery in the antebellum South and in the Soviet prison camps (as well as its counterparts in other communist countries) has been neglected in the large literature which has emerged about the Gulag. *This is the fact that the forced labor system of the Gulag is an example of slavery in the absence of well-defined and enforced property rights in slaves.*

Inmates in Soviet forced labor camps are not slaves in the strict sense because they do not represent private property. However, *zeks* are not protected under the law, but are under the control of the respective camp administration. These inmates are therefore not self-owners. But neither are they owned by camp administrators or any other particular individuals. They are not bought and sold and hence do not have capital values.

The standard textbook critique of economic efficiency under socialism emphasizes in part the incentive problems that result from the

absence of well-defined and enforced private property rights to plant, equipment, and resources. Decision makers in the producer sector are not residual claimants, and thus lack economic motivation to make efficient decisions. Socialism tends to be characterized by the absence of efficient property rights arrangements that would internalize economic externalities.

Even slave labor under socialism is subject to these problems. Inmates in the Gulag may not be bought and sold by camp administrators; there is no capital market for slaves in the Soviet Union (just as there is no capital market for other productive assets). *Zeks* therefore have no market-determined capital value.

In the Gulag, as in other parts of the planned sector of the Soviet economy, decision makers are not residual claimants in the direct sense that entrepreneurs are in a market economy. Camp administrators (like factory managers) are typically assigned production quotas in terms of the relevant output (for example, X tons of gold processed per annum, or Y miles of highway constructed). They are evaluated and rewarded on the basis of the degree to which they fulfill planned output. Also, the bonuses the manager/administrator can earn as a reward for good performance are usually relatively small. For these reasons camp administrators can be considered to be residual claimants only in a loose, indirect sense. The incentive of camp administrators to maintain the productivity of slave labor tends to be quite limited relative to a system of slavery in which the slave owners have full claim to the value of slave productivity.

The abominable treatment of prisoners in the Gulag Archipelago has been discussed extensively, most especially by Solzhenitsyn (1974) in his trilogy of that title documenting conditions in the camps during the Stalin era and shortly thereafter. Solomon (1971, p. 103) estimates that 40 million prisoners died in forced labor camps prior to 1950; most sources agree that death rates in the forced labor camps have been consistently high. Solzhenitsyn documents the deplorable sanitary conditions, inattention to the health of inmates, and virtual starvation diets which appear to have reflected standard camp operating procedures.

The relative harshness of the Soviet system of forced labor by comparison with most historical instances of slavery is typically explained in the literature as reflecting the intentions of the regime. The Gulag is asserted to have been designed to produce a joint product, in the form of economic output and punishment. Conquest (1978, p. 124) explains the brutal conditions at the huge Kolyma camp complex as reflecting "one main truth," namely, that "in the minds of its creators and organizers the conscious purpose of Kolyma . . .

had become the production, with at least equal priority, of gold and death." In fact, the Soviet system is sometimes portrayed as linked to the Gulag to provide stability for the regime. Again quoting Conquest (1978, p. 231): "Kolyma—the threat and actuality of Kolyma—was the way the Soviet government imposed itself on its subjects."

While this line of reasoning seems plausible, it fails to explain the way that the Gulag Archipelago actually operates. Given serious labor shortages in Siberia, where the bulk of the camps are located, the inmate population represents valuable labor inputs. A rational (albeit despotic) regime would seek to conserve such resources rather than casually waste them. In the event that the cost of sending an additional prisoner to the camps was perceived to exceed that individual's expected marginal value product, it would be more efficient for the regime to arrest and murder the individual near his home. Shipping individuals thousands of miles to camps where their labor is expected to be submarginal in order to work them to death would be an extraordinarily inefficient method of execution.

The puzzling feature of the forced labor system is why the prisoners have in general been treated as if they represented a costless labor resource. Slaves in the antebellum South were, in effect, prisoners for life, and were often treated harshly, but they were in general maintained as valuable, productive assets. They were not worked to death.³ Slaves were valuable capital assets, and their value increased steadily following the legal prohibition of the importation of slaves into the United States in 1807.⁴

But in the USSR during the Stalin era, slaves in the Gulag could be replaced at essentially zero cost by those managing forced labor camps. While it was true that the risk of incarceration in a forced labor camp tended to vary among different groups in the society, the potential slave population basically included the entire population.⁵

³While this was true of slavery in the United States, there is evidence that at times in other parts of the Western Hemisphere (particularly in various parts of the Caribbean) some slaves apparently *were* worked to death. We would argue that in most of these cases transactions costs prevented capital markets from functioning efficiently, and that our property rights analysis of the Gulag system would apply to these cases as well. For a detailed economic model designed to explain why material conditions may differ under slavery, see Fenoaltea (1984).

⁴However, increasing prices for slaves during the antebellum era were not solely the result of the 1807 import prohibition. As Fraginals, Klein, and Engerman (1983) have recently shown, prices for slaves in Brazil and Cuba rose markedly through the 1850s, even though slave importation was legally permitted in both countries.

⁵Conquest (1978, p. 228) argues that most prisoners in the Gulag were not common criminals or dissidents, but had been arrested and convicted on trumped-up charges. It is clear that at least during the Stalin era the supply of hard labor to the camps was not fixed but highly elastic. The camp population included large numbers of people

A temporary labor shortage in the gold and coal mines near Omsukchan in Siberia, say, could be remedied by arresting and transporting a sufficiently large group of able-bodied dissidents, or if actual dissidents were not available, whatever group was convenient for the NKVD to deport. In other words, the supply of labor for the forced labor camps of the Gulag appears to have been nearly perfectly elastic from the perspective of the managers of the camps.

Under the incentive structure within which forced labor camp administrators operate, coupled with a high elasticity of supply for replacement slaves, the extremely high death rates within the camps, as well as conditions which tended to hamper the health and productivity of the inmates, can be explained without resort to any presumption of irrational malice on the part of the administrators. Gulag administrators did not own the inmates, and could not claim their capital value. Hence, they had a very substantially reduced incentive relative to slave owners to invest scarce resources in the care and maintenance of these laborers.

We are not arguing that the wasteful use of slave labor in the Gulag was a *necessary* consequence of the absence of explicit legal private property rights in slaves. Different institutional arrangements short of full private property rights and organized slave markets might have reduced waste. Effective property rights do not necessarily require explicit legal definition and enforcement.⁶ If camp administrators were rewarded by higher authority for efficiently managing the slaves under their control, this would be tantamount to a limited form of property right in slaves, and would have the tendency to mitigate the exceptional brutality of the Gulag. Even in the absence of an explicit capital market for slaves, slaves would have a shadow price (and consequently an implicit capital value), reflecting their value as inputs in production to fulfill planned output, for which camp administrators are directly rewarded. This shadow price would

who were apparently not guilty of crimes or even suspected of crimes against the regime. During World War II (and later), large numbers of minority nationalities were deported to the camps (Conquest 1971, pp. 20–21). The NKVD followed the Red Army into occupied countries “to dispatch back millions of slaves” (Tolstoy 1982, p. 11). One authority (Tolstoy 1982, p. 18) refers to the universal vulnerability of ordinary Soviet citizens (regardless of their behavior toward the authorities) by describing the USSR in the Stalin era as populated by “prisoners, former prisoners, and future prisoners.” The same author also explains that although the casualty rate in the forced labor camps was very high, “the remaining ‘free’ population provided a near inexhaustible source of fresh human material” (Tolstoy 1982, pp. 10–11).

⁶For example, see Umbeck (1981) on mining camps, and Libecap (1978) on range rights, both interesting examples of the emergence of property rights systems in the absence of explicit legal enactment.

perform the same functions as an explicit market price, albeit less efficiently.

In fact, camp administrators are responsible for maintaining specified output quotas in whatever their camps produced. Unfortunately, the low replacement cost of slaves facing camp decision makers prevents effective property rights in slaves from emerging. In the short run, targeted output would be maximized by maximizing the intensity of labor inputs supplied by slaves. Such a strategy would be efficient from the perspective of a camp manager if the marginal cost of replacement slaves is zero (or very low). It is also likely that other resources which are substitutable for slave labor as inputs in the production process—equipment and machinery, better management, and more efficient camp administration—are significantly more costly to camp administrators than are new *zeks*. Under these circumstances, resources provided to the camps for operating purposes can be consumed directly by the administrators, while still achieving planned output targets, by working the “free” slave labor to death. In other words, this reallocation of resources represents a way by which administrators could spend the lives of slaves in exchange for enhanced welfare for themselves.⁷

Of course, even in the short run, achieving an optimal rate of output per slave may require some minimal level of investment in maintenance (for example, providing some limited shelter, nourishment, and rest), such that some especially strong and healthy individuals may actually survive for years. Also, assuming that the transactions costs associated with procuring slave replacements are positive (that is, to the camp management)—for example, if replacement *zeks* require some limited degree of training for their assigned tasks—the camp management will have an additional incentive to engage in minimal investment in maintenance. But unless these transactions costs are very high, more costly maintenance such as medical care would not be efficient. Available evidence suggests that these conditions characterized the forced labor camp system during the Stalin era.

Conclusion

It has been common for critics of the Gulag Archipelago, and similar systems of forced labor in other socialist states, to describe it

⁷Although camp administrators have opportunities to employ Gulag slaves to provide themselves with personal consumption goods (servants, sexual services, home construction, and so on), such personal use of slaves is difficult to conceal from central authorities, who monitor the camps closely. It is therefore quite limited. On the personal services provided by *zeks* to camp administrators, see Solzhenitsyn (1974).

as slavery. This description is inaccurate because inmates of the Gulag, unlike slaves, are not bought and sold. As a consequence, they have no market-determined capital value. But more to the point, *zeks* are not *owned*, but represent free goods from the perspective of their masters. In this context the high wastage rate of inmates of the Gulag by comparison with antebellum slavery is economically understandable.

The only thing worse than an economic system based on slave labor is one that treats slave labor as a free good. The consumers outside the Gulag have also suffered as a result of this wasteful system. By the early 1940s, as much as 25 percent of total direct investment in the Soviet Union was in the forced labor sector (Fainsod 1953, pp. 385–87). The net costs to the economy as a whole of transferring millions of workers from the ordinary sector to the Gulag have been large.

However, the Soviet economy is obviously not directed by the demands of consumers but by the demands of the central authorities. The possibility should be admitted that the Gulag represents an efficient means of producing the output mix demanded by the Soviet authorities. The forced labor system has proved a reliable labor supply at basically zero wage rates under conditions where a volunteer labor force would be available only at high real wage rates. At the same time, the stability of the regime may have been significantly enhanced by the terror the Gulag provided. Whatever the objective function of the rulers in Moscow, it is clear that the property rights arrangements operative within the system encourage massive waste in terms of slave labor resources.

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