

The Economics of Inmate Labor Force Participation

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Chapter 5

Presentation by Steven D. Levitt

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Biography

Steven Levitt is Professor of Economics, University of Chicago. He is also a research fellow of the American Bar Association. From 1995 to 1997 he was a junior fellow in the Harvard Society of Fellows and a John M. Olin Research Fellow in Law and Economics at the Harvard School of Law. In 1998 he received the Quantrell Award recognizing outstanding undergraduate teaching at the University of Chicago.

Professor Levitt has a Ph.D. in economics from the Massachusetts Institute of Technology, 1994. He received his Bachelor's degree in economics (Summa Cum Laude, Phi Beta Kappa) from Harvard University in 1989.

Professor Levitt has published extensively, including on sentencing, the effects of demographic change on crime, crime and urban flight, juvenile crime and punishment, guns and violence, and the effect of imprisonment on crime rates. A recent article is "An Economic Analysis of a Drug-Selling Gang's Finances," coauthored with Sudhir Venkatesh.

Presentation

- I. Introductory Remarks
- II.

Let me begin with a caveat. Although I have written widely on economic issues related to crime and criminal justice, prior to the invitation to participate in this project I was only casually acquainted with the complex issues surrounding inmate labor. I have spent a great deal of time thinking about these questions in recent months and offer my opinions below. My opinions are based upon my training and experiences as an economist, as well as a careful reading of materials I have obtained. I do not, however, have first-hand experience "in the trenches" with respect to prison labor. Consequently, I have attempted to limit my discussion to broad issues, staying away from the nuts and bolts of implementation which I am unqualified to address.

With that important limitation in mind, my comments on prison labor are structured as follows. I begin by laying out what I believe to be the important stylized

facts concerning inmate labor. These facts will serve as the basis for my judgments about a number of questions. First, how big an effect on Gross Domestic Product do bans on prison labor have? Second, how might prison labor policies be designed to create the greatest economic benefits? Third, who would be the winners and losers if existing limitations were removed? Fourth, what other issues besides narrow economic considerations need to be taken into account when determining optimal policies with respect to prison labor.

II. Stylized Facts

There are a number of key stylized facts related to inmate labor that will dictate many of the conclusions I later present. I begin by outlining these “facts.”

Fact 1: By any macroeconomic measure, prison labor is currently and will almost certainly remain a small (though not necessarily trivial) fraction of the economy even if restrictions on prison industries are abolished.

Given the current set of restrictions on how prison labor can be utilized, at the present time most prisoners do not work in jobs producing output that will be sold. Miller, Shilton, and Petersik (1998) report that in 1997, 76,519 inmates worked in correctional industry jobs, generating gross sales of \$1.6 billion dollars. These 76,519 inmates represent less than 6/100ths of one percent of the United States labor force. Moreover, because prisoners tend to have lower output per worker, the impact of prison labor as a fraction of GDP is less than half as large as its share of the labor force. In the U.S. economy, about one billion dollars of output are produced each hour. Thus the total annual output of prison industries represents less than two hours worth of U.S. GDP.

A separate question is how important prison labor might be in the future if restrictions on its use were removed. Once again, the answer is that prison labor will be a small part of the overall economy. Even if every prisoner in the United States were employed full-time (assuming here constant output per worker-hour), prison-produced goods and services would account for only 0.4 percent of GDP.

Fact 2: Prison labor, on average, is relatively unproductive due both to the composition of the prisoner pool and the structural impediments that prisons pose as workplaces.

While many prisoners are no doubt highly motivated and productive workers, prisoners are not an ideal work force. Prisoners tend to have less education than the U.S. workforce as a whole.¹ They also tend to have uneven past work histories and labor-force attachment. As a consequence, the pool of prison labor is a relatively unskilled one, making it an unattractive workforce for employers, at least at prevailing wages,

¹ Jeffrey Kling and Alan Krueger provide an excellent discussion of this issue in their paper prepared for this symposium.

Also, there are important structural impediments to producing goods in prisons. First, turnover rates among prison workers are high due to release from prison: roughly forty percent of the prison population is released each year. In private sector manufacturing, a turnover rate of production workers above twenty percent annually would be deemed unacceptable. Such turnover is costly to employers and also discourages training since the employer will have less time to recoup any investment made. There are also disruptions to production as a result of periodic lockdowns.

Given these facts, it is not surprising that prison labor, on average, is not very productive. By my rough calculations, output per prisoner-hour worked is about one third as great as for the typical American worker.² Because of this low productivity level, prison industries tend not to be profitable. Evidence of this lack of profitability comes from the fact that the Prison Enhancement Industries (PIE) program, which requires prison industry to compete on relatively equal footing to private industry, has not thrived. As of June 30, 1997, less than 3,000 prisoners were employed in all PIE programs across the United States.

Fact 3: The current system of prison industry is characterized by a non-level playing field.

When an economist speaks of a “level playing field,” it means that all competitors have access to the same set of rules, resources, and markets for their products. A level playing field also requires keeping the government out of decisions that can be made by the market, such as determining who will produce a particular good or be given access to a particular set of workers. As a general economic proposition, a level playing field is an important ingredient of economic efficiency.

It is clear that the current situation with respect to prison labor is not characterized by a level playing field. Prisoners are not covered by the same set of labor laws as the rest of the work force. Prisoners are exempt from the Fair Standards Labor Act (FLSA) that dictates a minimum hourly wage and imposes other constraints on employer behavior. Prison-made products are often given preferential treatment with respect to government purchases. At the same time, in many states prison industries are restricted as to the markets they are allowed to serve. Finally, it is unclear how or why certain private companies are granted access to prison laborers and others are not. Because there is no free market for prisoner labor, allocation of such labor is likely to be governed primarily by political rather than economic considerations.³

² Prisoners may also be disproportionately employed in jobs that are not capital intensive. This would also contribute to the lower marginal product of prison laborers.

³ Although PIE programs come closer to achieving a level playing field, the rules governing PIE industries nonetheless retain some undesirable aspects. For instance, given that prison labor is generally less productive than the workforce available to private companies, the requirement concerning paying prevailing wages in PIE programs tilts the

Fact 4: Reasonable estimates suggest that the social costs of crimes committed by criminals when not incarcerated are far greater than the typical prisoner's contribution to GDP.

A series of academic studies have attempted to calculate the frequency with which the incarcerated population commits crime when not behind bars (DiIulio and Piehl 1991, Levitt 1996, Piehl and DiIulio 1995, Spelman 1994), as well as the costs that such crimes impose on victims (Cohen 1988, Miller, Cohen, and Rossman 1993). My reading of this literature is that the “marginal” criminal (i.e. the inmate who would be let out if the prison population were reduced by one using whatever arbitrary procedure is currently in place for determining who goes to prison and for how long) commits 1-2 violent crimes and roughly 10 property crimes annually. The cost of these crimes to victims (in lost property, injuries, psychic costs, lost years of life, and missed work) is roughly \$35,000 per criminal per year. If one focuses on the “average” inmate rather than the “marginal” inmate, the costs of crime to victims are much higher: perhaps \$80,000 per criminal per year.⁴ For purposes of comparison, the average annual output per prison worker in 1997 was approximately \$20,000 – smaller than the damage done in crime when free. While these numbers do not speak directly to the question of whether or not prisoners should be allowed to work while incarcerated, these facts will be relevant in the final section of the paper where I highlight the importance of thinking not just about the narrow economic issues, but also on the relationship between prison labor and recidivism. Because the social costs of crime are so high, a policy that reduces recidivism can have a social benefit that far outweighs a prisoner's narrow contribution to GDP.

III. How big an effect on Gross Domestic Product do bans on prison labor have?

I approach answering this question by (1) establishing a likely upper bound on the amount of GDP that might be generated by prisoners under ideal circumstances, (2) considering a range of issues that make it likely the upper bound estimates are too large, and (3) thinking about the winners and losers.

An upper bound

A simple back-of-the envelope calculation as to the potential contribution of

playing field against prison industry. If prisoners are less skilled, than output per worker will be lower and prevailing wages are not appropriate (perhaps prevailing wages per unit of output, rather than unit of time worked would be more fitting). On the other hand, PIE industries do not appear to pay their full share of the overhead costs of prison management, which tilts the playing field in their favor.

⁴ The difference between the marginal and the average prisoner suggests that judges, juries, and parole boards are able to determine which prisoners are most dangerous and tend to lock these individuals up for greater periods of time.

prison labor to GDP takes output per inmate-hour as fixed and makes some assumption on how many inmates might reasonably be employed in industry jobs. Given the high turnover rates in jails, it is likely that jail-based production will be economically inefficient. The prison inmate population as of December 1997 was approximately 1.2 million. Although it is unrealistic to think every prisoner could be employed full time, I will begin with that premise. Given current output per prisoner-hour (based on numbers presented in Miller, Shilton, and Petersik (1998)) of \$14.56, if every prisoner worked full-time, then annual prison industry output would be \$35 billion annually. In my opinion, this represents an extreme upper bound that is unlikely ever to be realized.

To put this number into perspective, even in the extreme case where we went from a situation where no prisoners worked to one in which all prisoners worked, GDP would increase by about 0.4 percent. In comparison, between 1991 and 1997, the U.S. economy grew 18.3 percent in real terms. So the potential economic impact we are talking about is small relative to the macroeconomic changes that have taken place in recent years. On the other hand, the potential output that could be generated by prisoners is by no means trivial. Divided equally across all Americans, this translates into an additional \$125 per person annually. This is a substantial amount of production, and if it were straightforward to achieve this increment to GDP it would absolutely be a goal worth pursuing.

A more realistic conjecture

There are many reasons, however, to think that the estimates above dramatically overstate the probable increase in GDP associated with lifting prison labor restrictions. First, it is unlikely that all prisoners would be employed in industry jobs. Fifty percent participation might be a more reasonable assumption. Second, it may be that as the prison labor force is expanded, the marginal worker has fewer skills and a lower commitment to working, translating into a lower level of output per worker. Third, not all of the prison industry output would necessarily represent a true increase in GDP. Some of the output is likely to be replacing other production that would have otherwise taken place outside of the prison (perhaps at a higher cost). In other words, just as some U.S. jobs are lost when production moves to foreign countries, a parallel story could hold for prisons. Fourth, only a portion of the total value of goods and services produced in prison truly reflects “value added” on the part of the prisoners. If a prison industry buys a widget for \$10, adds bells and whistles to the widget, and resells the widget for \$15, then the actual increment to GDP associated with the prison industry is only \$5 per widget.

Taken together, I think that these factors suggest that a reasonable estimate of the true increment to GDP that would result from putting prisoners to work without restrictions might be \$5-10 billion dollars a year, or less than one-third of the upper-bound estimate presented above. Nonetheless, an additional \$5-10 billion dollars annually is a substantial amount of production and if there is a way to achieve this production it should be pursued.

IV. How might prison labor policies be designed to create the greatest economic benefits?

As noted in the introduction, I do not intend to offer specific opinions about the day-to-day operation of prison industry. Rather, I focus here on a few “big picture” issues anchored in one fundamental economic principle: economic efficiency requires a level playing field.

Economic efficiency begins with production being done by the lowest-cost producer. By costs, I don’t mean accounting costs, but rather true resource costs. For instance, if the government allows one producer access to prison labor that is subsidized by virtue of the government paying the costs of the physical plant and requiring prisoners to work for extremely low wages, then that producer may be able to sell output more cheaply than a competitor. But it may be economically inefficient because the producer is being subsidized by taxpayer dollars spent on maintaining the prison. It also may be inefficient because a second producer, given access to cheap prison labor, could have produced at even lower cost. Finally, it may be inefficient because different producers spend money attempting to lobby the government for the right to gain access to the cheap prison labor.

The current system of prison labor regulation has all of these potential inefficiencies built into it. As well, by giving preferences to prison-made goods in some cases (e.g. government purchases), and restricting the sale of prison-made goods in other instances, the present set of rules further distorts economic choices in ways that are likely to adversely affect economic efficiency. My advice, therefore, would be to dismantle the current set of regulations, put all competitors on a level-playing field, and let the market dictate the outcome.

Putting all competitors on a level-playing field would entail the following four changes.⁵ It is important to note that I view each of the four elements as critical to a successful transition to a more rational utilization of prison labor. If any one of the elements were to be omitted, the program would be unlikely to be completely successful.

First, I would privatize prison industry. As long as the government is in charge of prison industries, it will be difficult if not impossible to avoid decisions being made with political rather than economic justifications. Furthermore, the difficulty in allocating costs between prison overhead and the prison industry will be impossible to solve.

Second, every prison system that wants to have inmates employed in prison industries should put the rights to use those workers out to a competitive bid of

⁵ To reiterate my definition of level playing field is a situation where everyone plays by the same rules and the government stays out of decisions that are better made by the market.

prospective employers. The prison would stipulate certain conditions (e.g. the length of contract, types of training required, wages to be paid, etc.), and subject to agreeing to those terms, the highest bidder would obtain the rights to access the prison labor.⁶ Individual prisoners would have the right to choose whether or not they wanted to participate in the prison labor force, just as individuals who are not incarcerated have this choice. It would be incumbent on the private company to provide wages and working conditions that are attractive enough that prisoners would choose to accept the jobs. Voluntary participation on the part of prisoners is especially important given the potential exploitation of prison labor that has sometimes occurred in the past.

In my opinion, this competitive bidding system is critical to any proposal to liberalize the regulation of prison labor. This system has a number of attractive features: no company can complain that another company has an unfair advantage because of access to prison labor since the complaining company had their chance to bid, it brings revenue directly to the state via bids, and if it is economically inefficient to use prison labor then there will be no bidders and production will not occur. Under this system it would be fine for the government to pay the costs of guards and the physical structure. If they do so, private companies will bid higher for the right to use the prison labor, so in the end the market will take care of it.

The third change that would be useful in leveling the playing field would be to extend current civilian labor laws to cover prisoners. In particular, I think minimum wages dictated by the Fair Labor Standards Act (FLSA) should apply, as should employer requirements concerning workers comp, contributions to Social Security, etc. While not critical to my proposal, perhaps prisoners would also be allowed to unionize (how this might be best accomplished is one of the factors I feel unqualified to address). It is quite reasonable for the government to garnish prisoner wages to pay for maintaining prisons, providing support to dependents of those incarcerated (there are more children of inmates than inmates), or victim compensation.⁷ The key point is not to pay the inmates a particular wage, but rather to put the choice between prison labor and civilian labor on an equal footing. If the prison labor is more profitable given the same set of rules, then the prison labor should be used rather than civilian labor and vice versa.

The fourth and final change that I propose would be to eliminate all preferences and restrictions with respect to prison-made goods. No one should be required to buy prison-made goods and no one should be prohibited from doing so if they want to. Since prison industries would be producing on the same terms as all others, they should be able

⁶ It may even be the case that the government would be willing to accept negative bids if prison industries have other social benefits, such as reduced recidivism or making it easier to control prisons.

⁷ Dividing up the prisoner's wage is a very tricky and important issue. In my opinion, it is fundamentally a political decision rather than an economic one. The various stakeholders would undoubtedly want to be involved in such a decision.

to sell their goods on the same terms.

Winners and Losers

Economic winners and losers from a liberalization of prison labor depend critically on the way in which the program is implemented. Given that I outlined what I think is a reasonable set of rules for liberalizing inmate labor in the preceding section, I will focus my efforts here on describing what I think would be the likely distributional consequences of the program outlined above, rather than attempt to conjecture about the full range of possible liberalization schemes.⁸

I think the single most likely outcome of the liberalization I propose is that very little prison labor will actually be utilized if competitive bids are required to be positive. In other words, I believe that most prison industries, if they had to pay the minimum wage, would not be profitable. So for the sake of argument, let me take a case where bids to use prison labor can be negative (i.e. the government pays a company to produce using prisoners) and the bulk of prisoners are employed.

Relative to the current situation, the only clear losers that I see in my scheme are the executives at UNICOR and state-run prison industries (which would cease to exist in my framework, or at least would have to compete with private companies for prison labor), and the handful of private companies that currently use prison labor at government subsidized rates. With competitive bidding, these companies will be forced to pay the full value of the access to prison labor.

The clear winners in this program are the businesses that previously competed against prison industries, the government, prisoners and their families, consumers, and taxpayers. Businesses no longer have to face subsidized competitors and now have equal access to prison labor. The government is better off since private companies are likely to produce more efficiently than government run industries, and therefore these private prison industries will be willing to pay more (or perhaps accept lower subsidies) than would be required for the government to directly run the business. Also, by putting the inmate labor out to competitive bids, the government will capture much of the surplus that existing privately-run prison industries have likely been collecting. Since the government will still be able to garnish wages from the prisoners, having more prisoners working generates more government revenue. Prisoners are better off because more of them will be working and given that the prison industries are run by private companies, the way in which the businesses run are likely to be more similar to civilian jobs than is currently the case. Although prisoner wages will be heavily garnished as is currently the

⁸For example, if we keep our present system of preferences and subsidies, but remove all restrictions on the markets to which prison industries can sell, the companies that compete with the prison industries, as well as their workers, are likely to be hurt. How badly depends critically on how concentrated the output of prison industries would be if such a liberalization occurred.

practice, in my scheme prison labor would qualify for social security benefits. Furthermore, working conditions might improve if existing labor laws are applied to prisoners. Finally, consumers should benefit from the fact that the playing field has been leveled, resulting in production being done as efficiently as possible. This should manifest itself in lower prices for goods and lower taxes to pay for prisons.

The final stakeholder that I have not yet talked about is civilian workers/labor unions. The impact on such workers is unclear. By enforcing FLSA and other labor laws, my scheme eliminates many of the existing subsidies to prison labor. From that perspective, it reduces low-wage competition and benefits labor. It would also allow prison workers to unionize, which would be beneficial to organized labor. On the other hand, by eliminating restrictions on the sale of prison-made goods, my plan is likely to generate some competition as well. Indeed, if the number of prison workers go up as I envision would be the case, the overall level of competition with private labor will have increased. The effect is likely to be relatively minor, however. The rise in the labor force associated with putting prisoners to work is about one percent. The labor market frequently absorbs shocks of this magnitude with ease. Low-skilled civilian workers are likely to be hurt more since prisoners are largely unskilled and will compete directly with these workers. The impact on low-skilled workers requires further study to make an accurate assessment. In general, labor economics suggests that any adverse impact on civilian employment is likely to occur primarily in the short run (five years or less). Over time, labor markets will move back into equilibrium with little impact on civilian employment, but potentially some small permanent decline in wages of low-skilled civilians.

V. Beyond narrow economic considerations: does prison labor reduce recidivism?

To this point, I have focused exclusively on the narrow question of economic efficiency, as the organizers of this conference have requested. In my opinion, however, the question of whether putting prisoners to work reduces recidivism is also of critical importance.

As noted in the stylized facts presented in the beginning of this paper, existing estimates of the social costs of crime committed by prisoners when free are on the order of \$30,000 a year. If working a prison job has even a relatively small impact on recidivism, the social benefits could be enormous. For instance, if working a prison job resulted in 10 percent of prisoners dropping out of crime upon their release, then the annual social benefit from reduced crime would be \$6.1 billion.⁹

My reading of the (very limited) existing literature on recidivism and prison labor, however, leads me to believe that working in prison industry is unlikely to yield a large

⁹ One rationale for allowing negative bids in the auction for prison labor described earlier in the paper is that putting prisoners to work might have a beneficial impact on future recidivism.

recidivism benefit. Although there are a handful of studies of federal, Florida, and Ohio prisoners that find lower recidivism rates among prison workers relative to non-workers, the critical concern in interpreting these studies is whether the prisoners who worked are in fact comparable to those who did not work. In particular, one worries that the workers were more motivated than the non-workers and that motivation is itself an important determinant of recidivism likelihood. Consequently, the impact of having a prison job on later recidivism may not be causal. Evidence presented by Maguire et al. (1988) tends to support this less sanguine interpretation of the data. Looking at almost 2,000 New York inmates, they find that those who worked in prison were less likely to recidivate than non-workers, but once a range of prisoner characteristics such as prior felony arrests, military service, time served, and marital status are controlled for, having worked in prison no longer predicts lower recidivism rates.

It is surprising that so little research has been devoted to this important question. The ideal way to attempt to answer this question in the future is through randomized experiments in which prisoners are divided into two pools: one that is eligible to participate in prison industry and another which is not.¹⁰ By comparing future recidivism across these two groups, an estimate of the independent contribution of prison labor in determining future criminal involvement could be obtained.

Panel Remarks

In addition to his presentation, Steven Levitt also provided comment to panelists, extending the detail of his views on inmate labor force participation. A fuller sense of his views includes understanding both his remarks and his responses to panelist questions. His full responses, minimally edited, to the following panelists on the following issues can be found below in the chapter presenting the panel:

Panelist	Response Subjects
Wendell Primus	Voluntary Labor Structuring Incentives
Brenda Smith	Female Inmate Labor Force Participation Distribution of Inmate Earnings

¹⁰ There may be some ethical concerns associated with prohibiting some prisoners from working, but to the extent that there are fewer jobs than prisoners, this may be less of a concern since not all prisoners would have worked anyway.