

The Economics of Inmate Labor Force Participation

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Chapter 3

Presentation by Richard Freeman

Making the Most From Inmate Labor

Biography

Professor Richard B. Freeman holds the Ascherman Chair of Economics at Harvard University. He is currently serving as Faculty Co-chair of the Harvard University Trade Union Program. Professor Freeman is Program Director of the National Bureau of Economic Research's Program in Labor Studies. He is also Co-director of the Centre for Economic Performance at the London School of Economics and Visiting Professor at the London School of Economics.

Professor Freeman is a member of the American Academy of Arts and Sciences. He has served on five panels of the National Academy of Science: high-risk youth; post secondary education and training in the workplace; employment and technical change; demographic and economic impacts of immigration; and national needs for biomedical and behavioral sciences.

Professor Freeman received his Ph.D. from Harvard University in 1969. Before returning to Harvard in 1975, he taught at the University of Chicago and Yale University.

Professor Freeman has published over 250 articles dealing with topics in youth labor market problems, crime, higher education, trade unionism, transitional economies, high skilled labor markets, economic discrimination, social mobility, income distribution, and equity in the marketplace. In addition, he has written or edited 21 books, several of which have been translated into French, Spanish, Chinese, and Japanese. Some of his recent books include *Labor Market Institutions and Economic Success* (1999), *What Workers Want?* (1999), *Generating Jobs: How to Increase Demand for Less-Skilled Workers* (1998), and *Differences and Changes in Wage Structures* (1995).

Presentation

Many prisoners work within prisons producing goods and services to maintain correctional facilities, reducing the costs to taxpayers of maintaining prisoners and gaining some

work skills. A much smaller number work in traditional correctional industry activities, such as for the Federal Prisons. The ABA Subcommittee on Correctional Industries estimated that total employment of prisoners in 1997 in traditional correctional industries amounted to about 75,000 in a workforce of over 136 million persons, while just 2,400 prisoners worked for private sector industries (ABA, figure 3). Federal Prison Industries, UNICOR, employs about 17,000 inmates. With nearly 2 million inmates in 1999 the majority of whom are in state and federal prisons where inmate work could be most readily increased, there is considerable potential scope for increasing the work activity of prisoners.

What are the likely economic consequences of an increase in the amount of work prisoners do for the market outside of prisons? Who would benefit? Who would lose? What would be the most efficacious way to increase the work activity of prisoners?

This short comment seeks to answer these questions. The main theme is that the effects of increased prisoner work activity on the economy depends on three critical economic parameters:

- the impact of prison labor on the wages/employment of competing labor;
- the effect of wages and employment on the criminal behavior of competing labor
- the effect of prison labor in reducing recidivism by prisoners.

The starting point for this analysis is the simple economic principle that if prison labor produces goods that reduce the wages/employment of competing labor, those outside workers suffer an economic loss. If this loss is small and those workers can find roughly comparable jobs elsewhere, prison labor will increase national output. If, in addition, prison labor reduces recidivism (or in some other way lowers crime) the economy will also benefit by being able to shift resources to more productive activities. To the extent that prison labor makes prisons more easy to manage, moreover, this will reduce the cost to taxpayers, and increase output. This is an Ideal Prison Labor scenario.

But if increased prison work reduces substantially the economic well-being of comparable non-prison labor if the workers competing with prisoners respond to lower wages/employment losses by engaging in crime, prison labor will reduce output. This is a Horror Prison Labor situation.

My calculations suggest that on net national output would increase if we increase prison labor, but the range of estimates for the critical demand and supply parameters is sufficiently wide to suggest that we cannot rule out either the Ideal Prison Labor or Horror Prison Labor situations. Hence, I stress that we consider ways to structure the use of prison labor to produce goods that bring the least harm to competing free labor and most reduce recidivism: that prison labor produce import-competing commodities and employ prisoners with the greatest potential for productive non-criminal careers outside of prison.

Underlying my analysis are two basic facts. First, that most prisoners are unskilled and can make only a modest productive contribution to national output, so that their impact on the

national economy will be rather slight. Second, that crime and the criminal justice system are sufficiently costly to society that effects of prison labor on crime must be a significant component in any assessment of the economics of prison labor.

Prison labor as trade/immigration

I treat the effect of prison labor on the domestic economy from the perspective of the economics of trade or immigration. In trade/immigration analysis an increase in imports due to freer trade or increased competence of foreign labor or of immigrants from overseas raises national output **and** lowers the earnings of competing domestic factors. From the perspective of the free labor market, an increase in the work of prisoners is equivalent to an increase in imports/immigration from some foreign country.

As a starting point, consider the effect of prison labor on the earnings/employment of similarly skilled labor in the competitive market. Let $S = A + e W$ be the supply curve of workers of inmate quality, where S is the (log) supply, W is (log) wages. Let $D = B - \eta W$ be the demand curve for those workers, where D is the log of demand. The market clearing wage and employment are $W = (B-A)/(e + \eta)$ and $E = (eB + \eta A)/(e + \eta)$.

If an increase in the supply of inmates raises the supply of workers producing the relevant products by I percent (ln points), this will drive down the wage by $I/(e + \eta)$. Non-inmate employment will fall by $(e)/(e + \eta)[I]$ while inmate and non-inmate employment will rise by $\eta/(e + \eta) I$. In total, there will be $\eta I/(e + \eta)$ extra workers, who will increase national output. The benefit of prison inmate labor is the increase in output, which benefits all citizens. The cost is the reduction in wages of competitors, which falls on a small number of close competitors.

Analysts of immigration distinguish between the gains to immigrants and the gains to natives from increased immigration. In the case of prisoners, the issue is more complicated, since the state can decide what proportion of prisoner marginal product goes to the prisoner, to recompensing victims, or to covering the expenses of incarceration.

In any case, the more elastic is the demand for labor, the smaller will be the gains to the country and the smaller the economic losses to competing labor from increased prison work. The effect of the supply of competing labor on the analysis is more complicated. The more elastic the supply of competing labor, the smaller will be the economic losses to them. If their next best alternatives are legitimate ones, GDP will rise more, but if next best alternatives are illegitimate ones, a high supply elasticity will show up in a large increase in crime. In this case the effect of prison labor on national output may be negative.

The effects of inmate labor on crime

The analysis of prison labor diverges from the analysis of immigration and trade because prison labor can affect criminal behavior, which has large costs on the society. Indeed, because inmates are disproportionately less educated young men, with only modest productivity in

legitimate work, the economic effects of prison labor through its effect on criminal behavior may dominate any benefit-cost assessment of prison labor. Some rough calculations make this clear. Estimates of the ratio of output from prison industries to the number of prison workers by the ABA show that prison labor is about 1/3rd as productive as the average member of the work force: gross sales per inmate are around \$20,000 while gross sales per employee in the national economy are around \$60,000 (ABA, figure 12).

The marginal productivity/earnings of inmates is likely to be in the area of the minimum wage ~~is~~ say, \$10-15,000 per year. The cost of incarceration is about \$30,000 per year while the social cost of a criminal is likely to be at least \$30,000 per year. In addition, there are sizable costs to administering the non-corrections part of the criminal justice system. These magnitudes suggest that whatever increase in GDP we get from additional prison labor *could* be offset (or worse) if it induced additional crime from the competing work force.

But, by the same argument, the biggest potential benefit from prison labor will be in reducing recidivism and the costs of future crime. Assume that prison labor reduces recidivism by 20%. Then for each year after the prisoner is released, society will gain $.20 \times 30,000 = \$6,000$. Discounted at 10%, this gives a present value gain of some \$6,000 (ignoring the finite life correction term in the discounting).

How sizable is the likely effect of prison labor on the wages or employment of non-prison workers?

There are no studies of this issue, so we have to rely on other information. On the one side, minimum wage analyzes suggest that the elasticity of demand for low skill labor is rather small, -0.10 is a typical value found in some studies. This would imply that an increase in prison labor would have a huge effect on the wages/employment of competing workers. But on the other side, analyzes of the effect of immigrants on employment/wages of natives find small effects that imply a high elasticity of demand. If this were the case, an increase in prison labor would have little effect on the wages/employment of competing workers. There is no simple way to make these two differing estimates consistent.

How sizable is the supply responsiveness to crime of low skill workers, who would compete with prison labor?

While there is a growing body of evidence that economic factors in the form of unemployment and wages paid low skill workers affect crime, there is no professional consensus about the elasticity of crime to wages (Freeman, 1999). There are estimates as large as 1.0 but also estimates that suggest much smaller responsiveness. Most studies find that unemployment increases crime, so if competing workers lost their jobs, there would likely be some increase in crime, irrespective of the wage effects.

Given this imprecision, I shall simply take some ~~implausible~~ plausible parameter values to illustrate the forces at work. The reader can put in his or her own plausible values to see how

the results might vary. For my story, I assume that there are 1000 unskilled workers in the economy and 100 inmates (this is a reasonable proportion for high school dropout young men). I further assume that the supply elasticity of unskilled labor is 1 and the demand elasticity is also 1. In this case the market model predicts that the 10% increase in total supply due to inmates working would reduce the employment of unskilled workers in the economy by 5%. In equilibrium there will be 1050 workers in the sector, 100 inmates and 950 non-inmates. National output in the sector would rise roughly by $50 \times \$15,000$ or \$750,000. The wage of the competing workers would fall by 5%.

The key is what happens to the 50 non-inmates who have left the affected sector. If all of these workers engage in crime and none found other productive work, the cost to the country would be $50 \times \$30,000$ -- two times the gain! If the cost of crime is higher than \$30,000 the cost to the country is even larger. But the assumption that all of the non-inmates who leave the affected sector engage in crime is extreme. If a quarter of the 50 non-inmates no longer working entered crime and the others found some gainful work, national output would increase.

How sizable is the reduction in recidivism due to prisoners working while incarcerated?

Again, there is no firm widely accepted estimate, but at least one major study has found that prison labor does indeed reduce recidivism (Saylor and Gaes, 1995). The reduction in recidivism is about the same as the reduction due to providing job training to prisoners about 20 percent. This implies that annually 20 of the 100 inmates would eschew crime for a gain of $20 \times \$30,000$ or \$600,000 to the economy. This gain is in the same ballpark as the estimated increase in output in the affected sector from prison labor.

Conclusion

The preceding analysis directs attention at the following information, for us to assess the economics of prison labor:

- 1) Elasticity of demand for the goods/labor with which prison-made goods compete
- 2) The next best alternatives for workers who compete with prison labor, particularly the extent to which crime is an alternative, and thus the crime elasticity of low skill workers to the job market.
- 3) The effect of prison labor on inmate recidivism

My quantitative calculations suggest that the effects of prison labor through crime increasing the crime among workers competing with prisoners or reducing recidivism among inmates are of comparable magnitude to the increased production from prison labor. An ideally structured prison labor program thus would direct prison labor into areas that are as non-competitive with domestic production as possible towards producing goods that we currently import and would employ prisoners most likely to return to legitimate society and make use of the skills they learn from prison labor. Finally, prison labor should be used more in periods of economic boom, when the job/earnings opportunities for low skill workers are likely to be high, than in periods of national recession. On net, I believe that the gains from reduced recidivism and the gains to output probably exceed the cost of the additional crime that prison production is likely to create. But my assessment depends on the magnitudes of effects, so I could readily change given firm estimates of the relevant effects that differ greatly from those I use in this comment.

References

William Saylor and Gerald Gaes, "The Effect of Prison Work Experience, Vocational and Apprenticeship Training" November 1995.

American Bar Association, Subcommittee on Correctional Industries, Inmate Labor in America's Correctional Facilities, April 1998.

Freeman, Richard, "Economics of Crime" in Orley Ashenfelter and David Card, eds. Handbook of Labor Economics, Vol 3. (General Series Editors, K. Arrow and M.D. Intriligator) Amsterdam, Netherlands: Elsevier Science B.V. Publishers, 1999 (forthcoming).

Panel Remarks

In addition to his presentation, Richard Freeman 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 the remarks and questions of the panelists and his responses to panelists. 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
Harry Holzer	Reduced recidivism justifying inmate work subsidies
Wendell Primus	Requirements of firms hiring inmates Wage and deduction setting to motivate inmates' work
Steve Schwalb	Identifying appropriate foreign-made products for U.S. Inmate manufacture

Charles Sullivan Complications providing inmates computers for education

Gregory Woodhead Education, treatment, and jobs policies for inmates vs public
policies for non-offenders

Thomas Petersik Inmate participation in labor unions