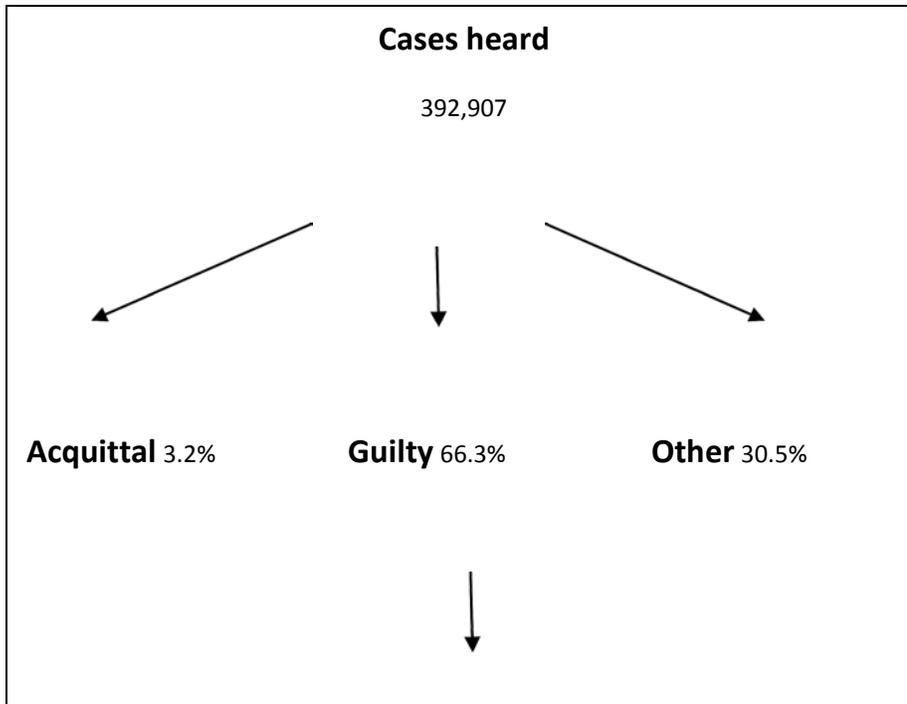


## Notes on Punishment and Rehabilitation

Stephen Easton

Why do we punish by incarceration? The usual summation lists denunciation, incapacitation, deterrence and rehabilitation as the rationales for incarceration.<sup>1</sup> We know that incarceration is imposed in only a fraction of the cases before Canadian courts, and we know that it is very expensive.



For incarceration alone the annual cost amounts to \$2.75 billion, and by including parole, community supervision, and headquarters the total is about \$3.85 billion. The daily incarceration costs come to \$162 per inmate in provincial jails and \$323 in federal prisons in 2008-09<sup>2</sup>. Nonetheless there were 234,000 admissions to Canadian jails or prisons during the year 2008-09

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<sup>1</sup> Section 718 of the criminal code reads: The fundamental purpose of sentencing is to contribute, along with crime prevention initiatives, to respect for the law and the maintenance of a just, peaceful and safe society by imposing just sanctions that have one or more of the following objectives:(a) to denounce unlawful conduct; (b) to deter the offender and other persons from committing offences; (c) to separate offenders from society, where necessary; (d) to assist in rehabilitating offenders; (e) to provide reparations for harm done to victims or to the community; and (f) to promote a sense of responsibility in offenders, and acknowledgement of the harm done to victims and to the community.

<sup>2</sup> Calverley , Donna. "Adult Correctional Services in Canada 2008/09", *Juristat* Fall 2010 Vol. 30 No. 3 (Statistics Canada)

which led to 37,200 being incarcerated on any given day. Recall that of the 2.1 million crimes known to the police, we have nearly 400,000 cases heard in court, and of those roughly 66% are found guilty, and of those about 1/3 do some jail time.

When we last looked at the theory of punishment, we based it on a social cost function, C:

$$C = vS + b\pi xS$$

in which  $S=S(x)$  so that the number of crimes depend on the time spent incarcerated. This led to the cost minimizing period of incarceration,  $x$ , as a function of the costs of the crime to the individual,  $v$ , the cost of incarceration,  $b$ , the probability of convicting the offender,  $\pi$ , and the elasticity of the response of the number of crimes,  $-\varepsilon$ , to the length of the incarceration imposed:

$$x = \frac{v}{b\pi} \left( \frac{-\varepsilon}{1-\varepsilon} \right)$$

This is an incomplete story. Why do we need incarceration at all? How should we punish?

- Fines are ideal. They reduce wealth. They do not cost very much to collect and monitor.
- What would be the optimal fine?
  - Ideally it is large enough to deter the crime.
  - But since everyone has a different evaluation of the ‘benefit’ from committing the crime,
  - This is a problem. It would suggest that we need to know the marginal utility of each person who is being punished to appropriately deter them from acting. Equally problematic, we would have different punishments for the same crime: higher fines for rich people if they value money less than poor. Of course that begs the question of why they got rich. Maybe it is because they have a high marginal valuation of money (income), so there is little help here in actually formulating a sensible policy.
  - Further, there is no obvious way to compel a revelation of individual preferences.
- Some criminals are *debt proof*. That is, there is no value that can be collected to compensate the victim (society) for the damage that is done. Others like Bernie Madoff spend their ill-gotten gains before they can be confiscated. Consequently, fines are used in only about 30% of all punishments and most commonly for traffic offences and against the administration of justice – such failure to appear.
- Thus we are left with punishing the criminal in a dimension in which he has wealth – their liberty, yet even this is valued differently by different actors. Consequently, even if the theory were to be perfectly correct, it is not a surprise that not all criminals are deterred.

Economists have little to say about denunciation in law although it functions as a way to increase sentence . I think all would agree it is a good idea to have this kind of flexibility, but there is little evidence on its role in sentencing. The idea of deterrence is an important one and the most basic to economic analysis. Likewise incapacitation is an interesting if theoretically ambiguous concept. Rehabilitation is also an idea that economists can like. We will approach them each gingerly.

What is the evidence on deterrence?

Here we have in mind the elasticity that we developed. Clearly this is a more subtle concept than we have admitted thus far. For example, is the deterrence of a sentence for one crime likely to reduce the crime rate for a different crime? In effect if we have two crimes, should we worry/hope that  $S(x_1, x_2)$ ? Ultimately, this is an empirical issue although as a matter of theory it may depend on how criminals choose to do crime as specialists or generalists, and whether prosecutors bargain to reach some kind of sentence or simply prosecute on the merits.

Values that have been found in the literature include among others Trumbull (1989)<sup>3</sup> who find the elasticity of aggregate crime with respect to the length of prison sentence to be -0.15 and Levitt (1998)<sup>4</sup> who argues that deterrence means that an increase in arrests for one type of crime, crime A, reduces the crime rate for type A, but increases others crimes B and C as criminals substitute. Incapacitation on the other hand reduces the crime rate for all crimes. Looking only at the direct effect of deterrence – measured as arrest rates rather than time in jail – Levitt finds these elasticities are negative and lie within reasonable bounds (recall the problem if they approach -1).

<b>Crime</b>	<b>Elasticity</b>
Rape	-0.11
Robbery	-0.33
Assault	-0.17
Burglary	-0.31
Larceny	-0.29
AutoTheft	-0.074

So if it true, it suggests that punishment has the effect of reducing crime significantly. **What sort of sentence does it suggest for the different crimes? How would you find out?**

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<sup>3</sup> William N. Trumbull, *Southern Economic Journal*, Vol. 56, No. 2. (Oct., 1989), pp. 423-439.

<sup>4</sup> Steven D Levitt *Economic Inquiry*; Jul 1998; 36, 3

What is the role of the prison? Is it a warehouse? Is it a place of rehabilitation?

As a warehouse (57 federal prisons average 259 prisoners and 177 provincial jails average 135 inmates) we need look no further than the mandates that the prisoners be kept safe and do their time. They are to be deprived of their liberty, not of their lives. The evidence is that most complete their sentences safely, but we know that both the suicide rate of 86 per 100,000 versus 11.3 per 100,000 in the outside world (a factor of nearly 8), and homicide rate nearly 13 times the rate of the general population reminds us that all is not well.

Rehabilitation is an infinitely complicated topic and is in some ways the saddest. If we knew how, we would like to permit every inmate to change in a way that ensured they would not commit additional crimes once they were out. How well do we do?

### Rehabilitation and Recidivism

The nature of rehabilitation is something highly prized in the criminal justice system. Even if you have done bad acts, it would be better, once you serve your time, to have you reintegrate into society, and to become a productive member of this society. This, of course means that you forgo the behaviour that got you into the justice system in the first place. As students of crime, and as economists, this says something about the individual.

Suppose that each individual has a set of characteristics,  $X_1$ , that are inherent at the time of contact with the justice system: male/female, tall/short, age, history, etc. Suppose further that you also have a set of characteristics or attributes,  $X_2$ , that are changeable: education, work, etc., and a set of characteristics,  $X_3$ , that may be moderated: anger management, the company you keep, addictions, health. These dimensions make up the person at the moment of justice. Now you enter into the justice system. Two things happen. You evolve with the things that are inherent: for example, you age. You may or may not benefit from various programs for education or helping with anger management– or you may get schooled in further crime. When you leave prison, you may get a better job or take up a different lifestyle, or you may find your old friends and drinking buddies and continue in your old ways with more skill.

What does the evidence on recidivism look like?

First, in Canada there is little systematic and continuous evaluation of the rate of recidivism although recently the *Corrections Performance Report 2010-11*<sup>5</sup> contains very useful data on recidivism from those released from federal prisons. To the extent that there are measures of recidivism in the past, they have been occasional and fraught with the usual problems common to individual studies: one is never sure how to evaluate them vis-à-vis the rest of the story.

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<sup>5</sup> Reference: <http://www.tbs-sct.gc.ca/dpr-rmr/2010-2011/inst/pen/pen02-eng.asp>

To be clear, although recidivism is important, it is also hard to get a good measure of it in Canada. Once people are released, the only way you know they have not been in contact with the justice system again is negative – you have no record of their contact. That means that if they move jurisdictions or leave the country, it is much more difficult to know whether they have committed any additional crimes or even if they have had contact with the police. If they have a positive contact, then they are measured. This suggests that whatever estimates we have are underestimates although the extent is unknown. Thus to evaluate the figures in the Federal Recidivism table keep in mind that this is only for offenders who are *reconvicted and find their way back to prison*. That means they had to do another bad act, be caught, be convicted and be sentenced to a federal prison which requires a sentence of more than two years.. While some 20 percent are reconvicted within five years, the picture is less rosy if we look to the various studies that have been done about recidivism in Canada and elsewhere.<sup>6</sup>

		<b>Federal Recidivism/Reconviction</b>							
Percentage Within #		2001	2002	2003	2004	2005	2006	2008	
Readmission	Years	2002	2003	2004	2005	2006	2007	2009	
For Violence	2	4.7	5.1	5.1	6.0	5.1	4.7	4.4	
For Any Conviction	2	9.2	10.4	10.5	11	11.6	11.2	10.3	
For Violence	5	8.8	9.5	9.5	.	9.4	.	.	
For Any Conviction	5	17.7	18.9	21.3	.	21.8	.	.	

Reference: <http://www.tbs-sct.gc.ca/dpr-rmr/2007-2008/inst/pen/pen-eng.pdf>  
Reference: <http://www.tbs-sct.gc.ca/dpr-rmr/2010-2011/inst/pen/pen02-eng.asp>

Studies come from a number of sources. In the US the Bureau of Justice Statistics suggests: *Recidivism is measured by criminal acts that resulted in the rearrest, reconviction, or return to prison with or without a new sentence during a three-year period following the prisoner's release.* (<http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&tid=17>)

*They found:*

- During 2007, a total of 1,180,469 persons on parole were at-risk of reincarceration. . Of these parolees, about 16% were returned to incarceration in 2007.

Notice that these are people on parole, not those who were finished their sentences.

- Among nearly 300,000 prisoners released in 15 states in 1994, 67.5% were rearrested within 3 years. A study of prisoners released in 1983 estimated 62.5%.

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<sup>6</sup> The dimensions that are important are (i) the criteria for recidivism (contact, arrest, conviction); (ii) the length of the follow-up in the study;(iii) the geographical extent of the follow-up.

- Of the 272,111 persons released from prisons in 15 states in 1994, an estimated 67.5% were rearrested for a felony or serious misdemeanor within 3 years, 46.9% were reconvicted, and 25.4% resented to prison for a new crime.
- These offenders had accumulated 4.1 million arrest charges before their most recent imprisonment and another 744,000 charges within 3 years of release.
- Released prisoners with the highest rearrest rates were robbers (70.2%), burglars (74.0%), larcenists (74.6%), motor vehicle thieves (78.8%), those in prison for possessing or selling stolen property (77.4%), and those in prison for possessing, using, or selling illegal weapons (70.2%).
- Within 3 years, 2.5% of released rapists were arrested for another rape, and 1.2% of those who had served time for homicide were arrested for homicide.

Recidivism by Type of Measure (3 year follow- up) Study<sup>7</sup>  
 % Recidivated

	Arrest	Conviction	Incarceration
Beck (1989)	62.5	46.8	41.4
Corbo (1992)	61.9	38.0	24.0
Langan & Levin (2002)	67.5	46.9	25.4

Recidivism (Convictions) and Length of Follow-up<sup>8</sup>

Study	Country	Follow-up (yr)	Recidivism (%)
Jones (1991)	U.S.	1	22
		2	42
Gendreau & Leipziger (1978)	Canada	2	46.3
Cormier (1981)	Canada	2	48.9
Kershaw (1999)	U.K.	2	50
Hoffman & Stone-Meierhoefer (1980)	U.S.	2	25.7
		3	32.2
		5	39.2
Corbo (1992)	U.S.	3	38
Beck (1989)	U.S.	3	46.8

Although somewhat dated Nowens *et al.* look at some Canadian data.<sup>9</sup> They consider offenders who have been returned to custody after some kind of release *during their sentence* and then subsequent to having completed their sentences.

<sup>7</sup> Taken from James Bonta, Mia Dauvergne and Tanya Rugge, "The Reconviction Rate of Federal Offenders 2003-02" [http://www.publicsafety.gc.ca/res/cor/rep/\\_fl/2003-02-rec-rte-eng.pdf](http://www.publicsafety.gc.ca/res/cor/rep/_fl/2003-02-rec-rte-eng.pdf)

<sup>8</sup> *Ibid.*

*We also followed up more than 42,000 offenders who were released between 1 April 1975 and 31 March 1985. All offenders were followed up from their date of release until 31 March 1992, for a minimum follow-up period of seven years.*

*During the 10-year period, 15,418 offenders were released on full parole. .... Of those released on full parole, almost three quarters (72%) completed their sentence without being returned to federal custody...*

*Of the one quarter (25%) who were unsuccessful, half had their release revoked for technical violations of release conditions and the other half were readmitted for a new offence.*

*During the release and follow-up period, 11,704 offenders successfully completed their parole; that is, their sentence expired while they were still in the community. After their sentence ended, these offenders no longer had to abide by release conditions or meet with parole authorities - they were free. About 1 in 10(11%) of these offenders committed a new offence after their sentence had expired and were returned to the federal correctional system.*

*During the same period, 27,124 offenders were released on mandatory supervision.. ...Of those released on mandatory supervision, 57% completed their sentence without returning to federal custody. Almost one quarter (24%) had their release revoked for technical violations of release conditions, and about one fifth (19%) were readmitted for a new offence.*

*We also looked at those released on mandatory supervision who finished their sentence while on release in the community. During the time period under study, about one in three (34%) committed a new offence and were returned to the federal prison system **after** their sentence had ended. (Emphasis is in the original.)*

So in the period of study, a reasonable person might conclude that about 34% of offenders committed a new offence and were reconvicted. But this is not the only study. In the same issue about a report on an earlier study in the early 1980s: J. Bonta, S. Lipinski and M. Martin<sup>10</sup> write:

*A recidivist was defined as any released federal offender who was convicted within the three-year period following release of a new indictable offence that led to a custodial sentence.... A non-recidivist was defined as any released federal offender who was not subsequently convicted of, and incarcerated for, an indictable offence...Recidivists included both federal inmates who returned to federal custody **and** federal inmates who received provincial sentences of incarceration. Non-custodial sentences (such as probation) were not included.*

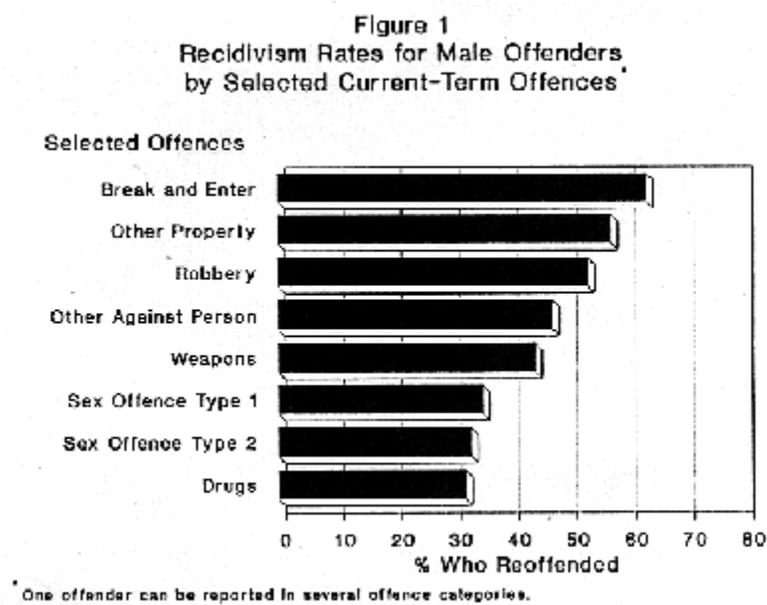
*In 1983-1984, 3,556 offenders were released from federal institutions. Sufficient data were available on 3,348 of them.*

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<sup>9</sup> Tanya Nouwens, Larry Motiuk and Roger Boe in "So You Want to Know the Recidivism Rate" in *Forum on Corrections Research*, Vol. 5 No. 3, 1993 (<http://www.csc-scc.gc.ca/text/pblct/forum/e053/e053h-eng.shtml>)

<sup>10</sup> J. Bonta, S. Lipinski and M. Martin, "Characteristics of Federal Inmates Who Recidivate" (Ottawa: Statistics Canada, 1992)

Figure 1



### Sex Offenders and Recidivism

Another sub-group that often demands attention is that of sex offenders. The John Howard Society of Alberta, 1999<sup>11</sup> found:

*One research project looked at 61 previous studies of sexual recidivism using a 4-5 year follow up period. This research on sex offenders found that 13.4% recidivated with a sexual offence, 12.2% recidivated with a non-sexual, violent offence and 36.6% recidivated with any other offence.*

*A long term follow-up study of child molesters in Canada found that 42% were reconvicted of sexual or violent crime during the 15-30 year follow-up period.*

*In general, rapists reoffend more often than child molesters.*

Looking at evidence only a decade or so old, Harris and Hanson<sup>12</sup> ask how often do sexual offenders re-offend sexually?

*...The present sample (N = 4,724) combines 10 sub-samples ranging in size from 191 offenders to 1,138 offenders. These samples were drawn from jurisdictions in Canada, the United States, England and*

<sup>11</sup>: <http://www.johnhoward.ab.ca/pub/C24.htm>

<sup>12</sup> Harris, A., & Hanson, R. K. *Sex offender recidivism: A simple question*. (User Report 2004-03). Ottawa: Public Safety Canada ([http://www.publicsafety.gc.ca/res/cor/sum/cprs200407\\_1-eng.aspx](http://www.publicsafety.gc.ca/res/cor/sum/cprs200407_1-eng.aspx)):

Wales. The offenders in these samples were followed, post-release, for an average of seven years – some as long as 32 years. Half of these samples used sexual reconviction as the recidivism criteria while the other half used a new charge for a sexual offence.

When the whole sample was examined, it was found that within the first five years of release, 14% had a new charge or conviction for a sexual offence. This percentage represents an overall average for a mixed group of sexual offenders. In the following five years (between years 5 and 10) an additional six percent (6%) of sexual offenders failed and in the five years following that (between years 10 and 15) an additional four percent (4%) failed. Between years 15 and 20, post-release, an additional three percent (3%) had a new charge or conviction for a sexual offence. After twenty years, 73% of sexual offenders had **not** been charged with, or convicted of, another sexual offence in the community.

In “Correlates of Recidivism Among Adolescents Who Have Sexually Offended”<sup>13</sup>, Carpentier and Proulx write:

*The present study investigates the recidivism rates of a sample of 351 male adolescents who sexually offended, and were assessed at an outpatient psychiatric clinic in Montreal, Canada, between 1992 and 2002. The mean age of the participants was 15.8 years. Data on adolescent and adult recidivism were collected in Summer 2005 from official criminality sources in Canada. Over an 8-year follow-up period, 45% (n = 158) of the participants were charged with a new criminal offense, 30% (n = 104) were charged with a violent offense, and 10% (n = 36) were charged with a sexual offense.*

Does Prison Work?

Does it reduce recidivism? I think that the general answer is that it does not obviously do so once people are out of jail. With the appalling statistics on recidivism, one can only imagine the number of crimes that are being committed by former inmates before they are being caught, charged, convicted and sentenced.

Does prison have an effect on crime? There are two issues here. First, it may be that by taking bad people out of circulation, you can reduce the amount of crime. If incarceration does not affect crime by reducing the recidivism rate, then it still may do so by incapacitation: the burglar is not a menace to the general public while he is in jail. However, will this reduce the crime rate? For some types of crime, there is a perfectly elastic supply of people prepared to undertake that particular type of criminal activity. Here, for example, one might think of marijuana production and consumption. Similarly if jail is a school for crime, the outcome may be that you simply have better criminally educated and more effective criminals. (Think of prisoners that come out of jail with all that time to work out in the gym.)

Suppose that there is no substitution so that people who are in jail are not replaced by other criminals with similar characteristics. The table on ‘Mean Lambdas’ (the annual rate at which a

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<sup>13</sup> <http://sax.sagepub.com/content/23/4/434.abstract>: *Sexual Abuse: A Journal of Research and Treatment*; Published online before print September 29, 2011,

criminal engages in activity) provides some evidence on the rate of criminality for different crimes.

If the average criminal in jail has committed between 12 and 15 offences per year<sup>14</sup> (see the table for the data drawn from the US), then with 30,000 people in jail (on average in Canada), we have 360-450,000 fewer offences than were these people at large. Considering we have about 2.1 million offences in Canada that are known to the police, and even if there are many of the criminals 12-15 offences that are not reported (from the social survey we know that people consider that about only one-third of offences are reported), the incarceration of offenders is making a dent in the amount of crime.

Mean Lambdas from Inmate Surveys for Index Crime Types

	Assault	Robbery	Burglary	Larceny	Vehicle theft	Total
California	3.3	23.8	62.9	77	9.2	176.2
Michigan	1.6	28.2	38.1	38.5	49.6	156
Colorado	1	8.3	31.6	80.6	7.6	129.1
Texas	0.8	2.5	20.6	44.4	1.3	69.6
Nebraska	—	2.7	17.1	36.1	5.3	61.2
New Orleans	1.5	5.3	12.4	35.2	1.2	55.6

Journal of Quantitative Criminology, 1994:

111

Marvell and Moody's analysis implies that in the US a 1% increase in prison and jail populations leads to 0.12% to 0.20% fewer crimes, with a "best estimate" of 0.16% based on their own and similar results drawn from RAND data.

#### Other important issues

There are other ways of asking whether prison works. Does it improve job skills, education, anger management and so forth? Is it the case that one's job prospects are diminished by time in jail? The purpose of many of these programs is to build human capital. The hope is that by doing so it makes the opportunity cost of crime higher and thus reduces recidivism.

What do we know about the scale of prisons? By this we mean where the average cost curve is minimized. The literature about this is surprisingly old. In the 1948-64 (time series) estimates from California suggested that the minimum cost point was at 5,700 inmates! Later (cross section) estimates suggested 1,075 inmates was an optimal number. However, there is little consensus.

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<sup>14</sup> Marvell and Moody, (1994) *Journal of Quantitative Criminology*: 111.

*Contrary to a widespread belief about the undesirability of relatively large prisons, a review of the criminological literature yields no empirical evidence that prison size influences behavior inside or after leaving prison.*<sup>15</sup>

One of the things that economists dislike about this literature is that the focus on cost per inmate suggests a univariate assessment of 'output'. This is all well and good when we think about the production of widgets (whatever they are), but it is less useful if we have a multiproduct output. Jails and prisons are trying to be more than warehouses. Maybe they will succeed, but to treat them as single product firms is surely inappropriate. Sensible empirical work must worry about the scale and the scope of the product lines.

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<sup>15</sup> David P. Farrington and Christopher P. Nuttall. *Journal of Criminal Justice* Volume 8, Issue 4, 1980, Pages 221–231