

Research on Social Work Practice

<http://rsw.sagepub.com/>

Prison Privatization : A Meta-analysis of Cost and Quality of Confinement Indicators

Brad W. Lundahl, Chelsea Kunz, Cyndi Brownell, Norma Harris and Russ Van Vleet
Research on Social Work Practice 2009 19: 383 originally published online 8 April 2009
DOI: 10.1177/1049731509331946

The online version of this article can be found at:

<http://rsw.sagepub.com/content/19/4/383>

Published by:



<http://www.sagepublications.com>

Additional services and information for *Research on Social Work Practice* can be found at:

Email Alerts: <http://rsw.sagepub.com/cgi/alerts>

Subscriptions: <http://rsw.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

Citations: <http://rsw.sagepub.com/content/19/4/383.refs.html>

Prison Privatization

A Meta-analysis of Cost and Quality of Confinement Indicators

Brad W. Lundahl
Chelsea Kunz
Cyndi Brownell
Norma Harris
Russ Van Vleet
University of Utah

Objective: To examine the results of prison privatization. **Method:** In an effort to provide an empirical base from which decisions about privatization might be made, we conducted a meta-analysis of reports on head-to-head comparisons between an identifiable privately managed and publicly managed prison(s). **Results:** Our search identified 12 studies. Indicators of cost of confinement and confinement quality were assessed. Results suggest privately managed prisons provide no clear benefit or detriment. **Conclusion:** Cost savings from privatizing prisons are not guaranteed and appear minimal. Quality of confinement is similar across privately and publicly managed systems, with publicly managed prisons delivering slightly better skills training and having slightly fewer inmate grievances.

Keywords: *prison privatization; meta-analysis; review*

Government leaders seek to establish and manage programs that best meet citizens' needs. Therefore, it is sensible that government leaders investigate or assess evidence on whether privately managed prison systems represent an improvement over publicly managed prisons. Investigating the potential benefits of privatization is timely because imprisonment rates across the United States are increasing, which pressures budgets and prison facilities (Camp & Camp, 1997). Privatization of services that are typically managed by public entities is seen as a means to deliver higher quality services at reduced costs through encouragement of competition. Privatizing prisons may be one mechanism to reduce pressures currently facing prison systems and has been used in 31 states within the United States (Blakely & Bumphus, 2004).

Privatizing prisons is, however, controversial. Proponents argue privatization will lead to innovative, cost-effective, and high-quality programs. Opponents argue privatization violates important ethical principles, carries considerable risk, and does not improve on publicly managed systems (Sechrest & Shichor, 1993). The intensity of the debate, which is partly fueled by a lack of definitive research findings, suggests a clear and

Authors' Note: This study was undertaken to provide information that the State of Utah's Legislature might use in making a decision to privatize Utah's prison system.

To assist readers of this report judge the findings, we make the following disclosures: The primary investigator, Brad Lundahl, PhD, and his research team did not begin this project with an opinion about the value, or lack thereof, of prison privatization. Dr. Lundahl initiated and completed this study conditioned on an agreement that an objective and independent investigation would proceed and that all results would be presented regardless of whether such results would support or not support a move toward prison privatization. Dr. Lundahl was invited to conduct a meta-analysis on prison privatization outcomes by Mr. Russ Van Vleet, Co-Director of the Utah Criminal Justice Center (UCJC) as a means of informing the State of Utah's legislative body about the potential risks and rewards of prison privatization. Dr. Lundahl did not receive funding from the UCJC, although two master-level graduate research assistants who worked on this project were paid through the UCJC. Dr. Lundahl has not previously researched issues related to criminal justice and will not likely research privatization in the future as his research agenda is far-a-field from this area. Thus, he truly comes to the question of privatization without a biased history and without pressure to bias the results.

Mr. Cliff Butter from the State of Utah's Department of Corrections served as an outside consultant. Mr. Butter provided us with several articles, none of which met the final inclusion criteria. Please address correspondence to Brad W. Lundahl, College of Social Work, 395 South 1500 East, University of Utah, Salt Lake City, UT; e-mail: brad.lundahl@socwk.utah.edu.

obvious choice about privatizing prisons does not exist. In addition, the stakes of prison privatization are high because multiple stakeholders are influenced by such decisions. At a broad level, public safety is a concern as is responsible spending of tax revenue. At a narrow level, inmates and prison staff may be positively or negatively influenced by such decisions.

Privatization of prisons has a history of more than 22 years (Culp, 2005; Lanza-Kaduce, Parker, & Thomas, 1999). Thus, policymakers currently investigating whether prison privatization best meets its citizens' needs have the benefit of learning from the pioneering efforts of others. In this study, we compared publicly managed and privately managed prisons on two outcomes, cost of confinement and delivery of quality services, through a quantitative literature review known as a meta-analysis. Our literature search and meta-analysis provide two benefits. First, we report on the conclusions of previous literature reviews that we identified in our literature search. Second, and more important, we present what we believe to be the most extensive quantitative literature review of the very best studies investigating prison privatization—those that directly compared privately managed and publicly managed prisons. Prior to presenting how we conducted our study and the findings, we offer a brief introduction and history of prison privatization and the controversy it has engendered.

What Is Prison Privatization?

Prison privatization involves a business contracting with a branch of the government to operate a prison facility. Many of the large businesses operating prisons today are publicly traded companies (Chang & Thompkins, 2002). Private companies generally charge the government a daily rate per inmate to cover investment, operating costs, and profit. Under this rate, private companies supply many or most of the services needed to operate a prison system, including guards, staff, food, program costs, partial medical care, and other services. Private companies may also build new facilities independent of public bonds or tax dollars (Lanza-Kaduce et al., 1999).

The trend to privatize prisons began in earnest in 1984, when Hamilton County, Tennessee and Bay County, Florida entered into contracts with the private sector (Anderson, 2000). By the end of 1988, 20 federal-, state-, and local-level privately operated detention facilities were in operation in nine states. In the 1980s, the size of the average facility under private contract swelled from the initial experimental 80-bed detention facilities to 500- and 600-bed facilities. The type and classification of the privately operated facilities changed

from predominantly low security to many facilities with medium- and maximum-security levels and several facilities, which housed inmates at all levels of security (Calvert, 1991). As of 1990, there were 15,000 private prison beds in existence; by 1996 this number had increased by 435% (Blakely & Bumphus, 2004).

By the year 2000, privately operated prisons held more than 101,000 federal, state, and local jail inmates (Chang & Thompkins, 2002). At the time, this represented 11% of all federal inmates, 6% of all state inmates, and 2% of local jail inmates. The majority of private prison operations (63%) were concentrated in the southern states. Texas has the highest private prison capacity with 30,000 beds (Chang & Thompkins, 2002). As of 2004, 31 states use 158 private correctional facilities designed to house 122,871 inmates (Blakely & Bumphus, 2004).

Controversy Surrounding Prison Privatization

Changing to a privately managed prison system is controversial and has been polarizing in many instances (Cikins, 1986). Many of the articles we examined for this meta-analysis, not all of which were peer-reviewed and many of which were in newsletter-like outlets, took clear positions about the value and/or risks of privatization while seeming to “sell” their position. As an example, there are situations where opposite conclusions about the same data are reached (Office of Program Policy Analysis and Government Accountability [OPPAGA], 1997).

We highlight the arguments advanced by proponents and opponents of prison privatization in Table 1. Two limitations need to be considered in reviewing this table. First, these summarizations were gathered as we read articles to determine whether they meet our inclusion criteria and do not reflect a systematic or scientific compilation of the varied arguments or positions on prison privatization. Thus, we may have missed arguments or concerns advanced by advocates and critics. Second, in our effort to highlight the arguments we do not provide the detail needed to fully understand some of the positions. Despite these limitations, we believe Table 1 provides a summary of the positions, arguments, and concerns typically advanced by proponents and opponents of prison privatization.

Previous Literature Reviews

In our literature search, we found two systematic reviews and one meta-analysis on prison privatization. Two of the studies (Perrone & Pratt, 2003; Pratt & Maahs,

Table 1
Arguments Regarding Prison Privatization

Argument in favor of privatization

1. Cost-effective
 - a. Innovative practices are developed to contain costs
 - b. Reduce labor costs through improved scheduling and management
 - c. Negotiate for lower prices of goods and services more effectively
 - d. Respond to problems and opportunities faster because they are not encumbered by the “red tape” and restrictions common to government bureaucracies
 - e. Construct buildings faster and more efficiently
 - f. Pay taxes to government because they are a business
2. Restraining system-wide costs
 - a. Increase market competition which lowers overall prison costs, even in the public sector
3. Provide higher quality of confinement
 - a. Provide high quality services to avoid inmate grievances/legal action
 - b. Implement programs in an efficient and streamlined manner
 - c. Emphasize quality to secure repeat contracts and a positive public image
4. Government abatement
 - a. Reduce the pressure and costs of overcrowding in the public prison system
5. Privatization has worked in other sectors and should work for prison management

Arguments against privatization

1. Ethical conflicts of interest
 - a. Pressure to show profit may lead to compromised service quality (e.g., lower staff to inmate ratio, fewer rehabilitative services, reduced range of services, etc)
 - b. Potential for abuse when a profit making company has authority to restrict basic civil liberties
 - c. Profit motives may supersede the interests of the public and inmates
 - d. Fear of negative financial consequences may lead to nondisclosure of problems (e.g., may adopt in-house grievance system that circumvents traditional judicial system)
 - e. Creates an environment that may support corruption such as bid rigging, bribes, kickbacks
 2. Lobbying
 - a. Private companies may attempt to influence legislation that would favor profit (e.g., change laws that drive up incarceration rates and sentences)
 3. Workforce quality may suffer and degrade overall quality
 - a. Discourage unionization
 - b. Pay lower salaries and benefits, which leads to lower morale and may promote corruption
 - c. Low morale among employees increases turnover rates, which can compromise basic prison functioning (e.g., security, safety)
 4. Cost-effectiveness defense
 - a. Large economy of scale also applies to the government
 - b. Cost comparisons with private companies overlook hidden costs (e.g., government monitoring, triage, major medical costs)
 - c. Accountable to the public for approval of costs
 5. Long term obligations
 - a. If the private company goes out of business, the government retains liability
 - b. The government is responsible for building depreciation
 - c. The state is in a poor bargaining position when their prison is overcrowded or at maximum capacity and the private company’s contract is up for renewal
-

1999) were published in peer-reviewed sources. The third (Segal & Moore, 2002) was published, without obvious blind peer review, by the Reason Public Policy Institute, which appears to be a “think tank” that supports privatization.

Pratt and Maahs (1999) conducted a meta-analysis investigating whether privately managed prisons are more cost-effective than public prisons. They identified 24 studies that examined cost-effectiveness from 33 evaluations of private and public prisons. In their meta-analysis the prisons compared were not matched and did

not involve head-to-head comparisons. Pratt and Maahs found that, at first glance, privately managed prisons appeared more cost-effective than publicly managed sites, on average US\$ 2.45 less per prisoner per day. However, these authors also found that the best predictors of cost were number of inmates served ($r = -.345$), age of the physical facility ($r = .511$), and security level ($r = .347$). After considering these factors, locus of management (i.e., private or public) did not significantly predict cost-effectiveness ($p > .05$). In their concluding remarks, the authors state “Although specific privatization

policy alternatives may result in modest cost savings . . . relinquishing the responsibility of managing prisons to the private sphere is unlikely to alleviate much of the financial burden on state correctional budgets” (pp. 367-368).

Through a nonquantitative review, Perrone and Pratt (2003) investigated whether privately managed prisons, compared with publicly managed prisons, would perform better with regard to two issues: quality of confinement and cost-effectiveness. These authors found nine studies that assessed the relative quality of private versus public prisons. That is, in each of their nine studies an identified privately managed prison (or small group of privately managed prisons) was compared with an identified public prison (or a small group of publicly managed prisons). Although all the studies were matched with regard to security level, in four of the nine studies the private prison facility was newer than that of the public facility, and none of the comparisons involved a public facility that was newer than the compared private prison. With regard to capacity, three of the studies involved public facilities with larger capacity compared with one study where the private facility was larger. Drawing confident inferences about the impact of prison privatization is difficult when variables other than management could account for such differences in outcomes.

Despite the fact that prison sites were not well matched, Perrone and Pratt (2003) compared private and public prisons on the following indicators of quality: condition (e.g., clean), management (e.g., staff stress and burnout), inmate activity (e.g., educational and vocational training), safety (e.g., assaults on inmates, staff), security (e.g., escapes), order (e.g., disturbances), and care (e.g., medical attention). From their analyses, the authors noted “comparisons of the quality of confinement between public and private prisons are inconclusive” (p. 309). With regard to cost-effectiveness, Perrone and Pratt found that the daily median per diem for private prisons was approximately US\$ 3.40 cheaper than publicly managed facilities. However, the authors also note that only two of the nine comparisons offered firm conclusions with regard to cost-effectiveness. Of these, one comparison favored public management and the other private management. In their concluding section, the authors indicated that neither privately managed nor publicly managed prisons can boast a clear advantage in cost-effectiveness or quality. We note that the conclusions Perrone and Pratt (2003) made were technically the result of a systematic review, not a meta-analysis. That is, with the exception of providing the average cost savings the authors did not extract and combine effect sizes from the nine identified studies.

In the third systematic review, Segal and Moore (2002) reviewed numerous studies on privatization and

reported general findings from each study. The authors did not report parameters for which studies were included in their analyses. With regard to cost-effectiveness, Segal and Moore noted that 22 of the 28 studies favored privately managed prisons with an average saving of 12.38% (standard deviation = 8.53%). These authors also reported that 11 of the 16 indicators of quality of confinement favored privately managed prisons. Segal and Moore cite their findings as a strong rationale for privatization. It is our opinion, however, that Segal and Moore’s analyses are suspect for several reasons. First, these authors report no instances where a publicly managed prison was more cost-effective than a privately managed prison, which stands in contrast to the other reviews and our own analyses (see below). Second, Segal and Moore provided a relatively less sophisticated analysis compared with the other reviews; for each study reviewed they provide, on average, a one paragraph summary giving data but no indication on the internal validity of the reviewed studies. This review style leaves open questions of potential confounds to the inferences made. Third, the authors’ affiliation is with a group that appears to promote prison privatization.

Conclusions from the Perrone and Pratt (2003), Pratt and Maahs (1999), and Segal and Moore (2002) studies diverge significantly. The two studies authored by Pratt and colleagues concluded that the evidence about the proposed benefit of privatization is inconclusive whereas Segal and Moore reported “there is clear and significant evidence that private prisons actually improve quality” and “private prisons are providing quality services, while remaining cost-efficient and providing significant cost savings” (p. 14). Our opinion, which we believe is scientifically defensible, is that Pratt and colleagues engaged in a more sophisticated approach to reviewing studies by considering issues related to internal validity and, therefore, provide a more accurate perspective on prison privatization.

Our Study

To date, it appears that only one meta-analytic review on prison privatization has been published: the Pratt and Maahs (1999) study on cost-effectiveness, which used a regression model. To help fill this void, we conducted a meta-analysis looking at cost of confinement and confinement quality using a group-differences model. Our study offers two advantages to the other published reviews. First, we conducted a meta-analysis on indicators of confinement quality in addition to cost of confinement. Second, our investigation relied on “gold standard” reports—those that compared identified privatized systems

to identified public systems and presented data which could translate into effect size statistics.

Meta-analysis is a research design that extracts and summarizes the quantitative findings from published studies or completed reports. A meta-analysis produces an effect size statistic which, for our study, represents the magnitude of advantage of privatizing prisons (Cohen, 1988). In this study, the numeric findings from 12 published reports on the relative effectiveness of privately operated prisons, compared to publicly operated prisons, were summarized. Meta-analysis is a powerful research design, compared to simple reviews, because it (a) combines a body of findings to provide an overall estimate, (b) uses objective procedures to produce numeric indicators on the strength of an intervention or relationship, (c) avoids considerable subjectivity by detailing precise rules and steps taken, and (d) allows for replication because findings are based on quantitative data not subjective interpretations of the data.

Method

In general, a meta-analytic review follows the following eight steps: (a) developing a research question, (b), determining criteria for study inclusion and exclusion, (c) developing a strategy to identify the relevant literature, (d) securing the relevant literature, (e) coding studies and extracting effect sizes, (f) combining effect sizes and investigating moderator effects, (g) interpreting the results, and (h) presenting the findings (Cooper & Hedges, 1994; Lipsey & Wilson, 2001). The description of our study is organized around these steps.

Research Question

We compared privately managed and publicly managed prisons on two domains: cost of confinement and quality of care. Although we approached this study from an objective position, testing research questions requires the establishment of a research question and null hypothesis. For the sake of convenience we structured our questions in an orientation that favored privately managed prisons; that is, we temporarily adopted the assumption that privatization would produce more desirable outcomes. Thus, a positively valenced (+) effect size represented an advantage for privately managed systems and a negatively (−) valenced effect size represented an advantage for publicly managed systems. These valences could have been reversed without changing the interpretations and, therefore, have no influence on the outcome.

Two questions focused on cost of confinement: Are privately managed prisons less expensive to run per

prisoner than publicly managed prisons? How much less expensive are privately managed prisons compared with publicly managed prisons? The measure of cost was the average savings per-prisoner per day. The next two questions centered on quality of services rendered. Are privately managed prisons delivering higher quality services compared with publicly managed prisons? How much better are privately managed prisons at delivering quality services compared with publicly managed facilities?

Inclusion and Exclusion Criteria

Determining which studies will be included in a meta-analysis strongly influences confidence levels in the findings. A typical phrase used in research is “garbage in, garbage out.” If low-quality studies are included, the findings are suspect because there is a high chance that alternative explanations may provide a better explanation. Because the stakes are high in making a decision to privatize, we only included high-quality studies. Our assessment of the literature on privatization is that high-quality studies involve those that directly compared a specific, identifiable, private prison(s) with a closely matched, identifiable public prison(s). While randomization or exact matching are clearly superior designs and produce superior outcomes, pragmatic and ethical considerations all but prohibit such designs in this area. A lower quality study would be one that reports group averages from privately and publicly managed prisons that cannot be identified. For example, Blakely and Bumphus (2004) presented national findings. While this type of study is very valuable for certain questions, it does not permit a rigorous comparison of privately and publicly managed prisons.

For inclusion in our meta-analysis, studies needed to meet six criteria. First, studies had to report on a comparison study of a privately managed *and* publicly managed prison(s) that could be identified. To be identifiable, the study simply had to name the facilities and their geographic location. Precise identification of a facility was critical because many of the articles we reviewed reported second- or third-hand data or national statistics. Including such studies would have carried several risks, such as violating the assumption of independence and calculating effect sizes from data that may have been imprecise. Studies that reported findings from an evaluation of only a private *or* a public prison were excluded because a head-to-head comparison could not be made. Second, studies had to provide statistical data from their analyses that could be transformed into an effect size or percentage of savings per prisoner. Third, studies had to report on their own analyses from primary or secondary data.

That is, we excluded studies that simply commented on another report or study (there were many such studies).

Fourth, we only accepted studies targeting prisons for adults. Fifth, we limited our study to reports or publications that could be found through electronic databases and reference sections of such reports. Sixth, we excluded articles that reported hypothetical data or projections rather than actual findings. Determining whether a study fit these six criteria was an iterative process and is described below.

Identifying and Retrieving the Relevant Literature

We used three search strategies: electronic databases, searching reference lists, and consultation with an administrator in the State of Utah's adult corrections system. Most of our efforts were directed to the electronic databases and searching references of key studies (i.e., the previously mentioned reviews). In an effort to not miss key studies from the electronic database search, we used the following broad search terms: *prison*, *privatization*, *privatisation* (British or Canadian spelling), *correction*, and *jail* connected by the term "or." The following 10 databases were searched: Criminal Justice Abstracts, ERIC, PsycInfo, CSA Social Services Abstracts, CSA Sociological Abstracts, Recent References Related to the Social Sciences/Humanities, Academic Search Premier, PsycARTICLES, Psychology and Behavioral Sciences Collection, and Family & Society Studies Worldwide. We limited our search to reports published between 1980 and October of 2006 that were written in English. This strategy yielded approximately 1,110 articles.

The abstracts of these articles were then read with two guiding screening criteria for inclusion—that they: (a) provided an investigation into prison privatization, and (b) provided statistical data rather than theory or opinion. This strategy identified 259 articles that were then retrieved using interlibrary loan and other retrieving strategies. Of these, 44 were never considered in the final analyses because they were either duplicates of already retrieved articles, only accessible through microfiche or other media that was inaccessible, or could not be found in any libraries or public journals. This left 215 articles that were then screened based on Phase 2 of the article selection process. At this stage, we also identified 53 studies by reviewing the reference sections of the reviews previously mentioned, and we reviewed 48 studies provided by a local prison administrator. Thus, 316 articles were secured and reviewed based on the inclusion criteria. Of these, only 12 articles met all criteria.

Coding Studies

Studies varied on several dimensions and needed to be organized to complete analyses. We limited coding to variables believed to have a relationship to the outcomes of interest or to variables that may influence the internal validity of a study. We certainly did not code the universe of possible variables; prison management systems are very complex and not all studies follow a standardized approach to measuring inputs and outputs.

In an effort to provide a profile of the prisons being compared, we coded characteristics of the prisons being compared. The results can be found in Table 2. All studies that met the inclusion criteria were independently double coded by a combination of the first three authors. Disagreements were resolved through reviewing the articles and discussion.

Information about how data were collected is important in that it provides a possible indicator of objectivity. Five categories of *data source* were coded: official records (OR), which included financial audits and state or federal reports; agency records (AR), which included prison records or year-end reports or surveys; staff interview (SI), which involved data based on reports from prison staff members; inmate interviews (II), which involved comments or impressions from inmates; and last researcher observations (RO), which included impressions from the report authors or researchers assigned to compare the prisons.

The number of *prisons being compared* within a study was also coded. Some studies compared one publicly managed prison to one privately managed prison (e.g., Brown, 1994). Other studies compared several privately operated prisons with a specific public prison. For example, Archambeault and Deis (1996) compared one government or publicly managed prison with two privately managed prisons. *Security level* details the classification level of the inmates incarcerated. As can be seen in Table 2, each study compared prisons that were matched on security level. The levels we coded included minimum, medium, mixture (combination of minimum and medium security), and closed/high security.

Some of the prisons only housed males or females, whereas others housed both genders; thus we coded *inmate gender*. As *prison age* has been shown to predict costs (Pratt & Maahs, 1999), we coded the average age of prisons when such information was available. Next, we coded *facility type*, which provides information about whether the prison belonged to the federal, state, or county system.

The number of inmates housed in a prison, *prison capacity*, was also coded as it has been shown to be related to effectiveness indicators (Pratt & Maahs, 1999).

Table 2
Characteristics of Compared Prisons

Study Name	Information Source	Number of Prisons Compared	Security Level	Inmate Gender	Prison Age (Months)	Facility Type	Prison Capacity	Same Time Frame?	Construction Managed by Private Company
Archaibeault and Deis (1996)	RO, SI, II, OR	G = 1; P = 2	NR	Mix	G1 = 204; P1 = 192; P2 = 192	State	P1 = 1,474;	Yes	No
Bowery (1996)	AR, SI	G = 3; P = 1	Mix	NR	G = NR;	Federal/ State	3068/2 years; 1,481/2nd year	Yes	Yes
Brown (1994)	OR	G = 1; P = 1	Mix	NR	P = 168 G = NR;	State	G = NR; P = 244	Yes	No
Drowota and Stoughton (1995)	OR, II, SI, RO	G = 2; P = 1	Medium	Mix	NR	State	NR	Yes	Yes
Greene (1999)	SI	G = 3; P = 1	Medium	Male	G1 = 348; G2 = 228; G3 = 204;	State	NR	Yes	No
Hatry, Brounstein, and Levinson (1989)	AR, SI, II, RO	G = 1; P = 1	Minimum	Mix	P1 = 156 G = 240;	State	NR	Yes	Yes
Logan (1992)	OR, SI, II	G = 2; P = 1	Mix	Female	P = NR G = 48;	State/ Federal	G1 = 609; G2 = NR;	Yes	Yes
Maximus (2006)	AR	G = 1; P = 3	Mix	NR	P = 0	State	P = 200	Yes	NR
McDonald and Carlson (2005)	OR	G = Survey; P = 1	Minimum	G = Mix; P = Male	G = N/A;	Federal	G = N/A;	Yes	NR
OPPAGA (2000)	AR	G = 1; P = 2	Close	Male	P = 108 G = 144;	State	P = 2,048 G = 1,093;	Yes	Yes
Sellers (1989) Part 1	SI, II, RO	G = 1; P = 1	High	Mix	P = 120 NR	County	P = 1,318 G = 95;	Yes	NR
Sellers (1989) Part 2	SI, II, RO	G = 1; P = 1	High	Mix	G = 240; P = 264	State	P = 106 G = 87;	Yes	Yes
Thomas (1997)	OR	G = Survey; P = 1	Minimum	Mix	G = N/A; P = 144	State	P = 350 NR	Yes	NR

Note: SI = staff interview; OR = official records; AR = agency records; II = inmate interviews; RO = research observations; G = government-managed facility; P = privately managed facility; NR = not reported; OPPAGA = Office of Program Policy Analysis and Government Accountability.

We also coded whether the comparison of prisons was contemporaneous; that is we examined whether the *time frame* of the comparison was equal across the private and public systems. As can be seen in Table 2, all comparisons were contemporaneous. Last, we examined whether the facility was constructed under private management or public management.

Dependent Variables

Two broad-based outcome groupings were assessed: cost of confinement and quality of confinement. Understandably, the studies included in this meta-analysis investigated different outcomes of interest and used dissimilar instruments to measure such outcomes. Such variability is considered to be both a strength and weakness of meta-analyses. As a strength, the diversity of outcomes and measurement tools provide some protection against relying on a sole indicator. Meta-analytic techniques combine results from divergent measures and scaling strategies through calculating effect sizes that are standardized values that allow for comparisons across different scaling strategies or divergent measures. As a weakness, not all instruments measure exactly the same construct and some outcome classes include varied indicators—factors that limit precision. That is, even though calculating effect sizes produces a single metric to compare outcomes, concept classification is subjective. Below we detail how we operationalized our outcome groupings.

Cost of confinement. Formulas to derive cost-effectiveness, generally a per diem amount per inmate, varied with regard to what factors were considered. Our first preference for calculating percentage of savings was to use raw data. This was done by determining the difference between a publicly and privately operated prison and then dividing this value by the lower of the two per diem rates. When multiple indicators of cost of confinement were provided, an average was taken based on the expectation that this would provide the most stable estimate of costs (Howell, 1997). If raw data were not available, we simply reported what the authors listed. Again, if multiple indicators were presented, an average was taken. We note that some studies included the costs associated with government monitoring and/or facility construction expenses while others did not (see footnote in Table 3).

Quality of confinement. To organize and consolidate the many indicators of confinement quality, outcome classes were created. Logan (1992) identified eight dimensions of confinement quality: security, safety, order, care, activity, justice, conditions, and management. We slightly adapted this model to more easily

accommodate the indicators we encountered. This was done by consensus. Four of the five authors jointly reviewed and decided which outcome class best captured each indicator for which an effect size was calculated. This process resulted in nine outcome classes which are described below. We note that many of these “outcome classes” would likely be considered process or implementation variables in program evaluation language.

Public safety was made up of indicators of prisoner escape rates and visitors being harmed. *Prison safety* included indicators of harm to prison staff or inmates arising from violence or disciplinary action. *Prison order* was a broad category that involved indicators such as compliance with prison rules and regulations, drug use within the prison, protection from communicable diseases, exposure to medical risks, and suicide prevention. *Health care* included indicators reflecting delivery of medical, dental, mental health, and/or drug and alcohol counseling. *Skills training* reflected delivery or availability of programs designed to equip inmates with useful life skills, such as general education classes, work opportunities, job skill development, and/or career planning. A *miscellaneous inmate benefits* category was developed to capture measurements of some combination of health care and skills training that could not be separated because of their data presentation or other generic benefits, such as physical fitness time, leisure time, or visitation opportunities. Several of the studies reported on *inmate grievances* comprised of complaints to the Professional Risk Administrators or civil suits. A high number of grievances is believed to reflect inmate dissatisfaction with prison conditions. *Facility conditions* reflected indicators of prison cleanliness, nutrition being offered, and satisfaction. Last, some studies sampled prison staff for their reflections of employee morale, job satisfaction, or looked at employee turnover rates; such variables were collapsed into the employee *work climate outcome*.

Studies often reported several indicators that fell within a single outcome class. Consider, for example, the outcome class of safety. Archambeault and Deis (1996) report highly detailed information such as inmate assault on other inmates resulting in (a) serious injury ($d = .071$), (b) no injury ($d = -.119$), or (c) some injury ($[d = -.094]$). In this case, effect sizes (reported above as d) were averaged, $d = -.047$, and this average was advanced for the “safety” grouping. This practice follows best practices in meta-analyses (Lipsey & Wilson, 2001).

Effect Size Calculations

Cohen’s d was used as the effect size (Lipsey & Wilson, 2001). An effect size is a statistic that represents impact

Table 3
Percent Economic Savings and Effect Size for Quality Performance of Private Versus Public Prisons

Study	Cost Saving ^a	Public Safety	Prison Safety ^a	Prison Order	Health Care	Skills Training	Miscellaneous Benefits	Grievance	Facility Conditions	Employee Work Condition
Archambeault and Deis (1996) ^b	13.0%	-.04	.05	.03	—	-.01	—	-.07	—	.10
Bowery (1996)	—	-.38 ^c	-.06	.05	—	-.12	-.15	-.05	—	—
Brown (1994)	0.0% ^a	—	—	—	—	—	—	—	—	—
Drowota and Stoughton (1995)	—	-.04	-.11	—	.01	—	—	—	—	-.01
Greene (1999)	—	—	—	—	—	-.13	-.17	-.06	—	—
Hatry et al. (1989)	-10.0% ^a	—	—	.03	—	—	.00	—	—	.01
Logan (1992)	—	.02	.03	.02	.00	—	.01	.01	.02	.03
Maximus (2006)	-14.2% ^a	—	—	—	—	—	—	—	—	—
McDonald and Carlson (2005)	9.0% ^a	-.07	.09	-.12	—	—	—	-.18	—	—
OPPAGA (2000)	4.6% ^a	-.06	—	—	.06	—	—	—	—	—
Sellers (1989) ^b	0.0% ^{a,d}	—	—	—	—	—	0.16	—	—	—
Thomas (1997)	15.2% ^a	—	—	—	—	—	—	—	—	—
Mean (SD)	2.2% (11.5)	-.04 ^b (.03)	.00 (.08)	.00 (.07)	-.02 (.08)	-.10 (.08)	-.01 (.11)	-.07 (.08)	.02 (n/a)	.03 (.05)

Note: *SD* = standard deviation. Effect sizes were calculated so that a positive valence reflects an advantage for privately managed prisons and a negative valence reflects an advantage for publicly managed prisons.

a. Controlled for or made adjustments for administrative costs or costs of managing a private sector prison.

b. In computing the average, the original value was *Windorized* to the next highest value within a column to limit the undue influence of an outlier.

c.

d. We did not average in difference of Silverdale versus Warren County because sites were not properly matched and a huge difference, in favor of private (126% better) would have been an outlier and given undue weight to one study.

strength or magnitude. As a guide, a *d* in the 0.20 range is considered small, though significant, a *d* in the 0.50 is considered to be moderate in magnitude, and a *d* in the range of 0.80 is considered to be large (Cohen, 1988). Effect sizes can be calculated from various types of data, including means, proportions, frequencies, and *p* values (Cooper & Hedges, 1994; Lipsey & Wilson, 2001). Effect size computations and summary analyses were done using *DSTAT*, a meta-analytic software program (Johnson, 1993). Effect sizes were weighted based on sample size to control for the “upward bias” of effect sizes based on small sample sizes (Lipsey & Wilson, 2001, p. 107).

One methodological issue arose in calculating effect sizes: Several studies failed to clearly present full information needed to calculate effect sizes with confidence. At times assumptions were made to calculate effect sizes, which slightly undermines the confidence we have in this report. For example, the number of participants involved in a given comparison often had to be estimated from other information. In an effort to be transparent, we note such instances in Table 3 and will make

available on request a detailed account of how effect sizes were calculated (i.e., we can send interested readers our process notes in calculating effect sizes). When assumptions were made to calculate an effect size (see Table 3), a conservative approach was followed. Such decisions are common in meta-analyses, and we followed authoritative recommendations (Cooper & Hedges, 1994).

One of the values in the public safety outcome class was an outlier (Bowery, 1996). To control the undue leverage it would have on the average, this value was *Windorized* by adjusting it to the next highest value (Lipsey & Wilson, 2001).

Results

In considering the results, we suggest readers pay particular attention to several characteristics of the data. First, consider the distribution or balance of positive and negative outcomes. Table 3 shows the valence of each outcome and a summary for each outcome class is

provided below. Second, readers should consider the magnitude or size of effect sizes. Most effect sizes are small. Third, in combination with the characteristics already mentioned, readers should consider the range of effect sizes in interpreting the average effect.

Eight of the 12 studies that met inclusion criteria provided information on cost of confinement (see Table 3). Half of these revealed that privately managed prisons outperformed publicly managed prisons, with a range of savings from 4.6% to 15.2%. Of the remaining four studies, two showed that publicly managed prisons were less expensive than their privately managed counterparts (10.0% and 14.2%). The remaining two studies revealed a statistical tie: that is, neither system outperformed the other. Thus 50% of the time, privately managed prisons showed a financial advantage over publicly managed prisons, while publicly managed prisons showed an advantage only 25% of the time. The average cost savings across all eight studies was 2.2% ($SD = 11.5%$) favoring privately managed prisons.

Several patterns can be detected from examining the results from indicators of quality of confinement. First, no more than half the studies contributed effect sizes to any one construct. This situation tends to undermine confidence in inference making. Second, most effect sizes in Table 3 are very near to zero (“0.00”). This suggests that, in general, there is not much difference between privately and publicly managed prison systems. Third, effect size valences are not predominately positive or negative. With these patterns in mind, we briefly discuss each outcome class.

Publicly managed prisons tended to perform better with regard to public safety. Five of the six studies that presented data in this area favored public prisons, although the effect sizes are small. Similarly, the average effect size across the six studies was small, -0.04 , but may represent concern when considering the scope of the prison system across the nation and the magnitude of risks associated with public safety issues. With regard to prison safety within a prison’s walls, three of the five studies revealed privately managed prisons were safer; the other two favored publicly managed systems. The overall or average effect, however, was nil. Of the five studies that provided indicators related to prison order, four showed slight advantages to privately managed prisons. The one publicly managed prison that outperformed its private counterpart, revealed a rather large advantage (i.e., $d = -0.12$), which brought the overall effect to nil.

Indicators of health care delivery suggest no real advantage or disadvantage from private management. Specifically, privately managed prisons showed a small

advantage in two cases with the other two cases showing either no advantage or an advantage for the publicly administered prison. In contrast, each of the three publicly managed systems who reported data on skills training outperformed privately managed prisons. Of these, two showed sizeable effect sizes whereas one was near zero, resulting in an overall effect size of $-.10$. There was no observed advantage for miscellaneous benefits for publicly or privately managed systems. Of the five studies reporting on miscellaneous benefits, two favored publicly managed systems and two favored privately managed systems with one favoring neither.

A slight advantage for publicly managed prisons was noted in the grievance category. Here, three of the four studies reporting on this dimension favored public managed systems with an overall effect size of $-.07$. Only one study reported on facility conditions, which favored privately managed prisons—though the effect size was small, $d = .02$. The last category, employee work conditions, showed a slight advantage to privately managed prisons with three of the four studies showing positive effect sizes. Again, the overall advantage was very small, $d = .03$.

In addition to rather small effect sizes, the overall distribution of positive and negative valences was balanced. There were 45 outcome indicators overall. Of these, 21 (47%) favored privately managed prisons, 20 (44%) favored publicly managed prisons, and 4 (9%) favored neither. Of the 10 summaries of these 45 values, 50% favored publicly managed prisons, 30% favored privately managed systems, and 20% showed no difference.

Discussion and Applications to Social Work

Our conclusion is that prison privatization provides neither a clear advantage nor disadvantage compared with publicly managed prisons. Neither cost savings nor improvements in quality of confinement are guaranteed through privatization. Across the board, effect sizes were small, so small that the value of moving to a privately managed system is questionable. An empirical argument against privatization may be made based on the finding that publicly managed prisons tend to provide better skills training programs and seemed to generate fewer complaints or grievances. However, improved training programs may not result in benefits to inmates or society, and the number of grievances filed may not accurately reflect the quality of life in prison.

Understanding the interpretation of small effect sizes based on prison management is difficult given the complex issues and goals involved in the criminal justice

system. The largest average effect size was found for skills training where publicly managed prisons outperformed privately managed prisons. The average effect size ($d = .10$) suggests that publicly managed prisons are 4% better at skills training (Lipsey & Wilson, 2001, p. 153). An example may help in interpreting the impact of this level. If a matched comparison was made between a privately and publicly prison, for every 100 inmates in a privately managed prison who received skills training, there would be 104 from the public section. Does this level of advantage represent a significant value? It depends on (a) the presumed or proven relationship between skills training and healthy living and (b) the scope or number of prisoners affected. That is, does skills training result in lowered recidivism, better employment, or fewer social and emotional difficulties of the inmate? If there is a relationship, then the value would be significant for the additional 4 inmates (per 100) and their families who received skills training. The benefits to society as a whole would need to be considered in relation to the costs and benefits of skills training. Unfortunately, our lack of expertise in this area limits our ability to comment authoritatively on these issues. That said, our evidence suggests that the costs of publicly managed prisons is not statistically different from privately managed systems. Thus, the 4% benefit in skills training may be “free.”

How do our findings compare with the previous reviews? Our findings on cost savings concur with the meta-analysis done by Pratt and Maahs (1999), that minimal, if any, advantages are realized through privatization. Our findings on quality concur with the review conducted by Perrone and Pratt (2003), that the data are equivocal. Our findings differ with those of Segal and Moore (2002) on both accounts. The “score” of findings from these four reviews is 3 to 1, favoring an interpretation of minimal or no benefit from privatization. This finding is similar to the experience auditors in the State of Florida had when trying to evaluate the value of privatization. This group indicted that despite being able to compare their five privately managed prisons with their public counterparts, it was not possible to determine whether there was a benefit or liability from privatization (OPPAGA, 1997).

What recommendations can we offer? The data we reviewed do not support a move toward privatization at this time. Similarly, the data do not clearly discourage privatization despite a slight advantage for publicly managed prisons in skills training. How should decisions be made when clear evidence does not exist? Arguments in favor of privatization will fall back on ideology (see Table 1). Arguments against privatization will likely

center on ideology and the lack of support for privatization. Clearly more high-quality evidence examining the proposed benefits of privatization is needed. Specifically, high-quality and independent studies examining whether claims advanced by proponents and opponents of privatization (see Table 1) are needed before decisions can be truly evidence based.

Similar to all studies, ours contains several limitations that need to be considered in judging the implications and inferences. First, although we did a broad literature search, our findings are based on only 12 studies. However, we believe that to date, this is the most comprehensive review and represents the best available evidence. Second, the literature on prison quality and cost does not provide a standardized approach to measuring outcomes. A criticism of meta-analysis is that varied indicators of a given construct are combined when there may not be sufficient scientific rationale for doing so. On the other hand, it can be argued that relying on a single indicator of a given construct is akin to not diversifying one’s investment portfolio. Our assessment of the literature is that too much variability exists, making interpretations of our findings difficult. That said, some form of objective measurement of constructs, in our opinion, is better than subjective judgment. Third, at times we made some minor assumptions in calculating effect sizes because sufficient data were not always present. To protect against being subjective, we documented how each effect size was calculated and related decisions. This information can be obtained from the first author. Moreover, we examined the impact of making such assumptions and believe that they would have in no way changed the pattern of findings. Fourth, while we performed a comprehensive search for studies detailing head-to-head comparisons of privately and publicly managed prisons, we are not sure that all were found. We do not believe the net effect of these limitations is serious because we believe we executed a high-quality meta-analysis. The limitations reflect the rather poor literature base on prison privatization and the complexity of the questions.

Prior to concluding, we present findings from a unique model that involved a blending of private and public entities. Shichor (1999) discussed how California allowed several public facilities to be managed by municipalities or small cities with weak economic bases to bolster budgets. This system appeared to produce results that were much more desirable than traditional privately managed prisons. While firm conclusions cannot be made from a single study, it is instructive to know that models beyond full privatization exist, which may blend the arguments of both sides on this debate.

References

Articles noted with an asterisk were included in the meta-analysis.

- Anderson, G. M. (2000, November 18). Prisons for Profit. *America*, 183, 12-16. Retrieved January 21, 2009, from http://www.americamagazine.org/content/article.cfm?article_id=2321
- *Archambeault, W. G., & Deis, D., R. Jr. (1996). Cost effectiveness comparisons of private versus public prisons in Louisiana: A comprehensive analysis of Allen, Avoyelles, and Winn Correctional Centers. Baton Rouge: Louisiana State University, School of Social Work, Office of Correctional Services.
- Blakely, C. R., & Bumphus, V. W. (2004). Private and public sector prisons: A comparison of select characteristics. *Federal Probation*, 68, 27-31.
- *Brown, A. (1994). Economic and qualitative aspects of prison privatization in Queensland. Annandale, New South Wales, Australia: Pluto Press.
- *Bowery, M. (1996, May). Private prisons in NSW: June—year two (Research Publication No. 35, May 1996). Sydney, New South Wales, Australia: NSW Department of Corrective Services.
- Calvert-Hanson, L. S. (1991). The privatization of corrections movement: A decade of change. *Journal of Contemporary Criminal Justice*, 7, 1-20.
- Camp, C., & Camp, G. (1997). *The corrections yearbook 1997*. South Salem, NY: Criminal Justice Institute.
- Chang, T. F. H., & Thompkins, D. E. (2002). Corporations go to prisons: The expansion of corporate power in the correctional industry. *Labor Studies Journal*, 22, 45-69.
- Cikins, W. I. (1986). Privatization of the American prison system: An idea whose time has come? *Notre Dame Journal of Law and Ethics*, 2, 445-464.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cooper, H., & Hedges, L. V. (Eds.). (1994). *The handbook of research synthesis*. New York: Russel Sage Foundation.
- Culp, R. F. (2005). The rise and stall of prison privatization: An integration of policy analysis perspectives. *Criminal Justice Policy Review*, 16, 412-442.
- *Drowata, C., & Stoughton, D. (1995). *Comparative evaluation of privately-managed CCA prison (South Central Correctional Center) and state-managed prototypical prisons (Northeast Correctional Center, Northwest Correctional Center)*. Nashville, TN: Select Oversight Committee on Corrections. Retrieved January 20, 2009, from <http://www.ncjrs.gov/App/Publications/abstract.aspx?ID=175555>
- *Greene, J. (1999). Comparing private and public prison services and programs in Minnesota: Findings from prisoner interviews. *Current Issues in Criminal Justice*, 11, 202-225.
- *Hatry, H. P., Brounstein, P. J., & Levinson, R. B. (1989). Comparison of privately and publicly operated corrections facilities in Kentucky and Massachusetts. Washington, DC: The Urban Institute.
- Howell, D. C. (1997). *Statistical methods for psychology* (4th ed.). Belmont, CA: Wadsworth.
- Johnson, B. T. (1993). DSTAT 1.10: Software for the meta-analytic review of literatures [Computer software and manual]. Hillsdale, NJ: Erlbaum.
- Lanza-Kaduce, L., Parker, K., & Thomas, C. (1999). A comparative recidivism analysis of releases from private and public prisons. *Crime & Delinquency*, 45, 28-47.
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- Logan, C. H. (1992). Well kept: Comparing quality of confinement in private and public prisons. *Journal of Criminal Law and Criminology*, 83, 577-613.
- *Maximus, Inc. (2006). *Report on the evaluation of Arizona Department of Corrections' operating per capital cost report and private prison cost mode*. Phoenix, AZ: Author. Retrieved January 22, 2009, from <http://www.afsme.org/docs/maximusnotes.pdf>
- *McDonald, D. C., & Carlson, K. (2005). *Contracting for imprisonment in the federal prison system. cost and performance of the privately operated Taft Correctional Institution*. Cambridge, MA: Abt Associates for the National Institute of Justice.
- *Office of Program Policy Analysis and Government Accountability (OPPAGA) Private Prison Review. (2000, March). *South Bay correctional facility provides saving and success; Room for improvement*. (Report No. 99-39). Tallahassee, FL: Office of Program Policy Analysis and Government Accountability.
- Perrone, D., & Pratt, T. C. (2003). Comparing the quality of confinement and cost-effectiveness of public versus private prisons: What we know, why we do not know more, and where to go from here. *The Prison Journal*, 83, 301-322.
- Pratt, T. C., & Maahs, J. (1999). Are private prisons more cost-effective than public prisons? A meta-analysis of evaluation research studies. *Crime & Delinquency*, 45, 358-371.
- Sechrest, D., & Shichor, D. (1993). Corrections goes public (and private) in California. *Federal Probation*, 57, 3-8.
- Segal, G. F., & Moore, A. T. (2002). *Weighing the watchmen: Evaluating the costs and benefits of outsourcing correctional services. Part II: Reviewing the literature on cost and quality comparisons* (Reason Public Policy Institute Study No. 290). Retrieved January 20, 2009, from <http://www.reason.org/ps290.pdf>
- *Sellers, M. P. (1989). Private and public prisons: A comparison of costs, programs and facilities. *International Journal of Offender Therapy and Comparative Criminology*, 33, 241-256.
- Shichor, D. (1999). Privatizing correctional institutions: An organizational perspective. *The Prison Journal*, 79, 226-249.
- *Thomas, C. (1997, August). *Comparing the cost and performance of public and private prisons in Arizona: An overview of the study and its conclusions*. Retrieved December, 2006, from <http://www.anarchistblackcross.org/content/essays/articles/priv/ariz.htm>