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Prison Privatization:

A Meta-Analysis of Cost Effectiveness and Quality of Confinement Indicators

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April 26, 2007

### Abstract

Opinions vary about privatizing prisons. 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). Our search identified 12 studies. Indicators of cost effectiveness and confinement quality were assessed. Results suggest privately managed prisons provide no clear benefit or detriment. 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.

## Introduction

Government leaders seek to establish and manage programs that best meet citizens' needs. Therefore, it is sensible that government leaders investigate 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, 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 U.S. (Blakely & Bumphus, 2004).

Privatizing prisons is, however, controversial. Proponents argue privatization will lead to innovative, cost effective, and high-quality programs. Dissidents argue privatization violates important ethical principles, carries considerable risk, and does not improve upon publicly managed systems. The intensity of the debate suggests that a clear, obvious choice about privatizing prisons does not exist. In addition, the stakes of prison privatization are high because multiple stakeholders will be influenced by the decision. At a broad level, public safety is a concern as is responsible spending of tax revenue. At an individual level, inmates and prison management staff may be positively or negatively influenced by such decisions.

Privatization of prisons has a history of over 22 years (Lanza-Kaduce, Parker, & Thomas, 1999). Thus, policy makers currently investigating whether prison privatization best meets its citizens need 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 effectiveness

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 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, medical care (partial), and other services. Private companies may also build new facilities without direct tax expenditures or public bonds (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, 1999). 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. 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 and the largest number of inmates (14,000) housed in private facilities (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 seems to have been polarizing in many instances. A healthy percentage of the articles we examined for this meta-analysis, not all of which were peer-reviewed, 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 (OPPAGA, 1997).

We highlight the arguments advanced by proponents and critics 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 critics of prison privatization.

[INSERT TABLE 1 ABOUT HERE]

### *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, 1999) 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 \$2.45 U.S. dollars 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 ( $r < .05$ ). 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 non-quantitative review Perrone and Pratt (2003) investigated whether privately managed prisons, compared to 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 to an identified public prison (or a small group of publicly managed prisons). Although all of 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, 3 of the studies involved public facilities with larger capacity compared to 1 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 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 is inconclusive” (p. 309). With regard to cost effectiveness, Perrone and Pratt found that the daily median per diem for private prisons was approximately \$3.40 U.S. dollars cheaper than publicly managed facilities. However, the authors also note that only 2 of the 9 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 or 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 9 identified studies.

In the third systematic review, Segal and Moore (2002) reviewed numerous studies on privatization and reported the overall 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 in 22 of the 28 studies they reviewed, privately managed prisons were more cost effective an average savings of 12.38 % (Standard Deviation = 8.53%). These authors also reported that 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 effectiveness 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 to 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 is clearly aligned with promoting 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 effectiveness and 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 effectiveness. Second, our investigation relied upon “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. 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 8 steps: (1) developing a research question, (2), determining criteria for study inclusion and exclusion, (3) developing a strategy to identify the relevant literature, (4) securing the relevant literature, (5) coding studies and extracting effect sizes, (6) combining effect sizes and investigating moderator effects (results), (7) interpreting the results, and (8) presenting the findings. The description of our study is organized around these steps.

#### *Research Question*

We compared privately managed and publicly managed prisons on two domains: cost effectiveness 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.<sup>2</sup> 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 effectiveness: Are privately managed prisons more cost effective than publicly managed prisons? How much more cost effective are privately managed

prisons compared to publicly managed prisons? The measure of cost effectiveness 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 to publicly managed prisons? How much better are publicly managed prisons at delivering quality services compared to 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 (2003) 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 identified the study simply had to name the facilities and their geographic location. Studies that reported findings from an evaluation of only a private *or* a

public prison were excluded. Second, studies had to provide statistical data from their analyses that could be transformed into an effect size or percentage of cost effectiveness. Third, studies had to report on their own analyses from primary or secondary data. That is, we excluded studies who simply commented on another report or study (there are 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 the Retrieving Relevant Literature*

We utilized three search strategies: electronic data bases, searching reference lists, and consultation with an expert in adult corrections.<sup>3</sup> Most of our efforts were directed to the electronic data bases 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 data bases were searched: Criminal Justice Abstracts, ERIC, PsychInfo, 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 two 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 expert.<sup>3</sup> 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 3 authors. Disagreements were resolved through reviewing the articles and discussion.

[INSERT TABLE 2 ABOUT HERE]

Information about how data was 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 lastly researcher observations (RO) which included impressions from the report authors or researchers assigned to compare the prisons.

The number of *prisons compared* being compared was also coded. Some studies compared one publicly managed prison to one privately managed prison (e.g., Brown, 1994). Other studies compared several specific prisons. For example, Archangeault (1996) compared 1 government or publicly managed prison with 2 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, while others housed both genders; thus we coded *inmate gender*. As *prison age* has been shown to predict costs (Pratt & Maahs, 1999), we coded such information when it 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). 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. Lastly, we examined whether the facility was constructed under private management or public management.

### *Dependent Variables*

Two broad-based outcomes were assessed: cost effectiveness 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 provides some protection against relying on a sole indicator. As a weakness, not all instruments measure exactly the same construct and some outcome classes include varied indicators – factors which limit precision.

*Cost effectiveness.* 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 utilize 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 effectiveness 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 was 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 Table 3).

*Quality of confinement.* In order 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.

*Public safety* is made up of indicators of prisoner escape rates and visitors being harmed. *Prison safety* is made up of indicators of harm to prison staff or inmates arising from violence or disciplinary action. *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* is made up of indicators reflecting delivery of medical, dental, mental health, and/or drug and alcohol counseling. *Skills training* reflects 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 ARPS or civil suits. A high number of grievances is believed to reflect inmate dissatisfaction with prison conditions. *Facility conditions* reflects indicators of prison cleanliness, nutrition being offered, and satisfaction. Lastly, 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. Archaibeault et al. (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 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).

One methodological issues 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 a detailed account of how effect sizes were calculated. 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.

### Results

Eight of the 12 studies that met inclusion criteria provided information on cost effectiveness (see Table 3). Half of these 8 revealed that privately managed prisons outperformed publicly managed prisons, with a range of cost effectiveness from 4.6% to 15.2%. Of the remaining 4 studies, 2 showed that publicly managed prisons were more cost effective than their privately managed counterparts (10.0% and 14.2%). The remaining 2 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 8 studies was 2.2% (SD = 11.5%) favoring privately managed prisons.

[INSERT TABLE 3 ABOUT HERE]

Several patterns can be detected from examining the results from indicators of quality of confinement. First, no more than half of 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 6 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,  $-.04$ , 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, 3 of the 5 studies revealed privately managed prisons were safer; the other 2 favored publicly managed systems. The overall or average effect, however was nil. Of the 5 studies which provided indicators related to prison order, 4 showed slight advantages to privately managed prisons. The 1 publicly managed prison that outperformed its private counterpart, revealed a rather large advantage (i.e.,  $d = -.12$ ), which brought the overall effect to nil.

Indicators of health care delivery suggest no real advantage or disadvantage from private management. By contrast, each of the 3 publicly managed systems who reported data on skills training outperformed privately managed prisons. Of these, 2 showed sizeable effect sizes while 1 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. However, a slight advantage was noted in the grievance category which favored publicly managed prisons. Here, 3 of the 4 studies reporting on this dimension favored public managed systems with an overall effect size of  $-.07$ . Only 1 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 3 of the 4 studies showing positive effect sizes. Again, the overall advantage was very small,  $.03$ .

In addition to rather small effect sizes, the 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

Our conclusion is that prison privatization provides neither a clear advantage nor disadvantage compared to publicly managed prisons. Cost savings from privatization are not guaranteed and quality of services is not improved. 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 tended 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? 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 (1998) 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 5 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. 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. Arguments against privatization will likely center on ideology and the lack of support for privatization.

*Limitations.*

Like all studies, ours contains several limitations which 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 was 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.

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Note. Articles noted with an “\*” were included in the meta-analysis.

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## Notes

<sup>1</sup>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.

<sup>2</sup>To assist readers of this report judge the findings, we make the following disclosure. 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 upon 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.

<sup>3</sup>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 final the 5 inclusion criteria.

Table 1

## Arguments regarding prison privatization

Argument In Favor of Privatization

1. Cost Effectiveness
  - a. Innovative practices are developed to contain costs
  - b. Reduce labor costs through improved scheduling and management
  - c. Negotiate for lower prices 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 Costs System-Wide
  - a. Increase market competition which lowers overall prison costs
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 Abetment
  - 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)

Table 1 (continued)

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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
-



Table 2

*Characteristics of Compared Prisons*

Study name	Information source	Number of prisons compared	Security level	Inmate gender	Prison age (in months)	Facility type	Prison capacity	Same time frame?	Construction managed by private company
Archambeault 1996	RO,SI, II,OR	G=1 P=2	NR	Mix	G1=204 P1=192 P2=192	State	P1=1,474 G1=1,474 G2=1,474	Yes	No
Bowery 1996	AR, SI	G=3 P=1	Mix	NR	G=NR P=168	Federal/ State	3068/2yrs 1,481/2nd yr	Yes	Yes
Brown 1992	OR	G=1 P=1	Mix	NR	G=NR P=204	State	G=NR P=244	Yes	No
Drowota 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 P1=156	State	NR	Yes	No
Hatry 1989	AR, SI, II, RO	G=1 P=1	Minimum	Mix	G=240 P=NR	State	NR	Yes	Yes
Logan 1992	OR, SI, II	G=2 P=1	Mix	Female	G=48 G=NR P=0	State/ Federal	G1=609 G2=NR P=200	Yes	Yes
Maximus 2006	AR	G=1 P=3	Mix	NR	NR	State	NR	Yes	NR
McDonald 2005	OR	G=Survey P=1	Minimum	G=Mix P=Male	G=N/A P=108	Federal	G=N/A P=2,048	Yes	NR
OPPAGA 2000	AR	G=1 P=2	Close	Male	G=144 P=120	State	G=1,093 P=1,318	Yes	Yes
Sellers Part 1	SI, II, RO	G=1 P=1	High	Mix	NR	County	G=95 P=106	Yes	NR



Sellers Part 2	SI, II, RO	G=1 P=1	High	Mix	G=240 P=264	State	G=87 P=350	Yes	Yes
Thomas 1997	OR	G=Survey P=1	Minimum	Mix	G=N/A P=144	State	NR	Yes	NR

Date 3-29-07

Notes. 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.

Table 3

Percent Economic Savings and Effect Size for Quality Performance of Private versus Public Prisons

Study	Cost Saving <sup>1</sup>	Public Safety	Prison Safety <sup>1</sup>	Prison Order	Health Care	Skills Training	Misc Benefits	Grievance	Facility Conditions	Employee Work condition
Archambeault, 1996 <sup>3</sup>	13.0%	-.04	.05	.03	–	-.01	–	-.07	–	.10
Bowery, 1996	–	-.38 <sup>4</sup>	-.06	.05	–	-.12	-.15	-.05	–	–
Brown, 1994	0.0% <sup>1</sup>	–	–	–	–	–	–	–	–	–
Drowota, 1995	–	-.04	-.11	–	.01	–	–	–	–	-.01
Greene, 1999 -	–	–	–	–	-.13	-.17	-.06	–	–	–
Hatry, 1989 -	-10.0% <sup>1</sup>	–	–	.03	–	–	.00	–	–	.01
Logan, 1992	–	.02	.03	.02	.00	–	.01	.01	.02	.03
Maximus, 2006	-14.2% <sup>1</sup>	–	–	–	–	–	–	–	–	–
Mcdonald, 2005	9.0% <sup>1</sup>	-.07	.09	-.12	–	–	–	-.18	–	–
OPPAGA, 2000	4.6% <sup>1</sup>	-.06	–	–	.06	–	–	–	–	–
Sellers, 1989 <sup>3</sup>	0.0% <sup>1,2</sup>	–	–	–	–	–	0.16	–	–	–
Thomas, 1997	15.2% <sup>1</sup>	–	–	–	–	–	–	–	–	–
Mean (SD)	2.2% (11.5)	-.04 <sup>3</sup> (.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. <sup>1</sup>Controlled for or made adjustments for administrative costs or costs of managing a private sector prison. <sup>2</sup>We did not average in difference of Silverdale versus Warren County because sites 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. <sup>3</sup>In computing the average, the original value was Winsorized to the next highest value within a column to limit the undue influence of an outlier.