Do Policymakers Locate Prisons for Economic Development?

By: **Todd L. Cherry** & Mitch Kunce

Abstract

While public goods can provide an overall increase in welfare, 'inferior' public facilities produce externalities specifically impacting host locations. Heterogeneous jurisdictional attributes, however, can cause net social benefits to vary across potential host communities. Using data from a unique public works project, this paper empirically investigates whether policymakers consider heterogeneous conditions when locating prison facilities. Results indicate that policymakers follow a process that maximizes net social benefits by systematically delegating such facilities to lagging communities; thereby potentially using the public facilities for economic development. Additionally, results suggest that policymakers properly consider existing infrastructure and agglomeration economies in the siting mechanism.

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Introduction

The siting of a public facility commonly entails external impacts on the host community far beyond those generated for society. In most cases, facilities such as public parks and universities yield positive externalities to the local neighborhood. Some public operations, however, generate an adverse impact on the immediate area that may lead to negative net benefits for the host communities. Examples of such inferior public facilities include hazardous waste storage, sewage treatment, and correctional facilities.[1] The local net benefits provided by such a facility to the host neighborhood largely depends on the relative economic impact—which depends heavily on current local economic conditions and opportunities (Schichor 1992). As such, policymakers that efficiently locate an inferior public facility should consider the heterogeneous economic conditions of potential host sites.

While in many cases this entails minimizing the negative net benefits, locating a prison facility, with its substantial workforce, budgets and vendor support, can provide significant positive gains to many lagging communities.[2] Thus, the efficient prison siting decision, in essence, can be an active development policy

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when the positive economic impact dominates the negative externalities for the host location. But do policymakers potentially use prison facilities for economic development? At the local level, policymakers and residents from potential host communities often exhibit such behavior when prosperous communities shun the possibility of having prisons "in their back yard" while lagging communities welcome and even compete for the 'privilege' of housing such facilities (Silas 1984). The motivation behind the ultimate location decision by central policymakers is less transparent. Efficient prison siting suggests the decision should follow a process that accounts for the spatial heterogeneity of economic conditions, as well as construction and operating costs. The current state of the criminology and sociology literature offers little substantive information on this conjecture (McShane et al. 1992), and no corresponding efforts exist within economics.[3] Indeed, methodological rigor is obstructed by the limited provision of inferior public facilities. California's unprecedented prison expansion, however, provides a unique opportunity empirically to examine the location pattern of such facilities.

Using prison siting decisions at the county level for the State of California between 1982 and 1994, the conjecture that policymakers follow a process that considers the heterogeneous economic conditions of potential host communities; thereby using prisons for economic development, was examined. Results from the conditional logit analysis reveal that a county's likelihood of hosting a prison is significantly greater in economically lagging communities where the economic benefits may overcome the negative externalities of hosting the facility. Policymakers consequently appear to use prisons as a form of economic development. The proposition that policymakers act rationally is further supported by evidence that existing infrastructure and agglomeration economies increase the likelihood of a potential site hosting a new prison facility.

The remainder of this paper is divided into four sections. The first provides a brief background on the U.S. prison condition, specifically California's experience. Next the unique data set is introduced and the model used to produce empirical estimates of prison location determinants is described. Then the empirical results and implications are presented before concluding with final remarks.

Background on Prisons and California's Location Process

Given that public good facilities are generally provided in small numbers, an empirical investigation of the location decisions for such facilities can be problematic. But recent trends in the criminal justice system open a door of opportunity to perform a conditional analysis on one particular type of inferior public facility—prisons. Beginning in the 1980s, the United States and most other western nations adopted a policy of greater incarceration involving longer

sentence lengths and incarcerating for more offenses. This current policy, irresistible to policymakers, promises that by dramatically increasing the incarceration rate, society will reap a "virtual windfall of benefits" (Romero 1994). Consequently, the United States has experienced a 220 percent increase in the incarceration rate since 1980 with the total United States prison and jail population exceeding 1.8 million (Beck and Mumola 1999). For the past decade, the number of inmates has grown at an average annual rate of 7 percent. In concrete numbers, this rate of growth equated to over 1,200 new inmates per week in 1998. The current United States prison population exceeds every industrialized nation in absolute terms and is second only to Russia when accounting for population (Mauer 1997).

As a consequence of the rapid growth in incarceration rates, the need for facilities to house the ever-growing inmate populations has increased substantially. Nowhere is this more evident than in California where the state has constructed what is now the largest prison complex in the western industrialized world. California currently houses more inmates (over 161,000 in 1998) than does France, Germany, and Japan combined. Beginning in 1981, the California Department of Corrections (CDC) undertook an immense prison building program where 22 new prisons were constructed at a cost in excess of $5.3 billion.[4] As with any public good provision, an inherent decision in the process was determining the location of each prison facility. Such a decision is far from trivial, in fact, the selection generally involves spirited debate among potential communities. Motivated by average annual budgets of $70.2 million and average employment numbers of 1078 (CDC), some jurisdictions welcome the economic enrichment provided by prison facilities—analogous to the addition of private commerce. From a depressed area's viewpoint, prisons are labor-intensive, non-polluting institutions and can provide a stable economic anchor to the local economy. For example, jurisdictions in the State of Nebraska participated in an "anxiety-filled" competition for the state's single largest construction project in history, a new state prison (*Omaha World-Herald,* March 10 1998). The stakes and costs were high—many jurisdictions expended up to $60,000 in the application process, in which each host candidate was required to donate the land along with the costs of road construction and public utility hookups. Six finalists were selected in March of 1998 with the facility finally being awarded to the town of Tecumseh in the rural southeastern part of the state.

In California's case, the CDC has historically developed a periodic core facility plan that molds the legislative proposals for construction of new facilities. This comprehensive facility plan initiates with inmate population projections. Population needs are estimated twice a year using a count and security level projection algorithm. The process leading to a decision is dynamic

and involves communication between state and local officials. However, the final authorization of when to build, and where, rests with the state legislature.

The Methodology

Prison authorization dates were gathered from the CDC over the 1982-94 interval. Twenty-two facilities were started, completed and opened within this time frame. Table 1 presents the authorization date, host county and operation information for each new facility during the 1982-94 period. The figures reflect the potential economic impact with each facility involving substantial employment levels and annual operating budgets. As the table illustrates, a pleasant feature of the data is the similarity of the facilities (capacity, employees and budget).[5] The county where a prison is constructed constitutes the location choice (the dependent variable) in this analysis. Simply, the state legislature and CDC have 58 counties from which to choose within the state to locate a facility. Attributes of each California county were collected for the years 1982, 1986, and 1990. The data is subdivided into the 3 time intervals to proxy the current 'condition' under which the location decision is made. It is assumed that the characteristics of a county, for example in 1982, sway the location pattern of prisons in the four years post. The four-year time span arises as a judicious option when one considers that authorization and construction processes follow variable time spans ranging from two to six years. The importance of this four-year interval, however, is tempered by the modest within-county (time) variation of the county characteristics.[6] As one would expect, the between-county variation will provide the underlying incentives behind any targeting of economic development. From 1982 to 1985 nine facilities were authorized, eight from 1986 to 1989, and five from 1990 to 1994.[7] A detailed discussion of county characteristic variables is deferred to the fourth section.

The empirical model examines how the location of a prison is influenced by a county's general economic condition. In deciding on a new prison's location, state policymakers will presumably consider how conditions, and therefore potential net benefits, vary over county choices. This reduced form construct does not contradict the reality that siting decisions are the result of a dynamic process between potential host communities and the state. Indeed, state policymakers in part (if not entirely) consider local conditions through the communication with local officials, but the ultimate decision remains with the central policymakers. Whether the central policymaker acts directly on the local conditions or acts on expressed opinions based on the local conditions, the analysis of the siting decision remains the same.

Conditional on the fact that building a facility has been authorized, the probability of it being constructed in a particular county depends on the area's relative condition. The conditional logit model developed by McFadden (1974)

TABLE 1. PRISON CONSTRUCTION AND OPERATING INFORMATION*

Prison	Date Authorized	Host County	Population / Capacity	Total Employment	Operating Budget
Avenal	1983	Kings	5,722 / 2,320	1463	$92.4mil
Calipatria	1988	Imperial	4,071 / 2,208	1143	70.0
Central Women's	1987	Madera	3,639 / 2,004	956	63.3
Centinela	1989	Imperial	4,598 / 2,208	1085	77.3
Corcoran	1985	Kings	4,703 / 3,016	1723	117.5
Chuckawalla	1985	Riverside	3,592 / 1,738	898	60.0
High Desert	1990	Lassen	4,273 / 2,224	1223	90.0
Ironwood	1990	Riverside	4,629 / 2,200	1096	83.3
LA County	1987	LA	4,207 / 2,200	1139	88.0
Mule Creek	1983	Amador	3,565 / 1,700	888	69.0
Northern Women's	1984	San Joaquin	772 / 400	257	19.5
North Kern	1988	Kern	5,090 / 2,692	1140	73.1
Pelican Bay	1986	Del Norte	3,296 / 2,280	1317	83.8
Pleasant Valley	1989	Fresno	4,683 / 2,208	1250	79.0
R.J. Donovan	1982	San Diego	4,290 / 2,200	1053	78.0
Sacramento	1982	Sacramento	2,914 / 1,728	1158	80.3
Corcoran, Sub-stance	1993	Kings	6,279 / 3,324	1704	101.0
Southern Max, CCI [a]	1982	Kern	5,196 / 2781	1678	106.0
Solano	1983	Solano	5,829 / 2,610	1246	94.9
Salinas	1992	Monterey	4,161 / 2,224	1300	88.0
Valley State Women's	1990	Madera	3,618 / 1,980	937	63.0
Wasco	1988	Kern	5,967 / 2,984	1323	95.0

* Populations of June 1999; Total Employment includes custodial and service staff; Operating Budget is annual operating budget in millions for 1999-2000. Source: *California Department of Corrections*.

[a] Numbers include existing CCI facility.

is often used to analyze choices among discrete alternatives. The methodology is common within the firm location literature in which jurisdiction location attributes (e.g., agglomeration economics and environmental regulation) influence the location decision of firms (Bartik 1988; Levinson 1996; List and

Co. 2000).[8] It is a natural extension to employ the conditional logit model in the examination of the location patterns of prison facilities.

To apply this construct to prison location, suppose that net benefits (overall utility) of siting a new prison facility i in county j are a function of a vector of observed characteristics X_j plus a disturbance term u_{ij} iid Weibull or

$$NB_{ij} = \ 'X_j + u_{ij} . \quad (1)$$

Following McFadden, let Y_i equal the choice made (takes the value 1 if a particular county 'k' is chosen, 0 otherwise) with the probability of prison i locating in county $j = k$ given as

$$\text{Prob}[Y_i = k] = \frac{e^{b' X_k}}{\sum_j e^{b' X_j}} . \quad (2)$$

If county attributes are significant in determining the likelihood of a prison location, then policymakers are considering the heterogeneity of those attributes across potential sites in an effort to maximize the net social benefits of the public facility. As such, the location decision may be in part driven by concerns related to these factors.

Further comments regarding the empirical specification are warranted. Equation (2) is the foundation for the conditional logit model which is estimated using MLE. The model requires that the error term be independent across the choices. With 58 choices modeled, this restriction could be problematic. McFadden (1978) suggests the use of location and/or regional dummy variables to capture any correlation of unobserved characteristics and mitigate the 'independence of irrelevant alternatives' effect. While the current sample provides a unique opportunity to empirically examine the location patterns of inferior public goods, the limited data does call for a parsimonious specification. We therefore opt for regional dummies to account for heterogeneity across the northern coast, southern coast, northern forests, southeast desert and central regions. A Wald test of joint significance of the area dummies mildly rejects the null (^{2}=7.98; p=0.087).[9] In addition, a Hausman and McFadden (1984) test regarding the imposition of independence of irrelevant alternatives indicates that the presence of the problem cannot be rejected at any conventional level. Erring on the side of proper specification, the regional dummies in the estimated model are retained.

Results

Conditional on the legislative authorization to open a new prison, the likelihood of constructing the facility in a particular county depends on characteristics of that county relative to other potential sites. Table 2 presents the definition, source, and descriptive statistics of the variables used to proxy

TABLE 2. VARIABLE DESCRIPTION, SOURCE AND DESCRIPTIVE STATISTICS.

Variable	Description and Source	Mean (Std)
Poverty Rate	Percent of the county population earning below the poverty level as defined by the B.O.C. *State of California Abstract.*	13.03 (4.4)
Mfg. Firms per Sq. Mile of Land Area	Manufacturing firms in a county divided by the total county land area in sq. miles. *State of California Abstract.*	0.96 (3.97)
Unemployment Rate	County unemployment rate in percent. *State of California Abstract.*	10.90 (5.26)
Existing Prisons	Number of prisons existing in the county (pre-and post-1982). *California Department of Corrections.*	0.28 (0.57)
Total Road Miles per Sq. Mile of Land Area	Total road miles in a county divided by the total land area in sq. miles. *State of California Abstract.*	1.97 (5.71)
Population	County population in 1000's. *State of California Abstract.*	467.918 (1149.487)
Education Level	Percent of a counties population with a bachelors degree or higher, in percent. *State of California Abstract.*	18.53 (7.52)
Housing Value	Median house value in 1000's (1982 dollars). *State of California Abstract.*	80.882 (41.257)

relevant county attributes (X_j). The main purpose of this analysis is to determine whether general economic conditions influence prison siting decisions. The county's *unemployment rate* provides a direct measure of real economic opportunities within the county (i.e., magnitude of excess demand for jobs). *Income per capita* was originally considered but to alleviate multicollinearity concerns the specification used the county's *poverty rate* to capture resident wealth.[10] *Manufacturing firms per square mile* proxy the level of existing economic development (i.e., firm capital) in the county, while the *education level* of county residents measures the amount of human capital. [11]

Beyond economic factors, the vector of relevant attributes also controls for other important considerations for the prison siting decision. Costs of constructing and operating a new facility depend on existing infrastructure, land prices, and agglomeration economies. Existing infrastructure within a potential county is proxied by the *total road miles per square mile* and the cost of land is captured by *housing values*. Agglomeration economies within the prison industry represent savings that arise by locating facilities in close proximity (i.e., managing, servicing, etc.). Agglomeration effects are captured by including the number of *existing prisons* in a county (pre- and post- sample). Given that the relatively thin data called for a parsimonious specification, the option selected was to include county *population* to account for many general characteristics including the county's potential labor supply, number of votes (i.e., political influence), and urbanization. [12]

The data show considerable variation across counties. For example, the average unemployment rate in the sample is 10.90 percent, which ranges from a low of 2.5 percent in Marin County (1990) to a high of 31.45 percent in Imperial County (1982). And while the sample averaged one firm per square mile, the numbers of firms varied greatly, with San Francisco having the greatest concentration of 31 (1990) firms per square mile and Inyo having the lowest concentration of only 0.0028 (1990). The poverty rate also shows substantial variation with Marin County experiencing the low at 5.2 percent (1982) and Imperial County facing the high at 24.5 percent (1990). Though the data vary greatly across jurisdictions, variation over time is relatively moderate, with most counties maintaining their general position, lagging or prospering, within the sample. Nevertheless, these time effects were accounted for with the three time intervals described above.

Given that state and local policymakers act so that net benefits are maximized, the model predicts that the likelihood of a prison locating in a county will be inversely related to prosperous economic conditions and land values and be positively related to current infrastructure and the existence of prisons. Table 3 presents the conditional logit results and relevant summary statistics. Of the eight county variables, six are statistically significant at

TABLE 3. ESTIMATES OF THE DETERMINANTS ON THE PROBABILITY OF CALIFORNIA PRISON LOCATION

Variable	Coefficient,	(t)
Poverty Rate	0.008	(0.09)
Mfg. Firms per Sq. Mile	-4.520**	(-2.09)
Unemployment Rate	0.112*	(1.77)
Existing Prisons	0.860**	(2.24)
Total Road Miles per Sq. Mile of Land Area	0.844**	(2.06)
Population	0.002**	(2.29)
Education Level	-0.188*	(-1.78)
Housing Value	-0.006	(-0.31)
Southern Coast***	0.820	(1.27)
Northern Coast***	0.176	(0.22)
South East Desert***	-1.290	(-1.43)
Northern Forests***	-1.45	(-1.31)
Likelihood Ratio (df)	41.89	(12)
Pseudo R^2	.235	
N♦,	1276,	

* Significant at 10%.
** Significant at 5%.
♦ 22 prisons choosing over 58 counties
*** Region joint significance, Wald test, Chi-squared 7.98, significance level .087

conventional levels with each having the expected relationship with the likelihood of prison construction. Existing commerce, in the form of plentiful manufacturing facilities, decrease the predicted probabilities of locating in an average county. Confirming the importance of economic conditions, higher levels of unemployment and lower levels of education increased the chance of new prison construction. The percentage of the population living in poverty has the expected positive relationship with new prison construction but failed to be significant at conventional levels. These results suggest that policymakers follow a process that systematically delegates the prison industry to lagging communities, which maximizes net benefits of the inferior public good facility. Moreover, given previous evidence of local support, the prison industry appears to be an active source of economic development.

Results indicate that the decision process also considers costs associated with infrastructure, land values and agglomeration effects. Estimates indicate available infrastructure, proxied by road miles per square mile of land, significantly raises the likelihood of a new correctional facility. Existing prison facilities also carries a significant positive relationship, which indicates that policymakers exploit agglomeration economies within the operation of prison facilities. The raw data supports the agglomeration result by revealing that policymakers located two facilities in a single city on seven occasions.[13] Though not significant, the estimated inverse relationship between prison location and

housing values does correspond with cost considerations. The significant relationship between county population and new prison construction succeeds in controlling for other factors such as the potential labor supply, political influence and urbanization.

While the results presented in Table 3 provide valuable insights regarding significant relationships, the estimated coefficients from this probability model are not directly marginal effects because every attribute in X_j affects all the probabilities of a county location. As such, elasticities are calculated to further aid in the interpretation. County choice elasticities of the probabilities would take the form,

$$\frac{\partial \ln P_j}{\partial \ln X_{km}} = X_{km}[1(j = k) - P_k]b_k , \qquad (3)$$

where k is the county choice, m is the specific attribute and P represents the relevant probabilities. Table 4 presents the high, median, low, and sample average of county-specific elasticities for each of the statistically significant underlying attribute variables evaluated at variable sample means. The values depicted in Table 4 represent the percentage effect on the probability of locating in county j by increasing the level of the characteristic variable by one percent. For example, using the county averages at the bottom of Table 4, a one-percent increase in the population of an average California county will increase the probability of a prison locating there by 1.103 percent, ceteris paribus.

The elasicities provide additional evidence that the economic environment plays a large role in the location of prison facilities. Existing commerce, as measured by firms per square mile, has a relatively large impact on the likelihood of a jurisdiction being selected for new prison construction. Interpreting the effects, it can be seen that a 5 percent increase in the number of firms per square mile will lower the chance of a new facility within the average county by 10.7 percent. Unemployment also has a sizable impact on the location of prison facilities where a one-percent increase in the level of unemployment in the average California county will increase the probability of a prison locating there by 1.312 percent. As such, an increase of approximately one standard deviation of 5 percentage points in the sample average unemployment rate (10.90%) will raise the likelihood of prison construction by 6.5 percent. Education level exhibits the largest impact on a county's chance of being selected for a new prison facility where increasing the percentage of citizens that hold a college degree by 5 percent retards the likelihood of a prison locating there by 17.1 percent. Estimated marginal effects indicate that existing prison facilities is not a primary criterion in prison location decisions even though evidence exists that some agglomeration effects are present within the prison industry.

TABLE 4. INTERPRETING THE COEFFICIENTS OF TABLE 3 WITH ELASTICITIES. TABLE VALUES REPRESENT THE PERCENTAGE CHANGE IN THE PROBABILITY OF LOCATING IN A COUNTY DUE TO A ONE PERCENT INCREASE IN A SIGNIFICANT COUNTY CHARACTERISTIC (EVALUATED AT VARIABLE SAMPLE MEANS; COUNTY POSSESSING THE HIGH, MEDIAN OR LOW ELASTICITY IS PROVIDED IN PARENTHESES).

	Firms[a]	Unemployment[b]	Existing Prisons[c]	Roads[d]	Population[e]	Education[f]
High	-26.831 (Orange)	3.122 (Sierra)	2.022 (Riverside)	15.690 (San Fran)	18.431 (Los Angeles)	-8.114 (Marin)
Median	-0.300 (Monterey)	1.200 (Butte)	0.000 (San Mateo)	0.927 (Napa)	0.261 (Humboldt)	-2.993 (Fresno)
Low	-0.007 (Inyo)	0.566 (Marin)	0.000 (Humboldt)	0.220 (Inyo)	0.003 (Alpine)	-1.073 (Modoc)
Average	-2.149	1.312	0.235	1.532	1.103	-3.414

[a] Manufacturing Firms per Square Mile of Land Area, underlying coefficient carries a p-value of .037
[b] County Unemployment Rate, underlying coefficient carries a p-value of .077
[c] Existing number of prisons in the County, underlying coefficient carries a p-value of .025
[d] Road Miles per Square Mile of Land Area, underlying coefficient carries a p-value of .039
[e] Total County Population in 1000's, underlying coefficient carries a p-value of .022
[f] Percent of County Population with a Bachelor's Degree or Higher, underlying coefficient carries a p-value of .074

While the elasticities provide information on how changes in attributes will affect the likelihood of a county being chosen for prison construction, it is of interest to examine the relative position of each county in the location decision. Using the estimated model, we calculate the probabilities of being selected to house a facility for each county. Table 5 reports the results by likelihood. The county that has the greatest chance of being selected for prison construction is Kern County with a probability of 14.57 percent. Conversely, Orange County is the jurisdiction that is least likely to be chosen for a new facility. These distinctions primarily originate from the relative economic positions of the two counties. Out of the 58 counties, Kern County has the 35th highest median income ($20,690) and the 9th highest unemployment level (14.7 percent). For Orange County, residents have the 14th highest median income ($24,766) and face the 3rd lowest unemployment rate (5.7 percent). Location decisions during our sample period are consistent with the rankings of these two counties, with the legislature choosing to locate two facilities in Kern County while passing over Orange county for any prison construction.

TABLE 5. RANKING OF CALIFORNIA COUNTIES ACCORDING TO THEIR PROBABILITY OF HOUSING A NEW PRISON FACILITY*

Listing by Likelihood			
County,	Probability	County,	Probability
Kern (3)[a]	0.1457	San LuisObispo	0.0045
Imperial (2)	0.0808	Trinity	0.0043
Riverside (2)	0.07740	Plumas	0.0036
San Joaquin (1)	0.0732	Shasta	0.0035
Kings (3)	0.0641	Mariposa	0.0034
Yuba	0.0486	Mendocino	0.0033
Del Norte (1)	0.0476	Modoc	0.0030
San Diego (1)	0.0469	Humboldt	0.0027
Los Angeles (1)	0.0438	Ventura	0.0024
Tulare	0.0262	El Dorado	0.0020
Merced	0.0261	Nevada	0.0015
Stanislaus	0.0250	Placer	0.0012
Tuolumne	0.0241	Mono	0.0009
San Bernardino	0.0226	Inyo	0.0008
Madera (2)	0.0199	Butte	0.0007
Lake	0.0197	Santa Barbara	0.0007
Fresno (1)	0.0195	Sonoma	0.0005
Sutter	0.0194	Alpine	0.0004
San Benito	0.0174	Contra Costa	0.0003
Colusa	0.0170	Napa	0.0003
Solano (1)	0.0158	Yolo	0.0002
Sacramento (1)	0.0136	San Francisco	0.0002
Calaveras	0.0113	Santa Cruz	0.0001
Monterey (1)	0.0110	Marin	0.0000
Amador (1)	0.0108	Santa Clara	0.0000
Sierra	0.0075	Alameda	0.0000
Lassen (1)	0.0067	San Mateo	0.0000
Glenn	0.0064	Orange	0.0000
Tehama	0.0047		
Siskiyou	0.0045	TOTAL	1.0000

*numbers in parentheses show the prisons located in that county during the sample period.
[a] Kern County was recently chosen to host the next state prison; construction is set to begin in 2001.

Additional findings from the rankings are noteworthy. The five most likely candidates for a new facility currently have at least one prison within its borders with Kings and Kern each housing three. Considering counties without current facilities, Yuba County has the greatest chance of being selected to house a prison with a probability of 4.86 percent (6th overall). Lassen County has the lowest likelihood out of those counties that already house a facility (27th overall). And a few cases indicate that factors other than economic conditions, such as population, education and infrastructure, played a role in the rankings. For example, even though the residents of Butte are ranked 45th (out of 58) in median income and face the 27th highest unemployment rate, there are 44 counties more likely to be selected over Butte County. Moreover, an active and

diverse economy did not prohibit San Diego and Los Angeles Counties from showing up as the 8th and 9th most likely candidates for a new prison facility.

Concluding Remarks

The location of inferior public facilities is often a heated process. Potential host communities often protest the arrival of undesirable public facilities such as hazardous waste and correctional facilities. This, however, is not always the case. If the chants of 'not in my backyard' are heard, the demonstrator's backyard is likely within a prosperous neighborhood. Residents of an economically lagging community may not stand so fervently against the additional economic activity provided by some inferior facilities. Unable to attract private commerce, these unfortunate neighborhoods may be willing to accept the opportunities discarded as unpleasant by more prosperous communities. In essence, the location of inferior public good facilities can be a source of economic development. But do state policymakers consider, directly or indirectly, the heterogeneous economic conditions of potential host communities when delegating inferior facilities? Results herein indicate the answer is yes.

Using an approach firmly grounded in the firm location literature, we collect data on one of the largest inferior public works projects in history to examine the location decisions of such facilities. Given that inferior public facilities are generally provided in small numbers, California's immense prison construction program provides a unique opportunity to undertake a rigorous conditional analysis of the location decision of an inferior public good. We find that depressed counties are significantly more likely to be chosen to house a correctional facility. The levels of employment, education and existing firms are all significant and inversely related to the probability of a prison being located in a community. Further, results suggest that existing infrastructure and agglomeration economies increase the likelihood of a community to house new prison facilities. The presence of agglomeration effects within the prison industry was especially evident.

We then provide estimated county-specific probabilities of a correctional facility being housed within the county's borders. Results follow the inference that prisons are generally regulated to economic lagging communities. Orange County has the lowest chance of being chosen for new prison construction while Kern County is most likely to house a facility. The estimates follow past location decisions and appear to correspond to future plans for the state's newest facility. The California legislature recently authorized the building of the first correctional facility since 1993, and according to the CDC, the location is set for Kern County with construction commencing in 2001.

NOTES

1. We use the categorical term *inferior* (akin to income inferior goods), as opposed to normative terms such as undesirable, due to the observation that lagging communities with low incomes may actually desire a public facility deemed undesirable by prosperous communities because expected economic benefits outweigh the negative externalities. Many private operations also fall into this category, such as cement plants, mining, and other pollution intensive utilities.
2. Much attention has been paid to policies that site facilities that generate negative externalities that dominate any potential benefits (e.g., hazardous waste facilities) – specifically making the facility desirable by redistributing the overall increase in welfare to provide monetary compensation to the host community. See Hamilton and Viscusi (1999), Frey et al (1996), Kunreuther and Easterling (1996), and O'Sullivan (1993). Herein we examine a previously overlooked issue, the siting of prison facilities that can receive strong support within lagging communities because of the positive net benefits arising from economic development.
3. See Martin (2000) for a comprehensive review of the criminology/sociology literature on this issue.
4. Remarkably, the more than 114,000 new beds still fall short of current needs. In fact, the state leads the nation in prison overcrowding and the CDC estimates it will run out of room by 2002.
5. This raises an issue of whether facilities with different types of inmates will follow different location patterns. The state prisons in California generally have multiple security levels, as opposed to differentiating between high and low security prisons. In fact, many of the facilities in our sample actually used the same design to reduce costs. The one significant difference in prison type is gender. Given that only 3 of 22 prisons in our sample are women's facilities, it is not possible to empirically examine whether gender influences location patterns. Intuitively, there is no reason to believe gender influences siting decisions beyond the margin.
6. Indeed, results are similar when we employed different time periods.
7. The last facility within this expansion period was authorized in 1993. The remaining years of the decade experienced no new prison construction.
8. See McFadden (1984) for a comprehensive review of the various uses of this discrete choice construct. In a recent study, Alberini and Bartholomew (1999) provide an interesting application of this technique in estimating the determinants of hazardous waste disposal across potential waste management facilities.
9. Noting the significant regional prejudice in prison location patterns, the weakness of our regional dummies provides some encouragment for the specified model's ability to capture prison location patterns.
10. While income was problematic with the unemployment rate (-0.78 correlation) and education (0.80 correlation), poverty rate carried a high correlation with income (-0.86), and a relatively low correlation with unemployment (0.42) and education (-0.45).
11. We note that sensitivity tests indicate the general finding is robust across alternative measures of county economic conditions.
12. Results were consistent when substituting in the county's population density.

13. In one case, the new facility was actually constructed adjacent to an existing prison (Tehachapi, Kern County). And indicating possible gender-specific agglomeration effects, two of the three women's facilities in our sample are located in the City of Chowchilla, Madera County.

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