

The Privatization of Public Services in American Cities

Jessica Trounstine
University of California, Merced

Abstract: In the United States significant variation regarding the quality of public goods exists across local government. In this article, I seek to explain these patterns. I argue that economically and racially homogenous communities are collectively willing to invest more resources in public goods relative to diverse communities. I provide evidence in support of this claim by analyzing the relationship between race and income diversity and the share of community security and education that is provided by private entities. I find that as racial diversity and income inequality increase, the share of private security guards and white children enrolled in private school is higher.

Jessica Trounstine is associate professor of political science at University of California, Merced, School of Social Sciences, Humanities, and Arts, 5200 North Lake Road, Merced, CA, 95343. Phone: 209-228-4870; Email: jessica@trounstine.com

In the United States the provision of many public goods is handled at local levels of government. Variation within and across cities regarding the adequacy of public goods¹ is a consequence of local control over development, revenues, and service provision. As a result, only some residents live in safe communities with well maintained roads, sewers that never overflow, and public parks with swing sets and restrooms. Many others live in places that suffer from low quality schools, drainage problems, poorly equipped police and fire forces, and overcrowded municipal jails. What explains these patterns? It is unlikely that some communities want to have high crime rates and poor quality schools. I argue that economically and racially homogenous communities are collectively willing to invest more resources in public goods relative to diverse communities. I provide evidence in support of this claim by showing that heterogeneous communities witness a greater share of public goods provided through the private market in the realms of security and education. The privatization of traditionally public goods means that absent these choices, expenditures on public services would likely be higher in diverse communities.

A number of scholars have provided significant evidence that diversity along racial and ethnic lines can dampen support for public goods (Miguel 2004, Alesina et al 1999; Glaser 2002; Alesina and Spolaore 1997; Easterly and Levine 1997; Poterba 1997; Habyarimana et al 2007, 2009; Putnam 2007; Cutler et al 1993; Goldin and Katz 1999, Hopkins 2009). Diversity may depress public goods investment for a number of different (and overlapping) reasons including: an inability to sanction non-contributors (Habyarimana et al 2009), divergent preferences regarding the targets of spending (Benabou 1996, Lieberman and McClendon 2013), and

¹ Consistent with its use in the political science literature, by public good, I mean goods and services that are broadly accessible and intended to be welfare enhancing over the long term. Most of the policies provided by local governments meet these loose standards even while many are actually privately consumed (e.g. education), subject to congestion effects (e.g. roads), and excludable (e.g. water utilities funded by fees).

opposition to expenditures perceived to benefit other groups (Becker 1957, Sears and Citrin 1985, Tedin et al 2001, Glaser 2002). Conflict over spending preferences and/or an unwillingness to engage in spending on other groups means that public goods in diverse communities may be underprovided. As a result, I argue, when a private option exists, diverse communities should see a higher degree of privatization of public goods.

I provide evidence in support of this claim by analyzing the relationship between race and income diversity and the share of community security and education that is provided by private entities. Security and education concerns are central to local political debates. Homeowners are the dominant force in local politics and their collective preferences, driven by the protection of home values, play an important role in determining the inputs and outputs of local government including taxation, zoning, and service decisions (Fischel 2001). Crime and school performance are both capitalized in housing prices (Black 1999, Taylor 1995) and as a result play a large role in local contestation. Additionally both education and crime are generally racialized issue areas, particularly for whites (Tuch and Hughes 1996, Bobo 1983, Mendelberg 2001, Hurwitz and Pefley 1997, 2005). This means that white, home owning residents are especially likely to be sensitive to diversity with respect to these issue areas. I find that as racial diversity and income inequality increase, the share of private security guards and white children enrolled in private school is higher. In the remainder of the paper, I review the relevant literature, describe the data used for my analysis, present the empirical results, and offer a concluding discussion.

Relevant Literature

In a variety of different settings, scholars have shown that diversity (particularly along ethnic lines) can be associated with policy conflict (Powell 1982), slow economic growth

(Alesina et al 2003, Easterly and Levine 1997), poor public policies (Posner 2004, Montalvo and Reynal-Querol 2005), and reduced investment in public goods (Alesina et al 1999, Poterba 1997, Vigdor 2004, Hopkins 2009). Additionally, a large literature on public opinion and political behavior reveals that negative perceptions of racial and ethnic minorities and the poor and are strongly predictive of their views toward government spending (Federico 2005, Federico and Luks 2005, Gilens 2009, Luttmer 2001, Applebaum 2001, Sears and Citrin 1985). However, other scholars have provided evidence that diverse and unequal cities spend as much money or even more on many public services including policing, fire protection, health, hospitals, and education (Corcoran and Evans 2010, Boustan et al 2012, Glennerster et al 2012). Research in this tradition has provided evidence that public policies (Miguel 2004) and strategic politicians (Rugh and Trounstein 2011) can overcome the depressive effects of diversity on public spending. However, higher expenditures may not equate to equivalent quality of public goods. One of the problems scholars face in this literature is determining what the ideal amount of spending would be for any given community. Simply analyzing total dollars (or even proportions of budgets) spent on different categories may not give us an accurate picture of the degree to which the community's demands for public goods are being met. I take an alternative approach by setting aside public spending and focusing on services for which a private option exists.

If diverse communities struggle to provide adequate levels of public goods, then, regardless of the amount of money that is spent, we ought to expect some residents to be unhappy with the provision. Dowding and John (2008) argue that private options are more likely to be adopted when residents, dissatisfied with public provision, have been unable to affect change in the public realm. Brooks (2008) shows that business improvement districts (which might be considered a strategy somewhere between fully public and fully private provision)

allow a subset of voters to increase investment in public goods when they are dissatisfied with public policy. The problem is cyclical; some residents in diverse communities shift resources from public goods to private alternatives, leading to suboptimal public goods provision, which may then lead other residents to select the private option. As a result, when private options exist, we should expect to see a higher rate of privatization in diverse communities. Security and education are two services that can be met in either the public or the private realm.

My predictions build on a literature investigating the relationship between diversity and private provision of public goods in the realm of education. Conlon and Kimenyi (1991) and Fairlie and Resch (2002) analyze individual level data and provide evidence that private school enrollments are higher when public schools have large proportions of non white (particularly black) students. Similarly, Betts and Fairlie (2003) show that in response to increased immigration, native-born American families are more likely to send their children to private high school. Smith and Meier (1995) and Wrinkle et al (1999) find that a desire for religious instruction and racially segregated schools motivates private enrollment in Florida and Texas. These findings lay the foundation for my argument that an increase in diversity will increase private provision of public goods relative to public provision.² The results presented in this article build on these earlier findings by expanding the analysis to the entire United States,

² While private education is largely considered a perfect substitute for public education (e.g. Epple and Romano 1996a , 1996b), private security may not be perfectly substitutable for policing. Private security is primarily concerned with the protection of private property while police are public servants who enforce criminal law (Joh 2004). States grant special legal powers to the police that are not granted to private security, but at the same time police behavior is more heavily regulated by the courts (Joh 2004). Yet, both types of officers seek to maintain order and spend a significant amount of time deterring crime and assisting individuals (Dart 1981). Even public police officers do not spend the majority of their work time handling major crime (Dart 1981). Cheung (2007) finds that an increase in the number of gated communities (private governments) encourages cities to decrease spending on policing. He concludes that private security serves as a substitute for public police to some extent. For these reasons, it seems reasonable to think of hiring private security as a substitute for expanding the community's police force.

providing evidence of an aggregate effect, and incorporating findings on education into a larger theory of private provision.

An important alternative argument is that poor governmental performance generates the impetus for privatization and vice versa (poor private provision leads to public funding). A number of scholars argue that failures of the private market led to the development of municipal public goods provision such as policing (Enion 2009, Dart 1981), schooling (Goldin and Katz 1999), and water supply (Cutler and Miller 2005). For example, Kaufman (1999) provides a historical analysis revealing that public police forces were frequently adopted by city councils when weak property rights limited the city's ability to promote urban development and economic growth. Predicting the opposite effect, Berman (2005) develops a formal model of voluntary provision of public goods via religious organizations. He finds that in the absence of government provision of public goods, individuals will naturally band together to provide public goods "through mutual insurance," like clans, sects, and tribes. Similarly, Enion (2009) argues that private security forces arose in the 19th century acting on behalf of corporations and slave owners to exact punishment and control that the state was unwilling to provide directly. Dart (1981) suggests that private security forces expanded in the wake of severe, exogenous constraints on local fund raising ability (e.g. Proposition 13). Chubb and Moe (1990) argue that private schooling is a response to the failures of the public education system. For the purposes of this analysis, it could be the case that limited government expenditures on policing or high crime rates could increase the prevalence of private security and poor performance of public schools increase private school enrollments.³ In order to account for this alternative, I control for measures of performance in my analysis below.

³ Empirically the problem is, of course, that both of these could equally be caused by (rather than causes of) investments in private security and education.

Data:

In order to analyze the relationship between diversity and inequality and private provision of public goods, I assembled a dataset drawing on a variety of different government data sources. First, I collected data from the 2000 Census of Population and Housing and the 2005-2007 American Community Survey regarding the occupational breakdown of the population in all United States incorporated places (e.g. cities, towns, villages) with more than 20,000 residents.⁴ I focused on the broad category entitled “protective service.” Each year the Census reports the total number of residents employed as “fire fighting, prevention, and law enforcement workers including supervisors,” and “other protective service workers including supervisors.” The former comprises my measure of public security officers and the latter my measure of private security officers.⁵ A list of occupations included in each category can be found in the appendix. This process yielded a count of the number of individuals employed in private and public security jobs in each city at two points in time.

To study privatization of education I gathered the total number of children enrolled in kindergarten through twelfth grade in public and private school from the Census of Population and Housing. I focus on the enrollment of white, non-Hispanic/Latino children because I expect sensitivity to diversity to be driven by the white community. Unfortunately, the Census only makes enrollment by race available in one year – 2000, so the analysis is limited to a single point in time. This analysis includes the same cases as included in the security analysis.⁶

⁴ These are the only two years of Census data that distinguish between public and private security positions. For instance, in 2011, the occupational categories in protective service are “fire fighting and prevention, and other protective service workers” and “law enforcement workers.” Unfortunately, the 2007 ACS data are only reported for larger cities (more than 20,000 residents). So my analysis is restricted to these cases.

⁵ An analysis using Bureau of Labor Statistics data with more precise occupational coding as well as data over time yielded similar results, but were only available at the MSA level. These analyses are available from the author.

⁶ Missing data on high school graduation rates reduces the number of observations slightly. Omitting this variable does not change the results.

To the occupation and school enrollment data I merged community demographic data from the 2000 Census of Population and Housing and the 2005-2007 American Community Survey (ACS) including information on the racial makeup of the city, the income distribution, and a variety of demographic control variables which are described below. I collected data from the Federal Bureau of Investigation's Uniform Crime Reporting Program regarding the total number of crimes reported to police in 2000 and 2007 and data from the National Center on Education Statistics regarding the proportion of 12th graders completing high school in the 1999-2000 school year at the county level. Summary statistics are included in the appendix.

Analysis:

The dependent variable in my analysis of community security is a measure of the proportion of total security officers who are employed by private entities (*Percent Private Security*) in 2000 and 2007. The denominator of this variable is the sum of private and public security officers in the city. My two main independent variables are measures of diversity and inequality. For the former, I use the proportion of the population that identifies as *Non-white* (including Latino, Black, Asian/Pacific Islander, and other). To measure *Inequality* I use the ratio of mean to the median income in the city.⁷ The ratio of mean to median income ranges from 1.1 to 2.2. A value of 1 indicates that the median and mean incomes are equal and a value of 2 indicates that the mean income is twice that of the median.

To account for the possibility that communities turn to privatization because of government failures I include the city's *Crime Rate*. To capture the prospect that cities with poor

⁷ This measure is inspired by Meltzer and Richard's formal model of the relationship between inequality and income redistribution funded by a proportional income tax (1981, 1983). Meltzer and Richard show that growth in the mean income relative to the median lowers the cost of redistribution for the median voter, who then votes to redistribute income. See Corcoran and Evans (2010) for an analysis of this operationalization.

employment markets have a lower share of private security officers, I include the proportion of the population that is *Unemployed*. To account for the ability of community members to afford public and private security, I include the city's *Median Home Value*. Finally, I control for the natural log of total *Population*.⁸ Because I have measures of diversity and the share of security that is privately provided at two points in time, I add fixed effects for city. This means that the model accounts for all static city level variables that could predict preferences for private security. In order to provide evidence of a cross-sectional effect as well, I also show the results of a regression using only the 2007 data with state fixed effects included.

In the analysis of privatization of education my dependent variable is the proportion of white children attending school between kindergarten and 12th grade enrolled in private school (*Percent Private School*). As in the security model my primary independent variables are measures of the *Non-White* population and *Inequality*. I control for *Median Home Value*, percent *Unemployed*, the natural log of the total *Population*, and *Racial* and *Income Segregation*. I also add a measure of the proportion of the population that is *Under 18* to account for the correlation between age, race, and income and the possibility that families with young children are attracted to places that invest in education. Finally, as a measure of the quality of public education, I include the county level high school *Graduation Rate* for all public schools.⁹ As explained above the dependent variable in this model is only available for a single year, so adding fixed effects for city is not possible. Instead, the model includes state fixed effects.

⁸ In alternate models I include controls for racial and income segregation using the isolation index for white and poor individuals. The conclusions do not change with these additions, although the effects of diversity and inequality are reduced. I do not present these results because the measures are highly collinear cross-sectionally with percent non white and the coefficients on both segregation measures are insignificant in a model with all measures.

⁹ Controlling for the proportion of the population that adheres to different religions (e.g. Catholicism, Evangelical Christianity, Protestantism, Judaism) has no effect on the main effects reported.

The top panel of Table 1 shows the regression of private security on diversity and the bottom panel shows the regression of private education.

[INSERT TABLE 1 ABOUT HERE]

The results are clear - when cities have larger minority populations and a more skewed income distribution, the share of total security handled by private entities is larger and the proportion of white children attending private school is higher. The results are shown graphically in Figure one.

[INSERT FIGURE 1 ABOUT HERE]

Cities that gained racial and ethnic minority residents relative to whites between 2000 and 2007 saw growth in private security guards relative to police officers. For example, during this time period a city in which nonwhite residents increased from 10% of the population to 15% of the population, would have seen about a 3.5% increase in private security (from 28.7% to 32.2%). When cities are about 40% minority, a majority of security forces become privatized. The same patterns occur as cities become more unequal (as they generally did over this time period). A change in the ratio of mean to median income from 1.25 to 1.30 (the average for the dataset) was associated with about a 1.3 percentage point increase in private security, from 47% to 48.3%. Once the mean income is 1.3 times the median income in a community, a majority of security officers work in the private realm. An analysis of change in the number of security guards and police officers per capita reveals change in both measures. That is, between 2000 and 2007, on average cities gained security guards and lost police officers.

The results are similar for private schooling. In a city that is 95% white approximately 10.6% of white children attend private school. With all other demographics equal, in a city that is comprised of 20% racial and ethnic minorities, the share of white children attending private

school rises to more than 14%. When whites comprise only 10% of the population, 1 in every 3 white children attend private school. Similarly, in a city where the mean and median income are identical, about 12% of white children attend private school, but when the mean income is double the median more than 30% of white children attend private school.

In Table 2, I replace the measure percent nonwhite with measures of the size of each nonwhite group for both private security and education. Scholars have shown that white attitudes toward Latinos and Asians tend to be less hostile and more variable relative to attitudes towards blacks (Dixon 2006, Link and Oldenshick 1996, Hood and Morris 1997). As a result, privatization may be more related to some groups than others.

[INSERT TABLE 2 ABOUT HERE]

Table 2 indicates some support for this prediction. The size of the black and Latino populations are positively related to security privatization, but Asian American residents do not engender the same type of response. White children are most likely to attend private school in communities with large black populations, but the size of Latino and Asian populations also appear to increase privatization. Adding a control for the language ability of the youth population (the proportion of people aged 5-17 with *Limited English* proficiency) reveals that the aversion to Latino and Asian populations is largely driven by an avoidance of children who do not speak English. Collectively these results reveals that as minority populations increase, and as inequality rises, private guards make up a larger share of total security forces and a larger percentage of white children attend private school.

It is important to note that across all of the models, the measures of government performance (crime rates and high school graduation rates) do not meet conventional levels of statistical significance. This suggests that sending children to private school and hiring private

security guards has little to do with objection conditions. This finding is consistent with results in the existing literature. For example, Smith and Meier (1995) and Wrinkle et al (1999) find that public school performance is either unrelated or positively related to private school enrollment. This lends further credence to the argument that it is diversity in and of itself, rather than government inefficiencies or failings, which leads to privatization.

Of course it is possible that minority residents move to cities with more private security positions available and places with more white children enrolled in private school. If this were the case, the causal story would be reversed; privatization would be driving demographic changes not the other way around. While I believe this to be an unlikely explanation for the results presented above, without an exogenous change to racial and income diversity, these data cannot rule out this possibility. Nor can they reveal who is hiring the private security forces. If minority and poor residents hire most of the private security guards, then we'd also expect to see a positive relationship between the minority population and the share of security that is privately employed.¹⁰ Again, this seems an unlikely explanation for the patterns displayed, but additional data would be needed to test this hypothesis.

Conclusion

In sum, the data presented above offer solid evidence in support of my argument. As the demographic and economic makeup of cities varies, so does the share of security personnel employed by private entities and the share of white children attending school. When cities have more diversity and more inequality, a larger proportion of their security and education needs are met by the private real. It appears that residents with resources choose to enhance their bundle of

¹⁰ Data regarding who hires private security guards are not available. As a crude substitute, I tested including controls for the number of retail establishments and retail workers in each city. The coefficients on these measures were tiny and insignificant and had no effect on the variables of interest.

public goods by supplementing provision with private options when they are faced with diversity.

As Clarissa Hayward (2009) explains, “The privileged can – and they often do – retreat to relatively homogenous [communities]....They can pool their tax monies, and they can use these to provide schooling and other public services, which they can make available to residents only,” (p149). As a result, those with power and wealth make decisions that profoundly affect residents without access to similar resources while at the same time preventing the resource poor from participating in the decision making process.

These results challenge the conclusions drawn in recent research showing that diverse communities (with respect to both income and race/ethnicity) do not see lower expenditures on public goods in the aggregate. Boustan et al (2012) provide evidence that rising inequality and increased racial/ethnic fractionalization lead to higher government expenditures on a range of outcomes including policing and education (see also Corcoran and Evans 2010, and Hopkins 2011). These scholars argue that their findings offer support for median voter models (Romer 1975, Meltzer and Richard 1981) which predict increased government spending in the face of rising inequality because the cost of public goods is subsidized for individuals with incomes below the community mean. It may well be the case that diverse communities see larger expenditures on public goods; but the substitution of private options for public spending indicates that public budgets would be even larger without these alternatives. This may result in increasing stratification over time as disadvantage in access to safe communities and quality schools may compound disadvantages in other domains. Thus, residential and political patterns built on past predispositions and stereotypes may continue to shape future interests, actions, and ultimately inequalities.

Table 1: Effect of Diversity and Inequality on Private Provision of Public Goods

<i>Private Security</i>					
	2000-2007			2007 only	
	City Fixed Effects Included			State Fixed Effects Included	
	Coefficient	SE		Coefficient	SE
% Non White	0.702 **	0.135		0.284 **	0.050
Inequality	0.252 **	0.106		0.332 **	0.078
Med Home Value (100 thsds)	0.016 **	0.004		0.025 **	0.009
% Unemployed	0.044	0.765		-0.595	0.600
Crime Rate	-0.340	0.330		0.449	0.395
Population (logged)	-0.010	0.050		0.000	0.012
Constant	0.025	0.552		-0.196	0.198
R ² (overall)	0.120			0.280	
N	892			466	

Private Education for White Children, 2000

	State Fixed Effects Included		
	Coefficient	SE	
% Non White	0.239 **	0.030	
Inequality	0.190 **	0.043	
Med Home Value (10 thsds)	0.018 **	0.008	
% Unemployed	-1.372 **	0.508	
% Population under 18	-0.398 **	0.122	
% 12 th grade graduates	-0.052	0.053	
Population (logged)	0.027 **	0.006	
Constant	-0.040	0.132	
R ²	0.635		
N	431		

Note: * $p < .10$, ** $p < .05$;

Table 2: Effect of Diversity and Inequality on Private Provision of Public Goods, Separate Racial Measures

<i>Private Security, 2000-2007</i>						
	Coefficient		SE			
% African American	0.939	**	0.281			
% Latino	0.856	**	0.206			
% Asian American	0.434		0.469			
% Other Race	0.604	**	0.201			
Inequality	0.254	**	0.106			
Med Home Value (100 thsds)	0.014	**	0.005			
% Unemployed	0.125		0.768			
Crime Rate	-0.418		0.332			
Population (logged)	0.004		0.048			
Constant	-0.211		0.571			
R ² (overall)	0.094					
N	892					
<i>Private Education for White Children, 2000</i>						
	Coefficient		SE	Coefficient		SE
% African American	0.430	**	0.039	0.429	**	0.039
% Latino	0.122	**	0.037	0.039		0.051
% Asian American	0.125	**	0.063	0.095		0.064
% Other Race	-0.371		0.272	-0.397		0.271
Inequality	0.188	**	0.042	0.179	**	0.041
Med Home Value (100 thsds)	0.020	**	0.008	0.019	**	0.007
% Unemployed	-2.037	**	0.497	-2.004	**	0.494
% Population under 18	-0.365	**	0.123	-0.345	**	0.123
% 12 th grade graduates	-0.027		0.050	-0.029		0.050
Population (logged)	0.024	**	0.005	0.022	**	0.005
Percent 5-17 limited English				0.572	**	0.249
Constant	-0.073		0.126	-0.043		0.126
R ²	0.681			0.686		
N	431			431		

Note: * $p < .10$, ** $p < .05$; City fixed effects included in security model and state fixed effects included in education model

Figure 1: Effect of Diversity and Inequality on Private Provision of Public Goods

	

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Appendix

Census Occupation Coding Protective Service

Public

- 370: First-Line Supervisors/Managers of Correctional Officers
- 371: First-Line Supervisors/Managers of Police and Detectives
- 372: First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
- 374: Fire Fighters
- 375: Fire Inspectors
- 380: Bailiffs, Correctional Officers, and Jailers
- 382: Detectives and Criminal Investigators
- 383: Fish and Game Wardens
- 384: Parking Enforcement Workers
- 385: Police and Sheriff's Patrol Officers
- 386: Transit and Railroad Police

Private

- 373: Supervisors, Protective Service Workers, All Other
- 390: Animal Control Workers
- 391: Private Detectives and Investigators
- 392: Security Guards and Gaming Surveillance Officers
- 394: Crossing Guards
- 395: Lifeguards and Other Protective Service Workers

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Security Data					
% Private Security	892	0.485	0.146	0.086	0.966
% African American	892	0.125	0.149	0.002	0.810
% Latino	892	0.165	0.170	0.007	0.942
% Asian	892	0.058	0.075	0.002	0.531
% Other Race	892	0.036	0.028	0.000	0.187
Inequality	892	1.309	0.124	1.071	2.176
Population (logged)	892	11.711	0.764	10.338	15.929
Median Home Value	892	\$207,024	\$153,812	\$46,500	1,000,001
% Unemployed	892	0.030	0.014	0.000	0.122
Crime Rate	892	0.060	0.031	0.000	0.187
Education Data					
% White Children Private School	431	0.179	0.107	0.026	0.633
% African American	431	0.126	0.151	0.002	0.810
% Latino	431	0.148	0.159	0.007	0.942
% Asian	431	0.054	0.070	0.003	0.509
% Other Race	431	0.030	0.017	0.002	0.145
Inequality	431	1.300	0.119	1.071	2.176
Median Home Value	431	\$ 143,480	\$77,592	\$46,500	\$487,600
% Unemployed	431	0.030	0.011	0.010	0.082
Population (logged)	431	11.65835	0.7630046	10.53465	15.89599
% Population Under 18	431	0.2515053	0.0429241	0.1323368	0.3797182
% 12 th grade graduates	431	0.9124024	0.0756466	0.161093	1