

Local Politics and Police Strength*

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LOCAL POLITICS AND POLICE STRENGTH

Numerous studies have explored variation in police employment across cities, usually focusing on public choice, conflict, or organizational explanations. Yet, few consider whether the local political context affects police employment. Recent research suggests that local politics affects criminal justice outcomes. Using insights from urban politics research, I develop testable hypotheses about the effects of local political arrangements on municipal police strength. WLS regression results suggest the value of considering local political context in models of police strength. Specifically, in a sample of 945 cities with 25,000 or more residents in 1990, net of other variables, cities with unreformed political systems (mayor- council forms of government, district- based city councils and partisan elections) had more police employees per 1000 residents, and this effect varied by region. Additionally, the effect of minority populations and crime rates on police strength varied across municipal political contexts. Implications for theories of police strength are discussed.

LOCAL POLITICS AND POLICE STRENGTH

Crime is one of the most pressing social problems in recent years and one common strategy to reduce crime is to increase the number of police officers (Eck & Maguire, 2000). For instance, President Clinton provided for the hiring of 100,000 new police officers in his 1994 Violent Crime Control and Law Enforcement Act (U.S. Congress, 1994). Despite disagreement over whether adding more police reduces crime, numerous studies have assessed variation in police strength (for overviews see Koper, Maguire, & Moore, 2001; Maguire, 2001; Sever, 2001). Most studies focus on public (rational) choice, conflict, and organizational perspectives (Nalla, Lynch, & Lieber, 1997), but few studies consider the local political context (e.g. Chandler & Gely, 1995; Sever, 2001; Trejo, 1991), which is somewhat surprising given that most police budgets are politically determined.

Research both old and new suggests that local politics can influence criminal justice outcomes generally and policing specifically. For instance, Wilson's (1968) classic study of police organization devotes an entire chapter to the ways that local political culture (influenced heavily by variation across local political systems) influences the style of policing. Other more recent research suggests that local politics affects criminal justice outcomes such as violence (Jacobs & Carmichael, 2002; Jacobs & O'Brien, 1998; Jacobs & Wood, 1999; Stucky, 2003), minority police employment (Kerr & Mladenka, 1994; Salzstein, 1989) and the imposition of citizen police review boards (Salzstein, 1989). In addition, many police executives believe that local politics influences staffing decisions (Koper & Moore, 2001). Therefore, I argue that police strength research would benefit from considering the effects of local political context.

The organization of the paper is as follows: First, I review extant research on police strength. Then, I briefly discuss urban politics research which suggests some elements of local

political context that may affect public policies. Next, I discuss criminal justice research that includes elements of local politics. Then, using insights from this research, I develop hypotheses that are empirically assessed using data on 945 cities with 25,000 or more residents in 1990.

EXTANT POLICE STRENGTH RESEARCH

Nearly all studies of police strength rely on public choice, conflict, or organizational perspectives (Nalla et al., 1997).¹ The public choice perspective assumes that public demand influences governmental policies. Therefore, increases in crime lead to an increase in citizen demand for action from the local government, which often comes in the form of increased police presence. Although the implications of public choice models are relatively clear, there has been limited empirical support for the notion that local changes in police employment occur directly in response to changes in the crime rate (for a review of this research see Maguire, 2001).

Studies of police strength also rely on conflict perspectives, which argue that economic conflict (Chambliss & Seidman, 1982; Quinney, 1977; Turk, 1969), or racial/ ethnic conflict (Blalock, 1967) drive police strength. Despite a number of important differences, each assumes that resources in society are limited, groups compete for these resources, and power among groups is unequal. Because limited resources cannot provide for everyone, certain groups use their power to garner benefits for themselves to the detriment of others. Economic conflict theories generally assume that crime control will be directed toward protecting the interests of the economically powerful, who have greater access to and control over the state (Greenberg, Kessler, & Loftin, 1985; Jacobs, 1979). Therefore, police strength will relate not to crime per se but the perceived threat from economically marginalized groups. Consistent with this Jacobs (1979) finds a positive association between inequality and police strength for SMSA's with

250,000 or more residents in 1970. Overall, however, research findings on economic conflict theories have generally been mixed (see Maguire, 2001 for an extensive review of this research).

The other major conflict explanation for variation in police strength focuses on the perceived threat of ethnic or racial minorities. For example, Blalock (1967) suggests that racial/ethnic competition generates conflict. Unlike economic conflict theorists, the primary competition for these theorists is between various racial/ethnic groups. Thus, although the mechanism is similar to economic conflict theories, police strength is expected to vary according to the perceived threat posed by the presence of ethnic/racial minorities rather than the threat from the economically marginalized. Consistent with this, Liska, Lawrence, and Sanchirico (1982) found that the presence of nonwhites was related to fear of crime in cities for both whites and nonwhites, irrespective of variation in crime. This suggests that citizen pressure for increases in police employment might be generated by the presence of minorities even in the absence of changes in crime rates. A number of studies have shown the presence of racial and ethnic minorities to be related to police employment (see Sever, 2003 for an overview). Most have focused on the African American population because of its unique history in America (e.g. Sever, 2001), but some recent research has begun to focus on Hispanic groups as well (for a discussion see Katz, Maguire, & Roncek, 2002). In addition, extant research suggests that the relationship between African American population size and police strength may be curvilinear (Jackson & Carroll, 1981; Sever, 2001). Thus, the “threat” represented by a minority group is

¹ The discussion of police strength here is limited to studies of police employment. For excellent examples of research on police expenditures see Jackson (1986, 1989).

expected to increase until the group achieves numerical majority and then decrease as the minority becomes the dominant group (Jackson & Carrol, 1981).²

Finally, a number of recent studies have suggested that internal organizational imperatives drive police strength. According to this perspective, changes in police employment are generally incremental increases or decreases from the previous year. Not surprisingly, studies find that the best predictor of current police strength is previous police strength (Brandl, Chamlin, & Frank, 1995; Chamlin & Langworthy, 1996; Nalla et al., 1997).

Recently, a few recent studies of police strength have begun to include measures of local politics. For instance, Chandler and Gely (1995) and Trejo (1991) include measures of local form of government in their studies of the effects of unionization on police and firefighter wage and employment levels. Unfortunately, because these studies focus primarily on unionization, their analyses do not include many of the variables that the conflict, public choice and institutional inertia perspectives suggest are important and only include one element of local political context—form of government. Similarly, Sever (2001), using similar data to the current study, finds no differences in police strength across cities by form of government. However, this may be due to the way form of government is specified in this study. Sever includes categorical variables for both mayor- council and city manager forms of government, leaving commission style governments as the excluded reference category. Preliminary analyses in the current study showed that only 11 cities had commission style governments in 1991. Therefore, Sever's analysis probably had insufficient power to detect differences between forms of government.

² Of course, this assumes that African-Americans would want fewer police, and therefore, as they reach numerical majority police employment would decline as their wishes are translated into policy. However, Sampson and Raudenbush (1999) note that the evidence suggests that poor, minority communities are often the most insistent on increasing police protection. Similarly, Velez (2001) finds that access to “public control” in the form of increased police protection reduces victimization and this effect is most pronounced in the poorest neighborhoods.

Despite the inclusion of local political measures in a few recent studies of police strength, no studies focus mainly on politics, nor do they include more than one local political system characteristic. Thus, I argue that a fuller consideration of the effects of local politics on police strength is warranted. Although not discussed much in the police strength literature, urban politics research has extensively examined the political and social consequences of variation in local government, particularly the results of late 19th and early 20th century reform efforts. In the next section I briefly discuss the history and consequences of urban politics reform. Then, I apply insights from this research to the study of police strength.

REFORM AND ITS CONSEQUENCES

Studies of urban politics have often focused on the impact of progressive era reforms.³ In the nineteenth century, patronage politics—where city officials traded favors for votes—was commonplace (see Banfield & Wilson, 1963). Reformers sought to eliminate patronage politics by introducing changes in local government (Bridges & Kronick 1999; Knoke, 1982), such as: changing *form of government* from an elected mayor to an appointed city manager and city council, changing *electoral systems* from district- based city council elections to at-large elections where council members were elected to represent the city as a whole, and making elections formally *non- partisan*. To avoid the connotations associated with the term ‘reform’, Stucky (2003) refers to cities with mayor- council forms of government, partisan electoral procedures and geographically- based city council elections as *traditional* local political systems.

Bridges and Kronick (1999) note that the overt goal of reform was to produce governments concerned with the good of the entire city, but middle class businessmen also wanted to reduce the political influence of working class, poor, and immigrant groups. A large

research literature has examined the political consequences of reformism, particularly in relation to minority representation in government. That literature generally showed that reformed governments inhibit the election of African- American city council candidates, reduce voter turnout and moderately favor the election of middle and upper class candidates (e.g. Karnig & Welch, 1980; Sass & Pittman, 2000; Welch & Bledsoe, 1988; Welch, 1990). In addition, studies of the public policy impact of reformism have shown that variation in local political systems affects the distribution of municipal spending (Langbein, Crewson, & Brasher, 1996; Wong, 1988), the link between economic distress and economic development (Sharp, 1991), the level of agreement between city elites and citizens on local issue priorities (Hansen, 1975), and the degree of responsiveness to disadvantaged groups (Shumaker & Getter, 1983). Thus, research suggests that the structure of local government can affect policy outcomes.⁴ In the next section, I discuss research that has examined the effect of local political variation on criminal justice outcomes.

LOCAL POLITICS AND CRIMINAL JUSTICE OUTCOMES

As noted above, only a few studies of police strength examine local politics. Yet, other criminal justice research has considered the effects of variation in local political systems stemming from nineteenth century reforms. For instance, Wilson's (1968) seminal book, *Varieties of Police Behavior*, relates local politics to police organizational structure. Wilson identified three basic styles of policing: the watchman style, which emphasizes order maintenance; the legalistic style which emphasizes vigorous law enforcement; and the service style, which emphasizes police response to calls for aid or action. Wilson argued that police

³ For more on the history of progressive era reforms see Banfield and Wilson, 1963; Fox, 1977; Griffith, 1974; Hofstadter, 1955.

⁴ For a more extensive review of this urban politics research see Stucky (2003).

agencies adopt one of these styles largely in response to the local political culture, which went hand in hand with the structure of the local political system. He suggested that reform cities were more likely to adopt a legalistic style of policing because the political culture of the city suggested that the 'best' administrator should be hired for the job and then be left free of political interference. These professional managers were then likely to appoint police chiefs in favor of vigorous "professional" law enforcement (Wilson & Boland, 1978). The watchman style was more likely to be found in partisan cities with elected mayors and city councils, who were more susceptible to group interests. In these cities, both politicians and police were given to "rocking the boat" only when necessary (Wilson, 1968, p.237). Thus, watchman cities were those in which law violations were responded to only in the context of serious breaches of public order. Wilson confirmed these predictions in a study of arrest rates for "minor" offenses, such as: larceny, drunkenness, driving while intoxicated, disorderly conduct, and simple assault across 146 cities, finding that arrest rates were much higher in cities with 'professional' city managers. Thus, he concluded, "...that if any one of the elements of municipal reform is present (nonpartisan or the council-manager form), the political culture becomes more conducive to the legalistic style (Wilson, 1968, pp.274-275)." Consistent with this, Wilson and Boland (1978) found that police had higher rates of citations for traffic violations in cities with professional city managers.

Other research has confirmed the relationship between local political system characteristics and style of policing, at least with respect to arrests for minor offenses (Crank, 1990; Langworthy, 1985; Slovak, 1986). Langworthy (1986) also found some differences in police organization across the types of municipal government noted by Wilson, but noted that the differences were limited. Therefore, he concluded that police organizational structure was

largely internally determined, which appears to have become the conventional wisdom. Yet, this view may be changing. Summarizing the police organizational literature, Maguire and Uchida (2000, p.533) state, “The structure of city governance, together with local political culture, also continues to have a significant effect on police organizations, suggesting that any comprehensive theory of police organizations needs to account for political effects.” Consistent with this, Koper and Moore (2001, p.32), in a national survey of police executives, found that nearly 65% of large department and 48% of small department police executives believed that decisions of local elected officials or changes in political leadership had some or much influence on increases in police staffing. In the next section I develop some testable hypotheses on the relationship between local politics and police strength.

LOCAL POLITICS AND POLICE STRENGTH

Given recent national attention to crime rates, it is likely that cities will see it as a social problem that must be addressed. It is assumed here that one likely city response to citizen pressure to reduce crime is to increase police employment. The urban politics research discussed above suggests that three elements of local government reform—form of government, city council election procedures, and partisanship of local elections—can have public policy implications. Below I suggest ways that variation in these political system characteristics may be related to police strength.

As noted above, Wilson (1968) and Wilson and Boland (1978) posit that city *form of government* has direct implications for policing. They argue that the police departments in commission and council- manager cities are more insulated from politics than in cities with elected mayors, because elected mayors must satisfy the local electorate to maintain office. Therefore, citizens are likely to have more leverage in trying to impact the policies of the police

in mayor council cities. Thus, *ceteris paribus*, one would expect that cities with elected mayors would be most susceptible to citizen pressure for more police. Therefore, when crime is an area of citizen concern, that concern will most readily translate into higher police employment in cities with elected mayors, suggesting the following hypothesis:

Hypothesis 1: Cities with mayor-council forms of government will have more police officers.

City council electoral systems are also likely to affect the ties between citizens and local officials. As noted above, whether city council elections are district-based or council members are elected to serve the whole city can have policy implications. For instance, Mehay and Gonzalez (1994) argue that district elections affect municipal employment levels. They suggest that the cost of organizing will be lower in district elections and therefore, municipal employees will be better able to influence their pay and working conditions under a district system. Indeed, in a Weighted Two Stage Least Squares analysis of 438 cities, Mehay and Gonzalez find that municipal employment demand is approximately 10% higher in cities with district elections. Thus, *ceteris paribus*, cities with district elections can be expected to have higher police employment due to the lower cost of influencing the political process for municipal employees. This suggests the following hypothesis:

Hypothesis 2: Cities with district-based elections will have more police officers.

The third major element of 19th century reform was to make elections formally non-partisan. Extant research suggests that partisanship has a number of political implications. First, voter turnout is higher in partisan cities (e.g. Alford & Lee, 1968; Karnig & Walter, 1977; 1983). In addition, Hansen (1975) argues that party labels make alternatives more salient to voters. Therefore, under these circumstances, candidates will have greater incentive to determine the issue priorities of voters in order to get elected. As a consequence, the concurrence of local

elites and voters on issue priorities is greater in partisan cities. Similarly, Welch and Bledsoe (1988) argue that the nature of partisan political systems is to “package” issues and make the policy process more coherent, increasing the accountability of incumbents. Thus, partisan cities are more likely to be issue- centered than candidate- centered (Welch & Bledsoe 1986).

Therefore, if crime is a general public concern, that concern will be more readily translated to higher police employment in partisan cities, because of the greater likelihood of concurrence between the issue priorities of citizens and elites. This suggests the following hypothesis:

Hypothesis 3: Cities with partisan elections will have more police officers.

In sum, urban politics research suggests that there is likely to be patterned variation across cities in the ability of citizens to press their demands for more police with city officials. Form of government, city electoral systems, and the partisanship of elections are all expected to affect the ability of citizens to pressure local officials. Therefore, if crime is a general concern among city residents, it is reasonable to expect that this concern will be more readily translated into changes in police employment in cities where local political arrangements increase the accountability of the local government to citizen pressure. Police strength is expected to vary based on form of government, partisanship of elections and the way city councils are elected. To this point, the discussion has focused on individual aspects of government separately. However, it is possible that traditional governmental structures also have a cumulative effect on policy. Thus, one would expect that as the number of traditional local political arrangements increases, police employment should increase as well, which suggests the following hypothesis:

Hypothesis 4: Police employment will increase as the number of traditional municipal political system characteristics increases.

Finally, extant theories of police strength suggest that changes in policing will result from changes in crime or perceived minority threat. Yet, current theories of police strength assume that changes in crime or minority threat will automatically translate into changes in police strength. However, the urban politics literature discussed above suggests that public policy outputs can vary across political systems. One argument for this variation is that some political systems make local officials more susceptible to citizen pressure than others. Therefore, if certain political arrangements make local officials more susceptible to pressure for more police than others, it seems likely that the degree to which crime and minority threat will translate into police strength will depend on the way the local political system facilitates or inhibits citizen pressure.⁵ Thus, one would expect that increases in crime or minority threat would be more likely to translate to increases in police strength in what I have termed traditional municipal political systems because these political arrangements make politicians more susceptible to political pressure to ‘do something about crime in the streets’. This suggests the following hypothesis:

Hypothesis 5: The effect of crime rates and racial threat on police employment will increase as the number of traditional political system characteristics increases.

DATA AND METHODS

To assess these hypotheses, I selected the 1083 cities with 25,000 or more residents in 1990 listed in the *County and City Databook, 1994* (U.S. Department of Commerce, 2000). Missing data reduced the number of cities included in the analyses by about 13% to 945. The missing cases do not appear to affect the demographic characteristics of the cities in the reported

⁵ This assumes that citizen perception of crime and the officially recorded crime rate closely track one another, which may not be the case. However, there are no measures of citizen fear of crime available for the large number

analyses, with the exception of a somewhat larger population in sample cities (See Appendix A). The details of variable construction are discussed below.

Dependent Variable

Prior research on police employment has examined both the number of sworn police officers and the total number of police employees. I focus here on total police employment because this figure encompasses both sworn officers and civilian personnel performing administrative and support functions.⁶ Because departments vary in the degree to which sworn officers or civilians support functions, overall police employment is likely to be a more consistent measure of police strength across agencies⁷ Preliminary analyses suggested that there were some fluctuations in the reporting of police employment levels. Therefore, a three- year average (1990- 1992) is used to reduce the effect of any reporting errors.

One important issue in previous police strength research is the issue of simultaneity between crime and police employment. In other words, crime and police employment likely simultaneously affect one another. Maguire (2001) notes that failure to address this issue has reduced confidence in many previous studies of police strength. One prominent way that the simultaneity issue has been dealt with in previous research is the use of Two- Stage Least Squares (2SLS) techniques (e.g. Sever, 2001). Marvell and Moody (1996), however, suggest that 2SLS models in this line of research can be problematic because the assumptions necessary to justify them are often unwarranted. Therefore, I include lagged values of the dependent variable in the equation rather than using 2SLS regression techniques. This is a technique that

of cities in the sample. Therefore, the officially recorded crime rate is used as a proxy for citizen concern regarding crime.

⁶ In practice, the choice of dependent variable is less problematic than it might appear. First, in the current sample, the measures are correlated at .96. Second, the pattern of results reported in Table 2 is substantively similar regardless of whether sworn officers or total police employment is used.

has been used in other criminological research as well (e.g. Morenoff, Sampson, & Raudenbush, 2001). In addition to being able to test the organizational inertia hypothesis, inclusion of a lagged dependent variable controls for other city- level factors that are not included in the analysis and provides a rather conservative test of the other predictors.⁸

Therefore, all models will include lagged values of the dependent variable, which is the rate of police employees per 1000 residents in 1989.⁹

Independent Variables

Public choice perspectives suggest that one important determinant of variation in police employment is crime (Loftin & McDowall, 1982; Levitt, 1997). Consistent with numerous previous studies, the current study measures crime using the crimes known to the police from the Uniform Crime Reports (UCR). I include the rate of violent index offenses (murder, rape, robbery, and aggravated assault) and property offenses (burglary, larceny, and auto theft) per 100,000 city residents. Following Marvell and Moody (1996), it is assumed here that there is a two- year lag in the effect of crime rates on the number of police, due to the length of time it takes for city budgets to change in reaction to changes in crime and police officers to be trained. Previous studies of police strength have also included some measure of fiscal capacity as a constraint on the resources available to fight crime (Maguire, 2001). Therefore, the impact of *city revenue* per resident will be assessed. This variable is measured as dollars of city revenue per capita in the 1990-1991 fiscal year.

⁷ I am grateful to an anonymous reviewer for this observation.

⁸ As Loftin and McDowall (1982: 395) note ... “Granger [1969] argues that if one variable (X) causes another variable (Y), then X should provide a more accurate prediction of Y’s present value than could be obtained by using past values of Y alone.” Thus, if the independent variables included in the analysis are significantly related to the current value of the dependent variable, controlling for the lagged value of the dependent variable, then they can be said to Granger cause crime. Marvell and Moody (1996) also discuss Granger causality in a recent study of police employment and crime rates.

As discussed earlier, numerous studies have examined the effect of race on police strength (see Maguire, 2001; Sever, 2001, 2003). Therefore, percent black is included in reported analyses. This variable is the percentage of city residents that are African- American in 1990. Extant research also suggests that the relationship between African- American population and police strength may be curvilinear. Therefore, the square of the African- American population is also included to test this possibility. Similarly, the percent Hispanic and a squared term are also included in the analyses to test for the possibility that the Hispanic population in some cities could pose a threat to elite interests similar to that of the African- American population (see Katz et al., 2002).

Another indicator from the conflict perspective that has been included in prior studies is economic inequality (Jacobs, 1979). Recall from the earlier discussion that economic conflict theorists argue that economic inequality will lead to greater necessity for economic elites to control those with few resources. Therefore, consistent with prior research, the Gini index in 1990 is included in the current analysis (see Maguire, 2001 for an overview).¹⁰

All city political characteristics were obtained from the 1991 Form of Government (FOG) survey conducted by the International County/ City Management Association (Urban Data Service, 1992).¹¹ *Mayor- council* is a categorical variable indicating city form of government, coded 1 for cities with mayor/ council governments and 0 for council- manager and commission cities (Only 11 cities in the sample had commission governments). It is also possible to have town meeting and representational town meeting forms of government but none of the cities in

⁹ This refers to actual employees versus authorized employment for consistency across agencies because staffing issues could cause significant variation between actual and authorized employment.

¹⁰ For an excellent discussion of the measurement and meaning of the Gini coefficient see Allison (1978).

the sample had either form of government. Electoral procedure for city council was also coded as a categorical variable. *District* is coded 1 if some or all city council members are nominated and elected to serve geographic districts within the city, and 0 if all council members are elected at-large. I assume that cities with at least some district representation on city council will be more responsive to political pressure than those with none. *Partisan* is coded 1 if the local or national political party affiliation of candidates appears on the ballot in local general elections, and 0 otherwise. To capture the combined effects of these local political arrangements, I sum mayor-council, partisan and district to create a *traditional government index* (range 0-3). Unfortunately, information on local political arrangements was missing for a number of cities in the sample. To reduce the number of missing cases, the 1981, 1986 and 1996 FOG surveys (Urban Data Service, 1982, 1987, 1997) were examined. Where there was consistency in a political structure before and after 1991, that value was substituted for the missing 1991 value. Where any ambiguity remained, calls were placed to each mayor or city clerk's office to verify the political structures in 1991.

Previous studies of police employment have often included some measure of *population density* (Maguire, 2001). Therefore, the natural log of the city population density in 1990 is included in the current study. It could also be that the relative size of a city affects the degree of police strength regardless of density of population. Therefore, the reported models in Table 2 control for the number of city residents in 1991. Finally, it could be that cities experiencing rapid growth in population could perceive a need for more police. To control for population

¹¹ This raises potential causal order issues, however, it is quite unlikely that the number of police employed in a particular year will be an important factor in cities changing political structures. In addition, local institutional political structures tend to be relatively stable over time.

growth or decline, percentage change in population from 1980 to 1990 is also included in the reported models.

Also, prior research on the distribution of crime across the life course suggests that crime commission rises through the teen years, then, declines from the early twenties on (see Gottfredson & Hirschi, 1990 for a review). To control for the possibility that increases in the size of the young adult population could lead to increased public pressure for more police, the natural log of the percentage of population age 18 to 24 in 1990 is included. Studies have also suggested regional differences in police strength (Maguire, 2001; Sever, 2001). Therefore, to control for regional variation, I include categorical variables, *South* (coded 1 for cities in AL, AR, FL, GA, KY, LA, MD, MS, NC, SC, VA, TX and 0 otherwise), *West*, (coded 1 for cities in AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY and 0 otherwise), and *Northeast* (coded 1 for cities in CT, ME, MA, NH, NJ, NY, PA, RI, VT), and 0 otherwise. Thus, the excluded reference category refers to cities in Midwestern states. See Appendix B for bivariate correlations of variables used in the analyses.

Model Specification

Preliminary analyses indicated that error variance was not constant due to the range of city populations included in the sample (25,000- 3.5 million residents). Therefore, I assume that the error variance is inversely proportional to the population size, and weight the data accordingly.¹² In addition, following Belsley, Kuh, and Welch (1980), DFFITS, Cook's D, and studentized residuals were examined to identify potentially influential outliers. Exclusion of these outliers changed only point estimates rather than substantive interpretations. Therefore,

¹² One of the assumptions of OLS regression is that error variance is constant. Violation of this assumption can produce inefficient parameter estimates and lead to misleading results from significance tests. A plot of residuals against city population for the models in Table 2 indicated heteroskedasticity.

reported analyses include all sample cities. Finally, because the hypotheses discussed above necessitate the inclusion of several interaction terms, Aiken and West (1991) suggest centering predictors to reduce what Marquardt (1980) calls non-essential ill-conditioning (artificially induced multicollinearity). Centering was accomplished by subtracting the mean for each predictor from the individual city value, and substantially reduced variance inflation factors.

RESULTS

Prior to examining multivariate results it is instructive to look at bivariate results. Table 1 shows the three- year average (1990- 1992) of total police employees (and sworn police officers for comparison) per 1000 residents broken down by the number of traditional city political arrangements. The overall mean for all 945 cities in the sample is 1.82 sworn officers and 2.35 total police employees per 1000 residents. Table 1 shows that both sworn police officers and total police employees steadily increase as the number of traditional local political arrangements increase. Cities with 0 traditional political system characteristics (the most reformed) have approximately 1.58 sworn officers and 2.16 total employees per 1000 city residents. This is nearly one-half an officer or employee per 1000 residents less than cities with all 3 traditional local political structures. This pattern of results is not predicted by public choice, conflict or organizational perspectives on police strength but is consistent with the arguments presented above. Of course, bivariate results do not control for other relevant factors.

Table 1 about here

WLS Regression Results

Table 2 presents the results of four WLS regression equations. The dependent variable for all four equations is the three- year average (1990-92) of the total number of police employees per 1000 city residents. Equation 1 includes many of the variables suggested by prior

police strength research. Consistent with the organizational inertia perspective discussed above, the number of police employees in 1989 is a highly significant predictor of police strength in all equations ($p < .001$).¹³ Contrary to expectations, overall city population and population density are not significantly related to police strength, net of the other factors in the model. Population change from 1980 to 1990, however, is significantly negatively related to police employment in all equations ($p < .001$), net of the other factors in the model. In other words, cities that experienced population growth from 1980 to 1990 actually had fewer police employees per capita. It may be the case that cities experiencing rapid growth are unable to keep up with the resulting increased staffing needs. Surprisingly, net of prior police strength and the other variables in the model, cities in Southern states do not have significantly more police employees per 1000 residents than cities in Midwestern states. Interestingly, cities in Western states and cities in Northeastern states have significantly *fewer* police sworn officers per 1000 residents than cities in Midwestern states. Thus, it appears that the demand for police varies regionally. Contrary to expectations, the percent of city residents who are 18-24 years old is not significantly related to police employment in any of the equations reported in Table 2.

As discussed above, the public/ rational choice perspective suggests that police employment should be related to the reported crime rate, but previous research has not consistently supported this relationship (Maguire, 2001; Marvell & Moody, 1996). Consistent with the public choice perspective outlined above, controlling for the other factors in the model, cities with higher reported index violent crime rates per 100,000 residents in 1989 have significantly more police employees per 1000 residents ($p < .05$). Property crime rates, however,

¹³ Some might suggest that inclusion of the lagged dependent variable artificially inflates the explained variance. However, a model identical to equation 1 excluding the lagged dependent variable explained 78% of the variation in the dependent variable.

are actually significantly *negatively* ($p < .05$) related to police employment in equation 1. This finding runs counter to what one would expect based on public choice theory and is probed more fully below. Also consistent with the public choice perspective, cities with greater revenue ($p < .001$) had more police employees per 1000 residents on average in all reported equations.

Table 2 about here

As discussed above, conflict perspectives have been the primary alternative to public choice explanations in previous police strength research. Based on these perspectives, one would expect variation in police strength to be related to the size of populations that threaten elite interests. Consistent with the racial conflict perspective, the percent of the city's residents that are African American is significantly positively ($p < .001$) related to variation in police employment, net of the other factors in the model. In addition, consistent with prior research (e.g. Sever, 2001) this relationship appears to be curvilinear as shown in the negative and statistically significant ($p < .05$) coefficient for the squared term. To calculate the tipping point for this curvilinear effect, one divides the coefficient for the linear percent black term by -2 times the coefficient for the percent black squared term (Aiken & West, 1991). Calculating the tipping point for this effect yields a value of 54.1 ($.0065 / [-2] * -.0000601$), which means that percent black begins to have a negative effect on police strength just after this group reaches numerical majority status. This is consistent with previous research on both police employment (Sever, 2001) and police expenditures (Jackson, 1989). Similarly, the percent of city residents that are Hispanic is significantly related to total police employment ($p < .05$), net of the other factors in the model, and this relationship is curvilinear, as denoted by the significant squared term ($p < .05$). This is consistent with recent research by Katz et al. (2002), who found that specialized gang units were related to Hispanic population size but is contrary to Sever's (2001)

research on police employment. Calculating the tipping point for the effect of percent Hispanic on police employment yields a value of 34.2 $(.0038/[-2]*-.0000556]$), which suggests that the effect of percent Hispanic begins to negatively effect police employment at a much lower level (just more than one third versus over one half) than for percent African American. Finally, equation 1 also includes the Gini index to test for the effect of economic inequality on police strength. Contrary to the economic conflict perspective, the Gini index is not significantly related to police employment from 1990- 1992, net of prior police strength and the other factors in the model. Therefore, it appears that racial conflict perspectives receive more support than economic conflict perspectives in the current research.

As noted, the institutional inertia, public choice and conflict perspectives used in prior studies of police strength, pay limited attention to the role of local political arrangements in explaining variation in police employment. I argued above that the local political context is likely to be a factor in determining the number of police because it affects the degree to which politicians and police chiefs are susceptible to public pressure for more police. Equation 2 includes categorical variables for the three elements of local politics discussed above. Contrary to hypothesis 1, cities with elected mayors do not have significantly more police employees than cities with council- manager or commission forms of government. Consistent with hypotheses 2 and 3, however, cities with district- based city council elections ($p < .05$), and cities with partisan elections ($p < .001$) have significantly more police employees per 1000 city residents than at-large and non-partisan cities. The significant relationships between district and partisan elections

and police employment are not predicted by organizational, public choice or conflict theories but are consistent with the urban politics literature discussed above.¹⁴

To test whether the effects of local political arrangements are cumulative, equation 3 substitutes the traditional government index variable outlined above. Recall that it is treated as a continuous variable, ranging from 0 to 3 depending on whether there is a mayor-council form of government, district-based city council representation, or partisan elections. Consistent with hypothesis 4, and the bivariate results seen in Table 2, total police employment per 1000 residents increases as the number of traditional local political arrangements increases ($p < .001$), net of prior police strength and the variables suggested by the rational choice and conflict perspectives.¹⁵

Finally, the theoretical discussion above suggested that the effects of crime and minority threat on police strength may depend on the degree to which municipal political systems inhibit or enhance the susceptibility of the local government to public pressure. To test this hypothesis, equation 4 includes interaction terms between the traditional government index and violent crime, property crime, percent Black and percent Hispanic. The results shown in equation 4 suggest that the effects of these variables on police employment do indeed depend on the local political context. Specifically, the effect of violent crime on police employment significantly increases as the number of traditional local political arrangements increases (interaction term $p < .01$). Figure 1 graphs the predicted levels of police strength (in terms of departure from the mean because of centering) depending on levels of violent crime and the degree to which the local political system is traditional. Note that because the predictors have been centered the values of

¹⁴ It is also interesting to note that the effect of inequality on total police employment becomes significant but is actually negative, which is opposite to the relationship one would expect based on an economic conflict perspective.

violent crime on the X-axis refer to departures from the mean, derived from examination of data values in the current sample.¹⁶ Thus, the figure graphs values for the meaningful range of variation within the sample. The graph shows that the relationship between violent crime and total police employment depends on the local political context. Increases in violent crime produce the greatest increases in police employment when the local government is most traditional (top line in figure 1), and smallest when the local government is most reformed (bottom line in figure 1). These results are consistent with hypothesis 5, which suggested that the effect of crime on police strength would depend on the susceptibility of the local political system to citizen pressure.

Figure 1 about here

The results in equation 4 also suggest that the effect of property crime on police employment varies depending on the local political context, albeit in a different way. Interestingly, the main effect for property crime becomes positive but drops to non-significance. The interaction effect between property crime and local politics is significantly negative ($p < .01$). Figure 2 shows graphically the relationship between property crime and police employment in various local political contexts. Here again, the effect of crime depends on the local political context. Somewhat surprisingly, however, police employment actually *decreases* with increases in property crime when the local political system is most traditional. One should bear in mind, however, that the predicted deviations in police employment due to property crime are relatively modest until property crime rates are extremely high. Thus, property crime rates have minimal

¹⁵ The effect of the traditional political structure index on police strength is unaffected by the inclusion or exclusion of the lagged dependent variable.

¹⁶ Because the predictors have been centered, coefficients refer to the effect of the variable when the other variables are at their mean. Therefore, the other variables all drop out of the prediction equation. Thus, figures 1 through 4

practical effects on police employment regardless of the political context. It may be that violent crime is much more salient to the public and therefore, more likely to induce consistent pressure for more police, especially when the local political context maximizes avenues for citizens to apply pressure on local politicians to do something about crime. Still, this is a somewhat puzzling result that bears further research in the future and may account for the failure of previous research to find consistent effects of crime on police strength.

Figure 2 about here

Equation 4 also includes interaction terms to test whether the effect of minority threat on police employment depends on the local political context. The significant interaction terms between the traditional government index and percent black ($p < .05$) and percent black squared ($p < .05$) are consistent with hypothesis 5. Figure 3 graphs the relationship between percent black and police employment depending on the local political context (again in terms of departures from mean police employment levels). Figure 3 shows that the relationship between percent black and police employment varies dramatically depending on the local political system. When the traditional government index is highest, the effect of percent black on police employment is nearly linearly positive (top line in figure 3). When the local government is most reformed, police employment is low and decreases at an increasing rate as percent black increases. These results suggest a number of things. First, for a large number of cities where the African American population is small, minority threat appears to have minimal explanatory effects on policing (78% of cities in the sample had fewer than 20% African Americans) regardless of the political context. Second, the figure seems to suggest that something more complex than

predict deviation from mean values of police employment for Midwestern cities, when all other variables are at their means.

minority threat is occurring. If cities with large percentages of African American residents have both the highest and lowest police employment depending on the local political context, it must not be the case that African American populations are automatically considered a threat. Nor does it seem to be the case that African American populations want *fewer* police. The graph shows that policing levels are actually the highest where the city is predominantly Black and the local political system is most likely to maximize citizen input into police policies. This is consistent with research that suggests African Americans, particularly in poor, crime ridden areas are actually most interested in more police protection (Sampson & Raudenbush, 1999). It also calls into question the notion that policing is a resource only used by rich whites (see Velez, 2001).

Figure 3 about here

Finally, equation 4 includes interaction terms to test whether the effect of Hispanic presence on police employment depends on local political arrangements. Again consistent with hypothesis 5, there are significant interactions between the traditional government index and both percent Hispanic ($p < .001$), and percent Hispanic squared ($p < .001$). Thus, the relationship between percent Hispanic and police employment is conditioned by the structure of local government. Figure 4 graphs predicted departures from mean police employment depending on the percentage of Hispanics in a city and the degree to which city governments are “reformed”. Graphically, figure 4 shows that when the city is most traditional (top line in graph), the relationship between percent Hispanic and police employment is curvilinear, increasing until the city reaches about 35% Hispanic and declining thereafter. When cities are most reformed, police employment actually decreases with increases in percent Hispanic and remains below the mean until percent Hispanic reaches nearly 80%. The pattern of results might be considered consistent

with a classic minority threat hypothesis for cities with the most traditional political arrangements but the pattern for cities that are the most reformed is quite inconsistent with a classic minority threat view. Taken together, these results suggest the need to develop more nuanced views of the role of crime and minority populations in the generation of police strength which account for the mediating role of local political arrangements.

Figure 4 about here

Supplementary Analyses

To probe the robustness of the results a number of alternative specifications were considered. The effects of political variables are unaffected by the inclusion of the lagged dependent variable or the exclusion of city population. Results are substantively similar whether the dependent variable includes total police employees or sworn officers only. To test whether cities with extremely high minority populations might be unduly influencing results, separate models were run which included cities with less than 60% African- American or Hispanic. Results were substantively similar.¹⁷

It is also interesting to note that the categorical variable for cities in Southern states becomes significant ($p < .05$), once the city political arrangement variables are included in the model (see equations 2 and 3). This result suggests that there is some relationship between Southern politics and police strength. Prior research has suggested that politics operates differently in the South (e.g. Key 1949). To determine if Southern politics affected police strength differently, equation 4 adds an interaction term between the traditional government structure index and cities in Southern states. Consistent with research on the uniqueness of

politics in the South, traditional political systems have a significantly smaller impact on police strength in Southern cities ($p < .001$).

CAVEATS AND DIRECTIONS FOR FUTURE RESEARCH

A few caveats to the current research are worth mentioning. First, the measure of police strength used in the current study is by no means the only one that has or could be used. Others have measured total number of police, sworn officers, uniformed officers, patrol officers, detectives, patrol units (see Maguire, 2001; Sever, 2003 for overviews). In addition, Maguire, Snipes, Uchida, and Townsend (2000) show that a seemingly straightforward task such as counting the number of cops is anything but, finding that estimates of the number of police depend on the measurement strategy and the information source. Still, Maguire (2001) notes that most research on the number of officers employs sworn officers or total police employment as the dependent variable, and, as noted, the results in Table 2 are not dependent on the choice of total employees or sworn officers. In addition, the three year average (1990-1992) used here should minimize the impact of measurement error. A second limitation of the current research is the indicators of citizen concern. Because direct measures of citizen concern regarding (fear of) crime are not available for the large number of cities in the sample, it was necessary to use reported crime rates and minority presence as proxies for citizen concern. Clearly, this is less than optimal and, therefore, results regarding both crime and minority threat should be viewed cautiously.

There are other questions that could not be explored in the current study. For instance, it would be interesting to see if the aspects of local politics discussed here affect the *kinds of*

¹⁷ One reviewer suggested that the political effects shown in Table 2 might be an artifact of the relationship between police department age (see King, 1999) and city political system structure. To test this possibility, an alternative model including police department age was estimated. The political effects in Table 2 were unaffected.

policies implemented in police departments. One might examine whether the local political context affects police training requirements, professionalism of police, complaints against police, or the gender composition of police forces. It is also reasonable to wonder if local political system characteristics affect the implementation of community policing efforts. Prior research suggests that implementation of community policing initiatives is often the result of external pressure on police departments (Zhao, 1996). Thus, the adoption of community policing may be more likely in cities that maximize the ability of citizens to pressure the local government. One recent study suggests this may be the case. Choi, Turner, and Volden (2002), in a study of 209 cities from 1993-1997, found that mayor-council cities were almost 40% more likely to request federal grant money for community policing officers than council-manager cities. These results suggest that elected mayors may try to boost their chances of re-election by adopting community policing. Of course, this raises the question of whether mayor-council cities are more likely to implement real community policing reforms or simply take advantage of the credit claiming opportunities resulting from obtaining federal grants. Therefore, one avenue for future research is to assess the effect of local politics on other aspects of formal social control across cities.

Another step in future research is to assess the *partisanship* of public officials. The current study examined predominantly the structure of local politics. Yet, conventional wisdom suggests that the kinds of public policies pursued depend, in part, on the political and ideological leanings of those occupying public offices, particularly in the realm of criminal justice policy (e.g. Caldeira & Cowart, 1980; Jacobs & Helms, 1997). Traditionally, the Republican Party has been considered the law and order party. Therefore, it is reasonable to expect that the party in power in local government will affect the kinds of anti- crime policies that are pursued. Consistent with this reasoning, Jacobs and Helms (1997), in a national- level analysis of law-

enforcement strength over time, found that the national party in power affected the number of police employed. Sever (2001) addresses this issue by examining the percent of the city that voted for Clinton in 1992 – presumably capturing the public’s desire for law and order policies. However, another, perhaps more direct, avenue would be to examine the party of officials themselves. Based on Jacobs and Helms’ research, it seems likely that the party of officials could have an impact on the kinds of anti-crime policies they implement. Thus, one would expect that Republican mayors or Republican dominated city councils will be most likely to increase police strength. Future research should examine this issue.

CONCLUSION

One important enterprise in criminological research is the explanation of variation across cities in formal social control efforts. Previous studies have generally relied on public choice, conflict, or organizational perspectives to explain variation in police employment across cities (Nalla et al., 1997), but paid limited attention to local political context. The arguments developed above suggest that variation in police strength across cities will be related to municipal political arrangements. I hypothesized that variation in local political systems, would affect the susceptibility of local governments to political pressure and, as a consequence, local anti- crime policies. I suggested that traditional (unreformed) political arrangements such as mayor- council forms of government, partisan elections, and district- based city councils would be likely to make cities more responsive to citizen calls for more police, all else being equal. The current results provide some support for the perspectives included in previous studies of police strength. Yet, the results presented here suggest here suggest that the conflict, public choice, and internal organizational views of state action are limited. The institutional inertia perspective suggests that changes in police strength will primarily be an incremental process

based on factors *internal* to the police organization. However, funding for new police officers comes from other elements of city government, and Wilson (1968) argues that although police agencies are not constrained by the local political context they are certainly sensitive to it. Therefore, it seems reasonable to consider these *external* elements in studies of police strength. The current results highlight the necessity of considering both internal and external pressures for police strength.

Public choice perspectives do consider factors external to the police organization but assume that public policies are generated by citizen pressure. Yet, public choice explanations do not usually consider the possibility that there may be systematic variation in the ability of citizens to pressure city governments for more police. Urban politics research suggests that certain city political contexts provide greater avenues for citizen influence on government policies. Thus, public pressure may be an avenue for increasing police strength but one that varies depending on the local political context. If crime is one driving force behind public pressure for more police, the results of the current study suggest that the effect of crime on police employment depends on whether property or violent crime are considered and the local political context. These differences across crime type and local political context may account for some of the inconsistent effects of crime in prior research on police strength. The public choice perspective of policing would seem to be limited to the extent that it fails to consider how various local political contexts enable or inhibit public pressure to come to bear on the decision-making process. Future research should explicitly consider how decision-making of local governments regarding anti-crime policies varies across political systems.

Finally, conflict perspectives suggest that governmental policies will most likely reflect the interests of racial or economic elites. The racial threat argument suggests that the presence of

minority groups will be considered a threat to elite interests and will trigger an increase in police presence but only until racial minorities become numerically dominant in a city, at which point they will come to dominate the local agenda and reduce policing. Yet, the current results suggest that the effects of minority presence on police employment depend on which minority group is involved and cannot be understood separately from the local political context. The effect of Hispanic presence on city police employment was consistent with a classic racial threat argument but only in highly traditional local political systems. Yet, the magnitude of differences in police employment one would expect based on variation in percent Hispanic was relatively small regardless of the political system. A quite different pattern of results was found with respect to African American presence in a city. Percent black was associated with a linear increase in police employment in traditional cities but a curvilinear decrease in cities with reformed governments. These results suggest that extant theories of police strength are overly simplistic in their failure to consider local political arrangements. Most racial threat arguments seem to suggest that African Americans do not want more police, but recent research suggests this may not be the case. Thus, if minority or poor groups are pushing for more police, that pressure is most likely to have an effect in cities with unreformed local governments. Of course, this study says nothing about the quality of the relationship between the police and minority communities in a city. It seems reasonable to wonder whether police- community relations would be better in cities with local political arrangements that maximize the susceptibility of the local government to political pressure. This would be consistent with previous research that found that the presence of an African American mayor increased the likelihood of the creation of citizen review boards (Salzstein, 1989). Therefore, it would be interesting to see whether traditional (unreformed) governments have better police- community relations. In any event, the

results of the current study suggest the value of considering the local political context in explaining one of the most visible elements of state social control- police employment.

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TABLE 1. MEAN SWORN OFFICERS PER 1000 RESIDENTS BY NUMBER OF TRADITIONAL LOCAL POLITICAL STRUCTURES (1990-92 AVERAGE)

Traditional Political Structures in City	Number of Cities	Sworn Officers/ 1000 Residents	Police Employees/ 1000 Residents
0	339	1.58	2.16
1	292	1.78	2.32
2	206	2.06	2.55
3	108	2.17	2.66
All cities	945	1.82	2.35

TABLE 2. WLS REGRESSION OF POLICE EMPLOYEES PER 1000 CITY RESIDENTS (3 YEAR AVERAGE 1990-92) ON CRIME, MINORITY POPULATIONS, AND LOCAL POLITICAL SYSTEM CHARACTERISTICS, N= 945

<u>VARIABLE</u>	<u>EQ. (1)</u>	<u>EQ. (2)</u>	<u>EQ. (3)</u>	<u>EQ. (4)</u>
Constant	2.3867***	2.3299***	2.372***	2.3357***
Lagged Dependent Variable (1989)	.9525***	.9495***	.9448***	.9009***
Population 1991 ^a	.00002	.000006	.000008	.00003*
Population Change (%)	-.0017***	-.0018***	-.0016***	-.0022***
Population Density (ln)	-.0125	-.0168	-.0039	-.0389**
Cities in Southern States	.0347	.0667*	.0559*	.0684**
Cities in Western States	-.0938***	-.0583*	-.0686*	-.0214
Cities in Northeastern States	-.183***	-.2071***	-.1955***	-.1444***
% of Residents 18-24	-.1100	-.0627	-.0627	-.0357
City Revenue Per Capita ^a	.0482***	.0466***	.0511***	.0385**
Violent Crime Rate 1989 ^a	.0496*	.0665**	.0498*	.0393*
Property Crime Rate 1989 ^a	-.0122*	-.0103*	-.0092*	.00065
<u>CONFLICT VARIABLES</u>				
Percent Black	.0065***	.0036*	.0052**	.0074***
Percent Black Squared ^a	-.0601*	-.0274	-.0449	-.0119***
Percent Hispanic	.0038*	.0041*	.0038*	.0026
Percent Hispanic Squared ^a	-.0556*	-.0576*	-.0552*	-.0468*
Gini Index 1990	-.4976	-.6728*	-.6851*	-.6954*
<u>POLITICAL VARIABLES</u>				
Mayor-Council 1991		-.0330		
District Council 1991		.0419*		
Partisan Elections 1991		.1695***		
TGS Index (MC, Partisan, District)			.0455***	.0264*
<u>INTERACTIONS</u>				
TGS Index*Violent Crime 1989 ^a				.0604**
TGS Index*Property Crime 1989				-.0121**
TGS Index*Percent Black				.0030*
TGS Index*Percent Black Sq. ^a				.0544*
TGS Index*Percent Hispanic				.0087***
TGS Index*Percent Hispanic Sq. ^a				-.0119***
TGS Index*Southern States				-.0976***
Adjusted R ²	.9613	.9635	.9620	.9713

Note: * p < .05, ** p < .01, *** p < .001 (2 tailed test), ^a multiplied by 1000 to eliminate leading zeros.

**APPENDIX A. UNIVARIATE DESCRIPTIVE STATISTICS, SAMPLE AND
POPULATION OF CITIES WITH 25,000 OR MORE RESIDENTS**

	Population	Sample
N	1071	945
Population	97881	104781
Percent Black	11.72	12.02
Percent Hispanic	10.62	9.89
Percent Unemployed	6.50	6.47
Percent Poor	12.67	12.89
Percent Female Headed Households	18.09	18.29
Percent Owner Occupied Homes	58.17	57.44
Percent Age 18-24	12.33	12.51

APPENDIX B. BIVARIATE CORRELATION MATRIX (N=945)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Dep. Variable (90-92)	1.00	.96*	.21*	-.19*	.13*	.26*	-.24*	.22*	-.05	.5*	.57*	.59*	.53*	.45*	-.01
2. Lagged DV (1989)		1.00	.2*	-.13*	.16*	.21*	-.21*	.25*	-.03	.49*	.54*	.59*	.46*	.38*	.01
3. Population 1991			1.00	-.06	.16*	.01	.01	.04	-.01	.29*	.26*	.13*	.15*	.11*	.10*
4. Pop. Chg (%)				1.00	-.24*	.16*	.14*	-.21*	-.08*	-.14*	-.2*	-.09*	-.22*	-.19*	-.01
5. Pop. Density (ln)					1.00	-.30*	.15*	.25*	.03	.05	.21*	.02	.03	.04	.33*
6. Southern Cities						1.00	-.37*	-.25*	.02	-.02	.24*	.31*	.42*	.31*	-.03
7. Western Cities							1.00	-.25*	-.07*	-.08*	-.04	-.01	-.3*	-.22*	.38*
8. NE Cities								1.00	.03	.36*	.02	-.09*	.03	.02	-.01
9. % Age 18-24									1.00	-.01	-.03	.04	.03	-.01	-.02
10. Revenue / Capita										1.00	.26*	.20*	.22*	.19*	-.06
11. VC 1989 ^a											1.00	.68*	.65*	.56*	.24*
12. PC 1989 ^a												1.00	.42*	.34*	.16*
13. Pct Black													1.00	.93*	-.10*
14. Pct Black Sq.														1.00	-.09*
15. Pct. Hispanic															1.00

* p < .05 (two-tailed test)

APPENDIX B. BIVARIATE CORRELATION MATRIX (N=945)

	16	17	18	19	20	21	22	23	24	25	26	27	28
1. Dep. Variable (90-92)	-.05	.34*	.15*	.15*	.17*	.21*	.24*	.21*	.27*	.25*	.09*	.05	.05
2. Lagged DV (1989)	-.04	.31*	.15*	.12*	.14*	.19*	.22*	.21*	.22*	.21*	.08*	.05	.03
3. Population 1991	.05	.11*	.10*	.11*	.06	.13*	.26*	.06	.13*	.08*	.10*	.04	.05
4. Pop. Chg (%)	-.03	-.36*	-.21*	-.18*	-.20*	-.28*	.04	.04	-.04	-.05	.07*	.09*	-.20*
5. Pop. Density (ln)	.26*	-.04	.06	-.16*	.11*	-.01	.03	.01	.08*	.08*	-.16*	-.19*	-.05
6. Southern Cities	.03	.33*	-.10*	.07*	-.05	-.03	.04	.01	.10*	.10*	.01	-.01	-.05
7. Western Cities	.21*	-.22*	-.30*	-.32*	-.30*	-.42*	-.02	.07*	.03	-.01	-.17*	-.09*	.02
8. NE Cities	-.04	.06	.32*	.06	.33*	.32*	.01	-.06	-.04	-.03	.06*	.01	.01
9. % Age 18-24	-.01	.41*	-.02	.06	.07*	.05	-.03	-.01	-.04	-.03	-.03	-.03	.01
10. Revenue / Capita	-.08*	.15*	.14*	.07*	.10*	.14*	.22*	.11*	.12*	.13*	.13*	.08*	.01
11. VC 1989 ^a	.18*	.47*	.05	.11*	.03	.09*	.15*	.12*	.25*	.27*	-.10*	-.12*	.09*
12. PC 1989 ^a	.10*	.46*	-.05	.10*	-.06	.01	.11*	.16*	.16*	.15*	-.01	-.02	.01
13. Pct Black	-.10*	.5*	.16*	.25*	.23*	.29*	.26*	.17*	.43*	.48*	.04	.03	.27*
14. Pct Black Sq.	-.08*	.41*	.15*	.20*	.19*	.25*	.31*	.19*	.53*	.64*	.01	.01	.26*
15. Pct. Hispanic	.91*	.06	-.17*	-.21*	-.16*	-.25*	-.09*	-.01	.03	.01	-.53*	-.61*	-.13*
16. Pct. Hisp. Sq.	1.00	.10*	-.13*	-.15*	-.12*	-.18*	-.11*	-.02	.03	.01	-.61*	-.76*	-.10*
17. Gini 1990		1.00	.12*	.24*	.17*	.25*	.05	.01	.18*	.18*	-.09*	-.11*	.14*
18. Mayor 1991			1.00	.31*	.37*	.78*	.02	-.05	.08*	.06*	-.04	-.03	.36*
19. District 1991				1.00	.2*	.72*	-.01	-.05	.01	.02	.01	.02	.37*
20. Partisan 1991					1.00	.67*	.01	-.07*	.18*	.14*	-.1*	-.07*	.28*
21. TGS Index						1.00	.01	-.08*	.11*	.1*	-.05	-.03	.47*
22. TGSI*VC							1.00	.68*	.66*	.57*	.25*	.18*	.19*
23. TGSI*PC								1.00	.42*	.33*	.17*	.1*	.20*
24. TGSI*Pct. Black									1.00	.92	-.05	-.06	.39*
25. TGSI*Pct. Bl. Sq.										1.00	-.05	-.05	.28*
26. TGSI*Pct. Hispanic											1.00	.91*	-.08*
27. TGSI*Pct. Hisp. Sq.												1.00	-.01
28. TGSI*South													1.00

* p < .05 (two-tailed test)

Figure 1. Effect of Violent Crime on Police Strength at Various Levels of Traditional Government Structure Index

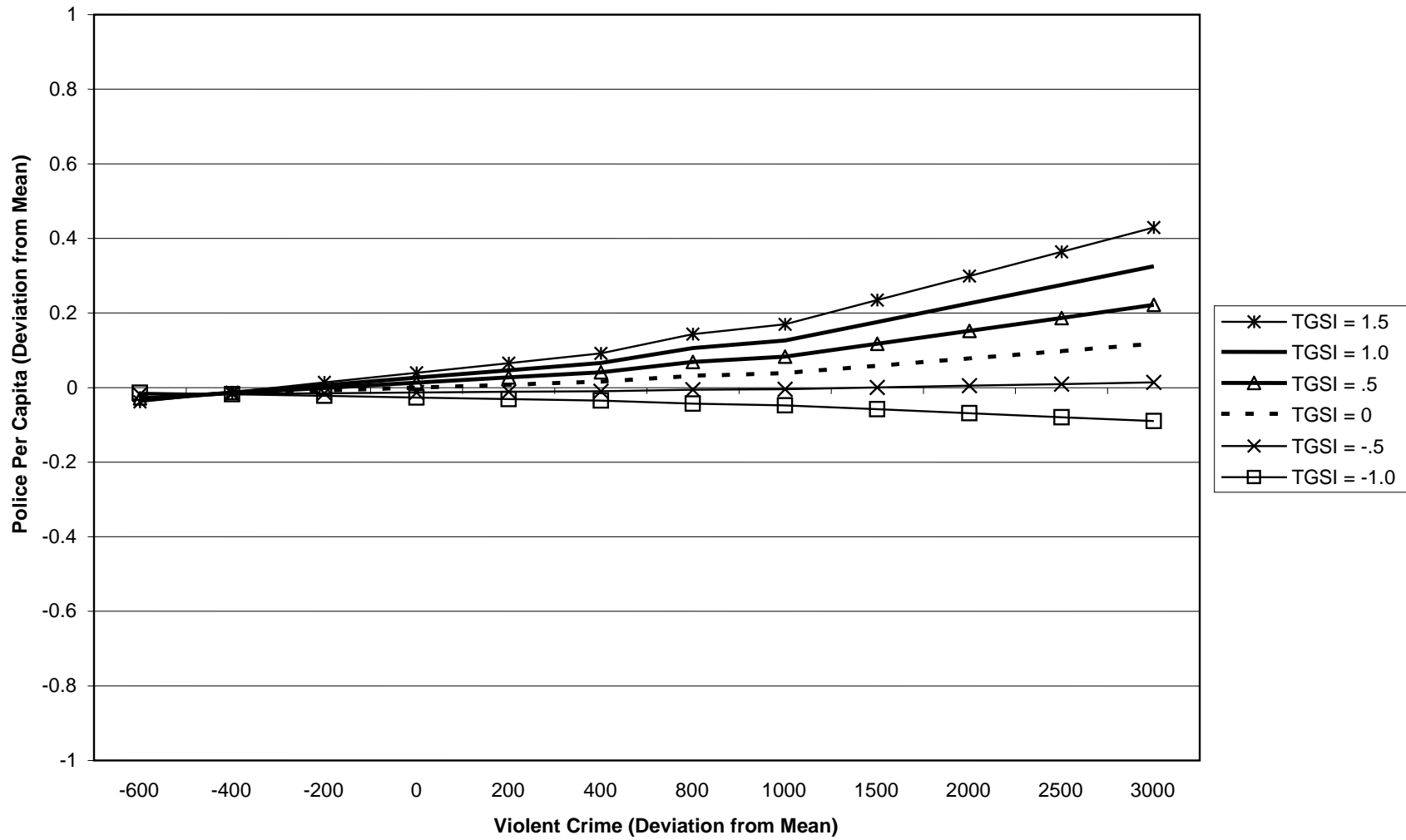


Figure 2. Effect of Violent Crime on Police Strength at Various Levels of Traditional Government Structure Index

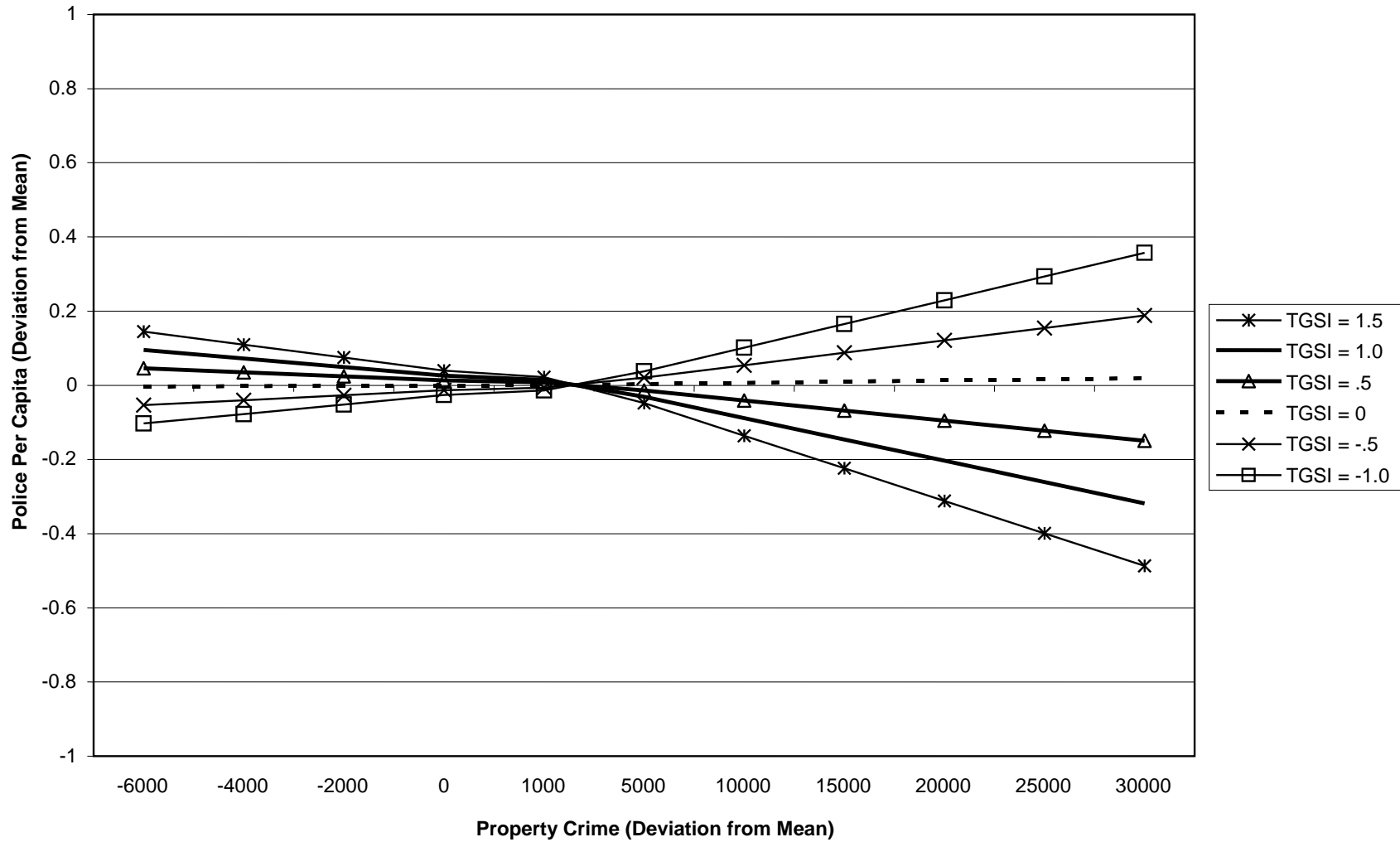


Figure 3. Effect of Percent Black on Police Strength at Various Levels of Traditional Government Structure Index

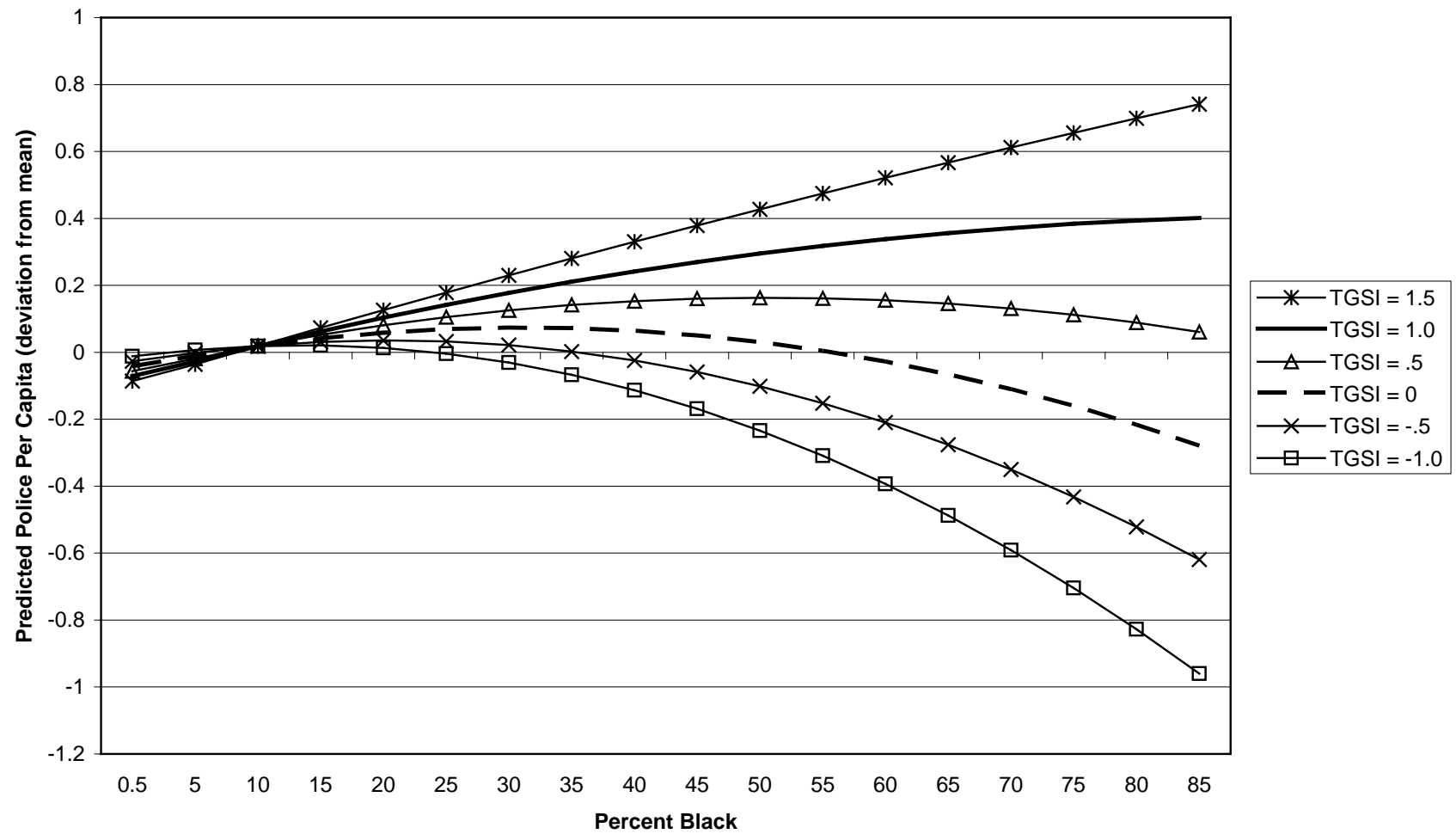
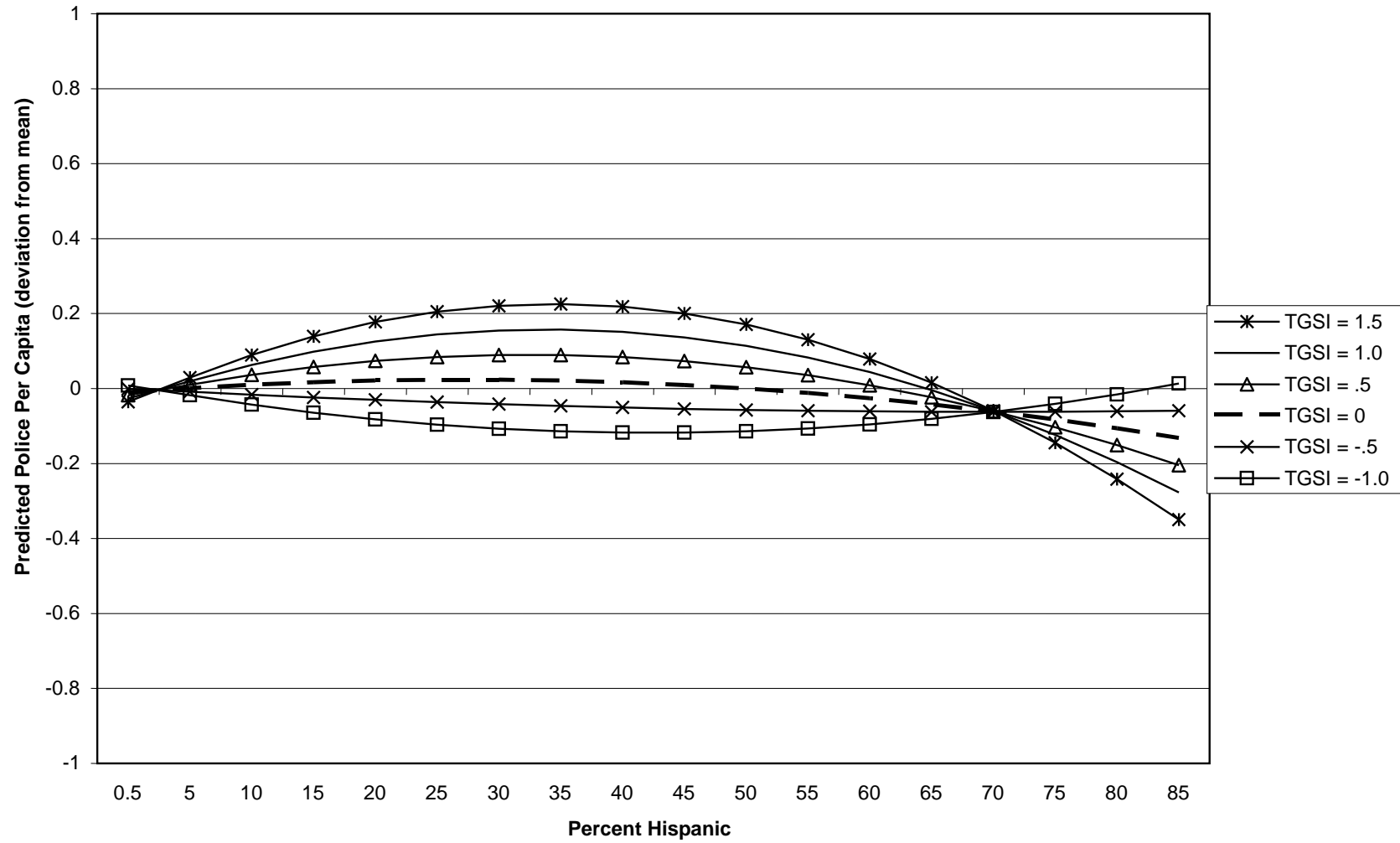


Figure 4. Effect of Percent Hispanic on Police Strength at Various Levels of Traditional Government Structure Index



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