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ECONOMIC EFFECTS OF MUNICIPAL  
GOVERNMENT INSTITUTIONS

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Economic Effects of Municipal  
Government Institutions

ABSTRACT

This paper presents an analysis of employment and compensation practices under alternative institutions of municipal government which demonstrates that institutional variations have significant, important, and predictable effects upon outcomes in municipal labor markets. Municipal institutions in which a single official is responsible for office performance provide that official with incentives to emphasize efficiency in the production of municipal services. Institutions in which responsibility is shared provide individual officials with incentives to emphasize the allocation of municipal resources to their particular constituencies, among whom municipal employees may be prominent.

Independently, city managers and mayors chosen through direct election reduce levels of employment and increase employee compensation. Managers offer compensation packages which emphasize nonwage components. In cities which have both institutions, competition between the two nullifies employment reductions and exacerbates compensation increases. Employment increases with the age of the manager's office.

City councilmembers chosen through at-large or nonpartisan elections increase levels of both employment and compensation. Compensation packages under both emphasize current components. With both reforms, employment and compensation increases are compounded.

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The institutions within which economic activity is conducted appear only infrequently in economic analysis. For most purposes, economists take institutions to be artifacts of more fundamental behavioral characteristics. They assume that economic agents understand their own resources and objectives, and those of agents with whom they interact. In concert, these agents simply organize institutions within which resources and objectives can be most conveniently reconciled. Any array of resources and objectives automatically implies a particular institution. For analytical purposes, knowledge of institutions is redundant if resources and objectives are themselves known.

These assumptions are probably appropriate in markets where information is readily available, where institutions are readily malleable and where power is readily appropriable. However, in markets where relevant information is dear, institutions are protected by custom or higher sanction, and power can be closely held, institutional structure can exert substantial independent influence on market outcomes. For example, markets in which institutions of government play large roles are undeniably sensitive to those institutions.

The importance of institutions, and of government institutions in particular, has not escaped attention. For example, political science offers a sophisticated theory of the economic behavior characteristic to different municipal government institutions. Some empirical studies of local public labor markets have, independently of political theory, recognized one source of variation in municipal government structure. Unfortunately, analysis in the general traditions of urban economics and

municipal public finance has typically been executed without reference to institutional differences.

This paper presents an analysis of employment and compensation practices under alternative institutions of municipal government. This analysis serves two purposes. First, it expands on the two themes from which it draws: It shares a theme with previous economic work in which municipal institutions appear, in its examination of local public sector labor markets. It extends previous analyses of municipal labor markets by examining levels of employment, and of nonwage compensation components, as well as levels of wages. This analysis also shares a theme with the political theory of municipal government; it evaluates all important variations in municipal government structure. It extends previous analyses of municipal government structure with theoretical reconsiderations and empirical tests.

The second purpose of this paper is to demonstrate the general proposition that institutions, those of municipal governments as a case in point, exercise important influence over economic activity. This influence is often systematic and predictable. The behavior of municipal officials -- whether elected or appointed -- who wish to remain in office is constrained by the structure of the office they hold and the method by which they are selected.

City managers and mayors chosen through direct elections require broad support from the electorate in order to retain their positions. They obtain more useful political support from a city population

satisfied with municipal services than from municipal employees blessed with patronage. The analysis in this paper demonstrates that these officials reduce municipal employment levels, but increase employee compensation. A small work force of skilled, well-paid employees produces municipal services most efficiently, and serves best their political ambitions.

Under most electoral systems, city councillors can often gain election through the support of small constituencies within the electorate as a whole. The active support of municipal employees can be a valuable asset to council candidates to whom the opportunity to court other interest groups has been denied. The analysis in this paper demonstrates that city councillors who are elected through nonpartisan ballots or through city-wide elections increase both levels of municipal employment and of compensation for municipal employees. Elections held under these conditions offer limited opportunity to council candidates who wish to rely upon traditional neighborhood or party loyalties. Councilmembers instead take advantage of the easy appeal to municipal employees with whom they have been generous.

The behavior of municipal government institutions changes as they age. Municipal government institutions of early vintage may embody older, labor-intensive techniques of production. The analysis in this paper demonstrates that municipal employment levels are higher in cities with older, council-manager government forms.

## I. Institutions in Municipal Government

Government institutions, by their designs, partially insulate government officials from the citizens whom they nominally represent or serve. For example, terms in office guaranteed by statutory election schedules or by civil service regulations are characteristics of public office which serve the explicit purpose of protecting incumbents from 'inappropriate' citizen pressure. These and other characteristics of public offices reduce the sensitivity of government officials to marginal changes in citizen preferences. <sup>1</sup>

Public officials evaluate public reaction to their official performances in terms of signals derived from flows of two different political 'currencies'; money -- both government revenues and political contributions -- and votes. Distributions of these two forms of political 'wealth' by citizen characteristics differ dramatically. They are only imperfectly substitutable for each other. The concurrence of signals in these two currencies unavoidably complicates their interpretation. Changes in distributions of citizen preferences may imply inconsistent changes in monetary and electoral signals. Changes which give rise to consistent signals may speak less forcefully than if only one type of signal were possible. In these conditions, there is no guarantee that marginal changes in citizen preferences will be expressed so as to be intelligible to public officials, no matter how public-spirited.

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<sup>1</sup> "Political power is very much like market power in that it permits the powerholder to indulge either his brutality or his flaccidity." (Hirschman, pg. 58).

If public officials recognize marginal changes in citizen preferences, they may frequently experience little compulsion to accommodate them. Electoral signals may, by their categorical nature, be muted. Marginal changes in citizen preferences which reduce satisfaction with an incumbent, but which still leave the incumbent with a majority over any challenger, may be treated as of little consequence.<sup>2</sup>

Public officials also have the ability to resist, or counter, the effects of monetary signals. They can compel payment of taxes illegally withheld. They can request transfers from higher levels of government to replace revenues lost through migration of dissatisfied citizens. They can solicit additional funds from 'infra-marginal' citizens, those whose current tax payments are exceeded by the value they place on government services.

For all these reasons, government offers no guarantee that the relationship between citizen preferences and government behavior will be invariant to the specific institutions of government. Marginal changes in citizen preferences may not be recognized by public officials. If they are recognized, public officials may still be free to avoid changing public policy in exact measure with changes in citizen tastes. They will use this freedom to pursue their own objectives, within the opportunities available through their offices. The policies they pursue will,

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<sup>2</sup> Migration as a signal -- 'voting with the feet' -- entails a similar problem. Migration is usually a categorical, discrete decision for the migrant. Dissatisfaction with public services which leaves present jurisdiction preferable to all others may also be safely ignored.

therefore, depend upon the alternatives defined by the specific institutions of which they are a part.

Municipal governments in the United States present an ideal context in which to observe the extent of this dependency. They embody many different combinations of municipal institutions. These combinations vary significantly in the offices to which they allocate executive, legislative and administrative responsibilities. Municipal government behavior should vary systematically with changes in the array of institutions which comprise a municipality, if government structure exerts independent influence over its actions.

Labor economists, in the explication of other issues, have produced some incidental evidence of systematic variations in municipal behavior.

<sup>3</sup> Analyses of municipal compensation practices regularly consider the relationship between compensation levels and methods of city administration. Ehrenberg/Goldstein find higher wages in cities administered by city managers for employees in six of ten municipal functions. <sup>4</sup>

Edwards/Edwards report that compensation levels for municipal sanitation workers are higher under city managers. Ehrenberg and Ichniowski report similar results for fire fighters.

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<sup>3</sup> These issues have been ignored in the empirical literatures of urban economics and of local public finance. "Models ... are supposed to be useful for appraising the impacts of government policies, but governments as decision-making bodies are absent." (Goldstein/Moses). In a more recent example, "No consideration of public decision making will be attempted here." (Bucovetsky).

<sup>4</sup> City managers are professional administrators, appointed by elected municipal officials to supervise the execution of municipal policy.



These articles agree on three counts. Without exception, they choose the presence or absence of city managers as the one characteristic of municipal government structure which has important consequences for municipal behavior. Second, they conclude that city employees obtain higher levels of compensation under city managers. Third, they offer no explanation for the prominence they confer upon city managers, and little justification for the effects they estimate.

Edwards/Edwards are more concerned than are the other authors to provide some insight into the influence of city managers. They suggest that city managers offer higher salaries to their employees because they have professional commitments to standards of 'fairness' in compensation -- such as those represented by 'comparability' measures -- and because they can enforce sensible work rules. While these notions are helpful, they do not constitute a theory of city manager behavior. In sum, these studies demonstrate only that at least one institutional characteristic of city government appears to have independent effects upon city behavior.

The economic literature does not recognize institutional characteristics of city government other than the city managership, and does not attempt to offer a comprehensive theory of city government behavior. Political scientists have offered such theories, through explicit consideration of city legislative structure as well as city administrative institutions. These theories imply that municipal economic behavior will vary significantly with differences in the structure of municipal government.

Lineberry/Fowler, recalling the reform movement in municipal politics, identify the character of city councillor elections and of city councillor representation, in addition to the presence or absence of city managers, as important characteristics of city government structure. Proponents of municipal reform advocated, among other programs, the institution of city managers, the conduct of nonpartisan council elections, and election of councilmen at-large.<sup>5</sup> These three elements of the reform agenda have proven to be most durable. For example, Baker/Colby, in concurrence with Lineberry/Fowler, define a city as 'reformed' if these three institutions have been adopted. Bryant finds that of seven initiatives originally stated in the "Model City Charter", only nonpartisan elections, at-large councilmen and city managers have achieved joint acceptance among American municipalities.

The goals of the reform movement define the roles that political scientists expect these institutions to play. Adherents to that movement advocated them as means to ensure that municipal services were provided professionally, efficiently, and uniformly (Lineberry/Fowler). The economic behavior of municipalities which have adopted them should differ in two dimensions from those which have not, if they fulfill their mission. Reform city governments should reduce the scope and cost of the local public sector (Lyons). For example, they should reduce the size of the municipal labor force (Baker/Colby). At the same time, reform governments should employ more sophisticated financial strategies

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<sup>5</sup> Public affiliations with national political parties are prohibited in nonpartisan elections, though most such elections permit affiliations with local parties. In at-large elections, all municipal citizens are entitled to vote for all vacant city council seats.

and more sophisticated personnel policies in the execution of more sophisticated programs. They should place greater emphasis on the pursuit of intergovernmental grants, greater emphasis on civil service standards for employment and greater emphasis on urban planning (Cole).

These hypotheses have not elicited satisfactory empirical demonstrations. Political scientists have had difficulty demonstrating that city managers, councilmen elected in nonpartisan elections and councilmen elected from at-large districts have any effects, at all, much less that their effects are consistent with the reformist mission they have been established to accomplish. Neither Cole nor Morgan/Pelissero discern any important effects of reform institutions. They claim that empirical political science routinely rejects the hypothesis that such effects obtain.

This is an exaggeration. Reform institutions have, in some instances, revealed reform effects. Tucker reports, in a case study, that a reform agency is characterized by more professional management than is an otherwise similar 'traditional' agency. In larger samples, Lineberry/Fowler and Lyons find that expenditures in reformed cities are reduced. They also find that taxation is reduced. Baker/Colby identify reduced levels of employment in cities with reform government institutions. However, reform institutions are also associated with unexpected effects. Lyons, for example, claims that these cities receive fewer grants per capita. Clark claims that general expenditures are greater in reform than in traditional municipalities. This evidence, while inconclusive, justifies further exploration of variations in the economic

behavior of municipal institutions.

The analysis presented here departs from that in the literature of political science on two counts. It reinterprets the significance of the three characteristics -- city managership, councillor representation and councillor partisanship -- which have already been considered. It identifies two important characteristics of city government -- the method of mayoral election and the age of government institutions -- whose influence has not previously been explored. These departures give rise to a new characterization of the influence municipal institutions exercise over municipal economic behavior.

The incentives to which municipal officials respond are largely defined by the functions which their offices are designed to fulfill. The municipal offices in which executive and administrative authority resides are held by a single individual who must assume individual responsibility for the exercise of that authority. The offices in which legislative authority resides are typically held by many individuals, who are collectively responsible for legislative activity. This contrast, rather than that between reform and traditional regimes, distinguishes the two important political contexts within which municipal officials must act.

Independent municipal executive authorities are represented in the offices of the city manager and of the mayor chosen through direct

elections. <sup>6</sup> The individual who holds either of these offices is solely responsible for the execution of its duties. In either office, that individual's performance must therefore be acceptable to a large part of the municipal electorate if his or her tenure is to be extended. <sup>7</sup>

City managers and mayors chosen through direct elections must provide adequate levels of municipal services throughout their cities, in order to create a broad constituency. Their executive authority better serves their political ambitions through the promotion of efficient, impartial service provision than through the patronage of favored interests. For example, city managers and mayors chosen through direct elections should preside over municipal governments in which municipal labor forces are comprised of relatively few, highly skilled and highly paid employees. Labor forces in municipalities which lack either of these independent executive officers are more likely to be swollen with loyal, if unproductive, constituents of other municipal officials.

This broad characterization, as it applies to the behavior of city

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<sup>6</sup> Citizens choose among individuals who have declared their candidacy specifically for the mayoralty, where the office is filled through direct elections. Where the office is filled indirectly, citizens vote only for city councillors. The mayoralty is assumed by an elected councillor, chosen, for example, as the candidate who attracted the most votes in the popular election, or as the victor in a subsequent election held among successful council candidates. In these cities, mayoral responsibilities are largely ceremonial.

<sup>7</sup> City managers hold office by virtue of contracts signed with the municipality, rather than by virtue of electoral victories. They are never subject to direct review by the electorate. However, their appointments are subject to approval by elected city councils. If they wish to ensure the support of a majority among the council, their programs must appeal to a wide range of community interests.

managers, is similar to that found in the literature of political science. As mayors chosen by direct election must build constituencies of scope analogous to those required by city managers, this characterization is a broad description of their behavior, as well. However, city managers and mayors chosen by direct election will exercise their influence over the details of municipal government in different ways. They must, by the nature of their offices, differ in their attention to professional and to political considerations.

For example, city managers will principally regard municipal employees as inputs into production functions for municipal services. Mayors chosen through direct elections will recognize that municipal employees are an important political force, as well. City managers will require municipal employees to provide more hours of work than they would in the employment of cities which lack managers. Mayors, who value the electoral support of their subordinates, will not alter the standard work year. City managers will offer compensation packages to their employees which emphasize incentives for enhanced productivity -- pension, medical and educational plans. Mayors will offer compensation packages in which wages and paid time not worked -- components which lend themselves to immediate consumption, and to the employee's immediate gratification -- are predominant.

Municipal executive officials ensure their political success through the maintenance of general satisfaction among the electorate. Municipal legislative officials may achieve the same ends more efficiently through the exploitation of differences between interest groups within the

electorate. Officials of both types must have their tenure confirmed regularly by municipal voters, if they are to remain in office. However, in contrast to independent mayors, city councillors can frequently win elections on the strength of support from relatively narrow constituencies.<sup>8</sup> Furthermore, individual councillors are rarely threatened with responsibility for the legislative performance of their entire council. If councillors successfully promote the interests of those constituencies to which they owe their elections, they may safely ignore the attitudes of other city residents. In comparison to unitary executive officials, city councillors devote greater effort to obtaining allocations of municipal services and municipal tax burdens which are favorable to their particular constituencies, less effort to ensuring efficient production and equitable assessment.

Most municipal reform advocates and contemporary political scientists assert that city councillors are particularly susceptible to the influence of special interests, when their offices are won in partisan and ward elections. They believe that this susceptibility should be reduced under systems of nonpartisan and at-large elections (Lineberry/Fowler). However, when electorates are segmented into special interests, sitting and aspiring city councillors who wish to efficiently build and maintain constituencies will inevitably seek to exploit these divisions (Beard). If nonpartisan and at-large elections do not, of themselves, engender

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<sup>8</sup> The electorate for city councillors elected from wards is, by definition, a subset of the entire municipal electorate. Under most systems of at-large balloting -- systems in which each citizen may cast as many votes as there are council seats to be filled -- candidates can gain office through the loyalty of interest groups which themselves do not constitute an electoral majority.

consensus in the electorate, they will not discourage political appeals to interest groups.

Perversely, nonpartisan and at-large elections encourage councillors and councillor candidates to manipulate municipal policy for the benefit of those interest groups whose support they value. Councillors cannot rely upon electoral support from citizens with whom they share neighborhood and political affiliations under these reforms as they can under the traditional institutions these reforms replace. They must, therefore, rely more heavily on support won through the promise or provision of preferential treatment. If anything, city councillors chosen in at-large or nonpartisan elections will be more preoccupied with obtaining distributions of which their supporters approve, and less interested in efficiency, than will be those chosen in traditional elections. At-large elections may be responsible for the greater part of these distortions; the neighborhood affiliations they suppress are typically more important, in local elections, than are the national party affiliations disallowed under nonpartisanship.

City councillors elected under the auspices of reform institutions will be particularly sensitive to the political context of municipal labor practices. Municipal employees are often a powerful interest group in their own right. In addition, municipal employment serves as patronage rewards for loyal constituents. At-large and nonpartisan city councillors will allocate more municipal resources to municipal employees, and more municipal employment to other supporters, than will ward and partisan councillors. Municipalities which have adopted legis-



lative reforms will have larger work forces, and higher compensation levels, than municipalities which have not. Compensation packages in these municipalities will emphasize components whose value to the employee is immediate and obvious; wages and paid time not worked.

The extent of institutional variation among American municipal governments provides an unusual opportunity to explore the economic effects of such variations. American municipalities also demonstrate wide variations in the duration of their current institutions. This variation provides an additional opportunity; to explore the economic significance of institutional aging. The economic behavior of municipal governments will change as they mature. Governments of recent vintage will be especially productive, both because they have been chosen to respond to contemporary demands, and because they may enjoy the 'Hawthorne effects' attributable to improvements in worker motivation (Sayles). Institutions which were efficient in production of the services required when they were first adopted will function less effectively as service requirements evolve. They will require greater levels of inputs than will newer municipal institutions in order to produce similar service levels. Municipal employment levels should increase with the duration of municipal institutions.

The characterization of municipal economic behavior presented here predicts significant economic effects attributable to the form and age of municipal government institutions. These predictions both extend and contradict those presented in preceding studies. Empirical tests in the succeeding section confirm the wealth of implications to which this

characterization gives rise.

## II. Municipal Government Structure, Employment and Employee Compensation

In a large sample of American cities, different institutions of municipal government demonstrate the differences in labor market behavior discussed in the preceding section.<sup>9</sup> Measures of manhours of municipal employment per capita, municipal employment per capita, annual work hours per municipal employee, total compensation expenditures per hour worked, wage expenditures per hour worked, expenditures for paid time not worked per hour worked, expenditures for medical benefits per hour worked, expenditures for pension benefits per hour worked, and expenditures for miscellaneous benefits per hour worked for police, fire, sanitation and an aggregate of all other noneducational departments thoroughly describe labor market conditions in each of these cities. City managers, mayors chosen through direct election, city councillors chosen through nonpartisan ballots, and councillors chosen in at-large elections alter levels of these measures in consistent response to the incentives and opportunities presented by the characteristics of their offices. Employment levels increase with institu-

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<sup>9</sup> The sample analyzed here contains observations from 839 cities, in a pooled cross-section time-series. Variables for each city are drawn from surveys conducted by the International City Management Association, the Census of Governments and the Census of Population. The Appendix describes the sample in greater detail, and provides specifications of the regression equations reported here.

tional maturity.

Executive officials who bear sole responsibility for the performance of their municipalities exercise important influence over outcomes in municipal labor markets. Both city managers and mayors chosen through direct elections appear to hire more efficient, more highly skilled employees. They significantly reduce municipal employment levels and increase the levels and sophistication of employee compensation, in the absence of controls for employee productivity.<sup>10</sup> The responsibilities common to both offices are more important to the officials who hold them, in the management of municipal labor relations, than are the obvious differences in political context. However, mayors chosen through direct elections are more sensitive to the electoral power of municipal employees. If both offices coexist, officeholders may compete for employees' allegiances.

Table 1 presents coefficients which indicate that city managers reduce manhours of municipal service by more than 4000 and mayors chosen through direct elections by nearly 3000 manhours per 10,000 capita.<sup>11</sup> These reductions are substantial, as well as significant; that associated with city managers represents 7.9% and that associated with

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<sup>10</sup> Employee productivity cannot be captured by explicit measures, because output cannot be measured satisfactorily and personal characteristics of municipal employees are unknown.

<sup>11</sup> The presence of city managers and the practice of direct mayoral elections are represented by values of one, the absence of either by values of zero for the respective dummy variables.

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Table 1.

OLS Coefficients for City Managers and  
Mayors Chosen Through Direct Elections

<u>Dependent Variable</u>	<u>Presence of City Manager</u>	<u>Direct Mayoral Election</u>
Manhours Per 10,000 Capita	-4095. (2.77)	-2965. (2.66)
Employees Per 10,000 Capita	-2.41 (3.02)	-1.47 (2.45)
Annual Work Hours Per Employee	25.1 (2.06)	-7.60 (.829)
Total Compensation Per Hour Worked	.417 (4.40)	.280 (3.91)
Pay for Time Worked Per Hour Worked	.244 (4.03)	.174 (3.80)
Pay for Time Not Worked Per Hour Worked	.00196 (.0684)	.0492 (2.27)
Medical Benefits Per Hour Worked	.0352 (2.51)	-.0146 (1.37)
Pension Benefits Per Hour Worked	.106 (3.44)	.0648 (2.80)
Miscellaneous Benefits	.0301 (5.21)	.00656 (1.50)

Notes: T-statistics in parentheses.

[=====]

mayors chosen through direct elections represents 5.7% of average levels.<sup>12</sup> In addition, both offices increase total compensation for municipal employees; city managers by \$.42 per hour worked, and mayors chosen through direct elections by \$.28. Again, both increases are large; the effect of managers represents 5.4% of mean total compensation, that of mayors chosen through direct election represents 3.6%.

Both offices promote more sophisticated compensation packages by

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<sup>12</sup> The Appendix contains a table of average values and standard deviations for the dependent variables.

distributing increases in total compensation disproportionately in favor of nonwage compensation. City managers increase mean wage expenditures by only 4.4%, but increase medical expenditures by 9.9%, pension expenditures by 13.9% and expenditures on miscellaneous benefits by 28.4%. Mayors chosen through direct elections increase wage expenditures by only 3.6%, but increase expenditures on pay for time not worked by 5.1% and pension expenditures by 8.5%.

F-tests demonstrate the extent of similarity between the effects of these two offices. Hypotheses of identical coefficients for the two offices cannot be rejected in equations predicting manhours and employees per 10,000 capita, total compensation, wage, and pension expenditures per hour worked. These similarities are not universal. Coefficients are different, with 5% confidence, in equations for annual work hours per employee, expenditures for medical and miscellaneous benefits. These differences demonstrate that mayors chosen through direct elections, are reluctant to impose upon municipal employees the full burden of improved efficiency.

Mayors chosen through direct elections reduce manhours solely through reductions in employment of 5.3%. They do not significantly alter work hours for the employees they retain. In contrast, city managers both deny employment to many who would obtain it in their absence, and increase work hours for those they employ. They reduce employment by 8.8%, but require an additional 25 hours, or three days, of work per year.

Analogously, mayors chosen through direct elections offer compensa-

tion packages which, in comparison to those offered by city managers, emphasize current payments rather than benefits which enhance career productivity. They allocate a substantial portion of compensation increases to increases in pay for time not worked. Managers prefer compensation components which embody investments in human capital. They do not increase pay for time not worked, increase medical benefits and greatly increase miscellaneous benefits. <sup>13</sup>

Twenty-six percent of cities in the United States (Sanders) and 48% of the cities in the sample analyzed here include both offices among their municipal institutions. <sup>14</sup> Unfortunately, an interaction term representing the joint presence of city managers and mayors chosen through direct elections is strongly collinear, in this data, with the variables representing the individual presence of either. In consequence, this sample can only offer suggestions as to the relationship between the two offices.

This interaction term is significant at 10% in the equation predicting employment per capita, and at 5% in the equation predicting expenditures on medical benefits, when added to the specifications presented above. It is insignificant when added to the equations predicting all

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<sup>13</sup> Educational programs and uniform expenditures represent the bulk of miscellaneous benefits. Coefficients in the equation for paid time not worked are different at 12%.

<sup>14</sup> This sample, because it is based upon surveys conducted by the International City Management Association, contains a higher proportion of cities with managers than does the population of cities in the United States. Refer to the Appendix for further description of the sample.

other employment and compensation levels.<sup>15</sup> For these characteristics of municipal labor markets, this test does not reject the hypothesis that effects of city managers and mayors chosen directly are simply additive.

However, the interaction term provides only one test of the relationship between mayors and managers. In its presence, the combined effects of city managers and mayors chosen through direct elections are represented by its sum with the two individual coefficients. These combined effects indicate that, in cities where they coincide, managers and mayors may conflict so as to prevent either from improving the efficiency of municipal work forces. Municipal employees profit most noticeably from the consequences of this conflict.

F-tests indicate that workforces in municipalities which have both city managers and mayors chosen through direct elections are not statistically distinguishable from workforces in municipalities which have neither, though those of municipalities with either alone would be substantially smaller. Point estimates of these effects, and those on annual work hours per employee, are numerically small, as well as insignificant.

At the same time, F-tests reject the hypothesis that managers and mayors have no joint effect on expenditures for total compensation, wages, medical and pension benefits at 5%, and on miscellaneous benefits

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<sup>15</sup> These equations are available from the author.

at 10%. Point estimates of these combined effects imply that compensation levels increase under the joint authority of managers and mayors by far more than the sum of their independent effects would suggest. In municipalities with both, expenditures for total compensation per hour worked exceed those in cities with neither by \$1.22, or 16% of average values. Expenditures on wages are increased by 10%, medical benefits by 50%, pension benefits by 45% and miscellaneous benefits by 42%.

These results imply that, together, city managers and mayors chosen through direct elections offer their employees unusual increases in compensation, but do not require compensating reductions in employment. When both offices are present, executive authority must unavoidably be fragmented. Neither office may retain power sufficient to insist upon efficient employment practices in confrontation with employee interests. Further, managers and mayors may compete for effective control of executive powers. They may prefer the support of favored municipal employees in this competition to the approval of constituents satisfied by reductions in municipal expenditures on labor services.

The results above demonstrate that both city managers and mayors chosen through direct elections exercise powerful influence over municipal economic activity. The conduct of municipal labor relations most successfully enhances the political careers of officials in these offices when its primary effect is to create and maintain efficient municipal labor forces. Elected executives can obtain further benefits by ensuring that, without excessive violence to the requirements of efficiency, municipal employment and compensation policies appeal to



municipal employees. Both managers and mayors may resort to these appeals in municipalities where they must share executive authority.

Reform legislative institutions, as well as the executive reform of city managers, exercise important influence over outcomes in municipal labor markets. But city councillors elected under these reforms are more likely to curry favor among their employees than to promote efficiency. In contrast to their treatment under city managers, both municipal employees and aspirants to municipal employment benefit unambiguously from the conduct of at-large or nonpartisan city council elections. Municipalities which have adopted either reform have larger workforces, higher levels of compensation, and disproportionate shares of current consumption in compensation packages.

The coefficients presented in Table 2 demonstrate the generosity of reform city councillors.<sup>16</sup> Nonpartisan city council ballots increase manhours of municipal service by nearly 3000 annual hours per 10,000 capita, or 5.5% of average levels. This increase is accomplished entirely through an increase of 5.6% in average municipal employment per capita. Nonpartisanship increases expenditures for wages per hour by 2.9%, largely through 12.3% reductions in expenditures for pension benefits, and 9.8% reductions in those for miscellaneous benefits.

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<sup>16</sup> The conduct of nonpartisan city council ballots is represented by a dummy variable whose value is one in cities which have adopted this reform. At-large city councillors are represented by the fraction of all city council seats contested in at-large elections. This variable has a minimum value of zero, and a maximum value of one.

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Table 2.

OLS Coefficients for At-Large  
Councillors and Nonpartisan Elections

<u>Dependent Variable</u>	<u>Practice of Nonpartisan Elections</u>	<u>Proportion of City Councillors Elected At-Large</u>
Manhours Per 10,000	2834.	2607.
Capita	(2.11)	(2.13)
Employees Per 10,000	1.53	1.69
Capita	(2.11)	(2.56)
Annual Work Hours Per	3.23	-13.4
Employee	(.292)	(1.33)
Total Compensation Per	.0903	.227
Hour Worked	(1.05)	(2.89)
Pay for Time Worked Per	.163	.166
Hour Worked	(2.95)	(3.31)
Pay for Time Not Worked	.0296	.0678
Per Hour Worked	(1.14)	(2.85)
Medical Benefits Per	.00205	-.0204
Hour Worked	(.161)	(1.75)
Pension Benefits Per	-.0938	.00637
Hour Worked	(3.37)	(.250)
Miscellaneous Benefits	-.0104	.00723
Per Hour Worked	(1.99)	(1.51)

Notes: T-statistics in parentheses.

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At-large elections match nonpartisan ballots in their employment effects; city councils in which all members are elected at-large increase per capita manhours of municipal service by 5.0%, and per capita municipal workforces by 6.1% over average levels in cities whose councillors are all elected from wards. These elections exceed nonpartisan ballots in their effects upon municipal employee compensation. They improve upon average levels of municipal employee total compensation by 2.9%. That increase is devoted entirely to increases of 3.0% in wages and of 7.0% in pay for time not worked.

These estimates offer weak evidence that the political support of municipal employees is more valuable in the absence of neighborhood than in the absence of national party affiliations. At-large councils increase municipal employment to the same extent as do nonpartisan councils. They also increase total employee compensation, while nonpartisan councils merely reallocate existing compensation levels in favor of current consumption. However, these contrasts are not strong. Coefficients on at-large and on nonpartisan elections differ with 95% confidence in only equations estimating levels of pension and miscellaneous expenditures. Coefficients on total compensation differ with only 80% confidence.

Fifty-six percent of the cities in the sample under study here elect all city councillors to at-large seats, and conduct nonpartisan ballots.<sup>17</sup> These cities limit most severely the range of constituencies to which city council candidates may appeal. Under these limitations, councillors may compete for the favor of municipal employees with special vigor. While the joint effects of these two legislative reforms are, in some cases, less than the sum of their individual effects, municipal employment and compensation levels are substantially higher in these municipalities than in those with either reform, alone.

A dummy variable indicating the simultaneous conduct of nonpartisan ballots and at-large city council elections is significant in equations

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<sup>17</sup> Sanders reports that 67% of cities in the United States elect all councillors to at-large seats, and that 70% of cities conduct nonpartisan ballots. He does not report the proportion of cities with both. The correlation between these reforms is probably positive.

for expenditures on wages, medical and pension benefits.<sup>18</sup> In all three cases, the interaction term reduces the joint effects of the two reforms, but does not cancel them. For example, the estimated effects of nonpartisanship and at-large elections on wages are increased to \$.32 and \$.36 per hour worked, respectively, in this specification. Their interaction reduces wages by \$.25. In equations estimating expenditures for medical and pension benefits, the interaction mitigates significant reductions which would be otherwise imposed.

Though the joint impact of both legislative reforms is less than the sum of their individual effects for some components of compensation, F-tests demonstrate that their joint effect is significantly different from zero, at 5%, for all dependent variables with the exceptions of annual hours of work and expenditures on miscellaneous benefits. Point estimates of these effects for manhours and employment per capita, expenditures for total compensation and paid time not worked are nearly identical to the sum of individual effects given in Table 2. Point estimates of these effects for wages, medical and pension expenditures demonstrate heightened emphasis on current consumption in compensation packages. Together, nonpartisan ballots and at-large elections increase wages by \$.43 per hour worked. Nearly half of that increase is achieved through reductions of \$.05 in medical and of \$.13 in pension expenditures.

The coefficients in Table 2 demonstrate that city councillors treat

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<sup>18</sup> These equations are available from the author.

municipal employees with exaggerated solicitousness under municipal legislative reforms. City councillors can gain and retain their offices with the support of relatively small constituencies. Their offices do not require them to take individual responsibility for council activity. They are, therefore, eager to acquire the political support of city employees when they cannot rely upon the support of their neighbors or their fellow partisans. Equations which include an interaction term demonstrate that this eagerness is compounded when neither constituency is available.

The economic effects of municipal executive and legislative institutions demonstrate that these institutions exercise influence over economic activity, independently of the preferences associated with the populations they serve. The influence of institutional age on employment levels emphasizes the importance of institutional characteristics.<sup>19</sup> Levels of municipal employment and manhours of municipal service per capita increase with increased duration of council-manager governments.

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<sup>19</sup> The age of municipal government institutions and the economic 'age' of a city are distinct concepts. Institutional age is measured as the difference between the year of observation and the year in which the municipality adopted the mayor-council, council-manager, commission or town meeting form through which it is currently governed. Economic 'age' cannot be defined with similar precision. Most of the important aspects of this concept are captured by variables for one-unit structures as a percentage of all dwelling units in 1970, increases and decreases in population in both the decade 1960-70 and the decade 1970-80, and dummy variables for geographic region in the regression equations from which reported coefficients are drawn. Simple correlations between the duration of government and all thirteen 'age' variables are smaller than .17 in absolute value.

[=====]

Table 3.

OLS Coefficients for Age of  
Council-Manager Government

<u>Dependent Variable</u>	<u>Age of Government Form</u>
Manhours Per 10,000 Capita	83.4 (4.01)
Employees Per 10,000 Capita	.0435 (3.88)

Notes: T-statistics in parentheses.

[=====]

Council-manager and mayor-council governments 'age' differently. The relationship between duration and form of government, as represented by two variables interacting duration with presence and absence of city managers, demonstrates that council-manager governments increase employment levels with duration, but mayor-council governments do not. <sup>20</sup>

The coefficients presented in Table 3 demonstrate that council-manager governments provide an additional 83 manhours of municipal service per 10,000 capita with each additional year of government duration. <sup>21</sup> This increase is entirely attributable to increases of .04 in employment per 10,000 capita. These increases represent only .16% of

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<sup>20</sup> The principle distinction between mayor-council and council-manager forms of municipal government is given by the absence or presence of the city manager's office.

<sup>21</sup> Equations in which duration is interacted with type of government are available from the author. In addition to the coefficients reported in Table 3, these equations reveal that mayor-council governments provide significantly fewer medical expenditures with age.

average manhour and employment levels. However, the mean duration of council-manager governments in this sample is 31.7 years. These effects imply that employment in new council-manager governments should be 5.1% less than in municipalities of average duration. In contrast, employment levels in cities with mayor-council governments do not change with duration of government. Coefficients for their duration are small, insignificant and significantly different from those for council-manager governments in both equations.

The comparison between employment effects in council-manager and mayor-council governments suggests that they are attributable to differences in technology rather than to differences in employee motivation. City managers should be more aware of improvements in municipal production techniques, and more committed to their implementation, than would be political officials. Council-manager cities are likely to acquire contemporary technology when they first establish the city manager. Cities which have adopted that form more recently would acquire more capital-intensive technology.

The empirical results presented in this section demonstrate that variations in institutions of municipal government yield predictable variations in municipal labor market outcomes. The important variations are in specific characteristics of legislative and executive offices. Gross distinctions, such as that between reform and traditional

structures, conceal more than they reveal.<sup>22</sup> In particular, specific characteristics must be examined in order to demonstrate the two most important principles of municipal political behavior: Officials who share responsibility for the performance of their duties -- city councillors, or city managers and mayors chosen through direct election in cities where both are present -- are more likely to promote the interests of supportive constituencies, such as municipal employees, than of the entire community. When the range of constituencies open to municipal politicians is restricted -- through nonpartisanship and at-large elections -- they pursue available constituencies, such as municipal employees, with increased vigor.

### III. Conclusion

The analysis presented in this paper demonstrates that institutions of municipal government exercise important, systematic influence over municipal economic behavior. City managers alter municipal production techniques, employment and compensation practices in the service of greater efficiency. Mayors chosen through direct elections serve many of

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<sup>22</sup> Institutional variation is shown to be important in equations which replace all measures of government structure by a single dummy variable representing the presence or absence of a reform government, but estimated effects confound very different effects attributable to different municipal offices. Reform governments increase employment per capita by 3.9% of average levels, expenditures on total compensation by 2.3%, on wages by 1.9%, on paid time not worked by 4.8%, and on miscellaneous benefits by 5.5% at 5% significance levels. They increase manhours per capita by 3.6%, at 10% significance.



the same purposes, but do so with more respect for the comfort of municipal employees. Nonpartisan and at-large city councils provide favorable employment conditions to municipal employees in order to secure their political support.

These results confirm the economists' intuition that city managers are an important characteristic of American city government, but demonstrate that other characteristics are equally powerful. They confirm the political scientists' intuition that city managers promote reform objectives, but demonstrate that legislative reforms subvert the reform program. Most importantly, they confirm the basic premise of earlier work; the economic behavior of municipal governments depends upon the institutions of municipal government.

These results demonstrate that political concerns cannot be purged from the conduct of municipal government through institutional reform. They also demonstrate that efficiency is a more compelling virtue in institutions which vest a single official with all responsibility. Officials are more sensitive to political considerations when responsibility is shared within their office, or with other offices. The inefficiencies which result may be one price of representativeness in local government.

#### IV. Appendix

##### A Sample of American Municipalities

The municipal labor market measures analyzed here are drawn from three identical surveys of municipal employment and compensation, conducted in 1975, 1977 and 1979 (Friend and Pike, Friend and Bencivenga, Friend and Lufkin). These surveys report numbers of full-time employees, standard work schedules, paid time not worked, and fifteen categories of compensation expenditures for employees in police, fire, sanitation, and all other noneducational departments. Eight hundred and thirty nine cities provide complete records for at least one function in one year.

The observations in this study consist of labor market outcomes in one function, in one year. These observations are pooled across the three survey years, and across the four functions. The sample which results contains 5472 function-years.

Several sources provide the variables which appear in this analysis. The Municipal Yearbook, 1978 (ICMA) reports government structure for each of the cities in this sample. Censuses of Population and Housing, 1970 and 1980, publish characteristics of city residents and city housing stock. Data from these sources are specific to individual cities, but do not vary over functions or years. Annual Surveys of Government record the characteristics of municipal labor relations. Three of these

measures are specific to each city in each year. Five are observed in each function, in each of the three years.

[=====]

Table 4.

Means and Standard Deviations of  
Municipal Labor Market Measures

<u>Labor Market Measure</u>	<u>Mean</u>	<u>Standard Deviation</u>
Manhours Per 10,000 Capita	51966.	49626.
Employees Per 10,000 Capita	27.5	27.3
Annual Work Hours Per Employee	1930.	326.
Total Compensation Per Hour Worked	\$7.75	3.18
Pay for Time Worked Per Hour Worked	\$5.56	2.03
Pay for Not Time Worked Per Hour Worked	\$.966	.744
Medical Benefits Per Hour Worked	\$.357	.362
Pension Benefits Per Hour Worked	\$.761	.791
Miscellaneous Benefits Per Hour Worked	\$.106	.145

[=====]

The complete sample yields three dependent measures of municipal employment levels, six dependent measures of municipal compensation levels and 47 independent variables. The employment measures are man-hours and employees per capita, and annual work hours per employee. By definition, the first variable is the product of the second and the third. The compensation measures are total compensation, wage payments, payments for time not worked, expenditures on medical benefits, expenditures on pension benefits, and expenditures on miscellaneous benefits per hour worked. By definition, the five component measures sum to the total. Table 4 presents mean values and standard deviations for all nine dependent variables.

Compensation is measured as municipal expenditures rather than employee income. This distinction is important with regard to nonwage compensation components. In particular, the relationship between pension expenditures and pension liabilities is not reported.

	Manhours of Employment Per 10,000 Capita	Employees Per 10,000 Capita	Annual Work Hours Per Employee
R-Square	.5765	.5948	.3380
Degrees of Freedom	5425	5425	5425
Mean Square Error	1051766192	305.3	71090

<u>Independent Variable</u>	T-		T-		T-	
	<u>Coefficient</u>	<u>statistic</u>	<u>Coefficient</u>	<u>statistic</u>	<u>Coefficient</u>	<u>statistic</u>
Intercept	129467.6	10.5088	70.738131	10.6575	1830.721	18.0746
1970 Population, in 1,000	9.403035	2.9030	0.005545887	3.1781	-0.015770	-0.5922
1960-70 % Increase, population	-4.899142	-1.5029	-0.00276868	-1.5764	0.023413	0.8736
1960-70 % Decrease, population	-233.967450	-1.6053	-0.124890	-1.5906	0.223124	0.1862
1970-80 % Increase, population	22.796900	1.2319	0.016378	1.6427	-0.151885	-0.9983
1970-80 % Decrease, population	77.534851	0.6068	0.046473	0.6751	-0.168217	-0.1601
1969 % Families below poverty level	865.284137	4.5442	0.431702	4.2082	1.999555	1.2773
1969 Median family income, in \$1,000	1645.88	2.6458	0.902681	2.6934	-3.120373	-0.6101
1970 Median value, own-occ, in \$1,000	-68.961043	-0.3567	-0.051674	-0.4961	0.793408	0.4991
1970 % Units in one-unit structures	-122.796521	-2.2808	-0.062754	-2.1635	-0.325063	-0.7344
1970 % Black population	205.904772	3.6839	0.124676	4.1403	-0.706249	-1.5369
1970 % Spanish population	-212.608797	-3.0887	-0.106803	-2.8800	-0.036455	-0.0644
1970 % Population <18 years of age	44.656356	0.3451	-0.021032	-0.3017	2.847402	2.6762
1970 % Population >65 years of age	783.026071	3.9727	0.412221	3.8819	2.124986	1.3113
1970 Median year of school	59.717678	0.0612	0.153854	0.2925	-9.536639	-1.1879
1970 Male operative med earnings \$1,000	-3199.02	-4.5571	-1.534331	-4.0570	-9.144400	-1.5845
1970 Nonworker/worker ratio	-10780.8	-3.5877	-5.380696	-3.3236	-28.324422	-1.1465
1970 % Persons >23 with >3 years h.s.	-77.157269	-0.7306	-0.049170	-0.8642	1.059590	1.2204
1980 Median age	20.034056	0.1116	-0.012445	-0.1287	-0.136138	-0.0923
1970 % in White collar occupations	-53.771619	-0.5910	-0.022608	-0.4612	-0.465785	-0.6227
1970 % Foreign stock	-131.943942	-1.6926	-0.053234	-1.2676	-1.316737	-2.0546
Middle atlantic division	-7244.19	-2.5618	-4.764646	-3.1275	45.576959	1.9605
East north central division	-2734.82	-1.0453	-3.821185	-2.7110	155.771374	7.2421
West north central division	-2387.39	-0.8688	-3.382647	-2.2849	132.248834	5.8539
South atlantic division	9194.385	3.0074	2.671693	1.6220	131.112365	5.2163
East south central division	239.877642	0.0670	-1.739526	-0.9017	87.972314	2.9884
West south central division	2326.332	0.7389	-0.466201	-0.2748	89.851596	3.4713
Mountain division	7947.307	2.3768	2.654928	1.4738	108.643500	3.9520
Pacific coast division	-2898.31	-1.0459	-3.996560	-2.6769	151.474816	6.6486
Presence of city manager	-4094.96	-2.7731	-2.406421	-3.0248	25.056172	2.0639
Partisanship on election ballot	2834.463	2.1107	1.525516	2.1086	3.225238	0.2921
% of Councilmen elected at-large	2607.366	2.1260	1.692811	2.5619	-13.434868	-1.3324
Duration of government form	57.575487	3.4461	0.030826	3.4246	0.216194	1.5739
Mayor chosen through direct elections	-2965.22	-2.6570	-1.470797	-2.4462	-7.604803	-0.8289
Percent organized	11.248602	0.6505	0.004192991	0.4501	-0.098763	-0.6947
Presence of bargaining units	-3604.51	-2.0081	-1.322838	-1.3679	-40.096439	-2.7171
Number of bargaining units	4041.199	9.2396	2.327851	9.8788	3.340876	0.9291
Labor relations policy, no barg. units	-3815.81	-2.4319	-1.738757	-2.0569	-26.317034	-2.0401
Presence of supervisors in barg. units	-39.370508	-0.0286	-0.001896	-0.1105	7.038977	0.6224
Number of contracts in effect	206.153695	0.7554	0.069216	0.4708	-0.785192	-0.3500
Number of memoranda of understanding	39.060135	0.1428	0.038436	0.2607	-3.256635	-1.4477
% Employees covered by contracts	22.854054	0.7897	0.013732	0.8807	0.073128	0.3073
Police department	-70101	-54.8441	-38.509457	-55.9218	17.830637	1.6968
Fire department	-71046.5	-51.6519	-42.442561	-57.2734	419.996047	37.1400
Sanitation department	-87949.6	-55.9273	-47.958034	-56.6057	7.687310	0.5946
Observation from 1975	-4877.76	-4.3790	-2.918204	-4.8627	28.540090	3.1173
Observation from 1977	-3444.65	-3.2398	-1.870561	-3.2656	1.833969	0.2098

	Total Compensation Per Hour Worked	Pay For Time Worked Per Hour Worked	Pay For Time Not Worked Per Hour Worked
R-Square	.5745	.5741	.2903
Degrees of Freedom	5425	5425	5425
Mean Square Error	4.33	1.77	.356

Independent Variable	T-		T-		T-	
	Coefficient	statistic	Coefficient	statistic	Coefficient	statistic
Intercept	3.746761	4.7375	2.922912	5.7808	0.533289	2.2306
1970 Population, in 1,000	0.0006438438	3.0964	0.000692666	5.2106	0.0001455748	2.3160
1960-70 % Increase, population	0.0001022618	0.4887	-0.000033939	-0.2537	3.49465e-08	0.0006
1960-70 % Decrease, population	0.011151	1.1919	0.010062	1.6822	0.004512121	1.5954
1970-80 % Increase, population	-0.00136039	-1.1451	-0.00042373	-0.5579	-0.000138285	-0.0385
1970-80 % Decrease, population	-0.036704	-4.4749	-0.020463	-3.9023	-0.00607295	-2.4492
1969 % Families below poverty level	-0.029859	-2.4427	-0.016693	-2.1360	-0.00630241	-1.7056
1969 Median family income, in \$1,000	0.028520	0.7142	0.010922	0.4278	0.018114	1.5005
1970 Median value, own-occ, in \$1,000	0.043887	3.5358	0.023478	2.9587	-0.000721502	-0.1923
1970 % Units in one-unit structures	0.001384717	0.4007	-0.0023046	-1.0430	-0.000455533	-0.4360
1970 % Black population	0.015761	4.3927	0.009559312	4.1673	0.003632918	3.3494
1970 % Spanish population	0.010428	2.3599	0.003922818	1.3886	0.002677002	2.0041
1970 % Population (18 years of age	-0.022600	-2.7203	-0.00401032	-0.7551	-0.013883	-5.5281
1970 % Population >65 years of age	0.004417709	0.3491	0.003021673	0.3735	-0.010646	-2.7833
1970 Median year of school	0.00786795	0.1255	-0.012128	-0.3026	0.017921	0.9458
1970 Male operative med earnings \$1,000	0.337553	7.4906	0.233749	8.1134	0.050469	3.7048
1970 Nonworker/worker ratio	-0.485048	-2.5145	-0.335288	-2.7187	0.020512	0.3517
1970 % Persons >23 with >3 years h.s.	0.0009056295	0.1336	0.004148251	0.9571	-0.00289824	-1.4142
1980 Median age	-0.00955971	-0.8298	-0.00533102	-0.7238	-0.000846415	-0.2431
1970 % in White collar occupations	-0.010094	-1.7282	-0.00365933	-0.9800	-0.000727036	-0.4118
1970 % Foreign stock	0.032878	6.5700	0.019908	6.2227	0.005108157	3.3767
Middle atlantic division	0.835191	4.6009	0.332578	2.8657	0.00500943	0.0913
East north central division	1.334124	7.9436	0.645810	6.0146	0.049859	0.9820
West north central division	0.813837	4.6136	0.287877	2.5526	0.037723	0.7074
South atlantic division	0.480480	2.4482	0.198921	1.5854	0.029607	0.4990
East south central division	0.203307	0.8845	-0.140806	-0.9582	0.059577	0.8574
West south central division	0.371572	1.8385	0.028682	0.2220	0.071814	1.1754
Mountain division	1.530761	7.1313	0.652340	4.7536	0.312368	4.8139
Pacific coast division	2.137685	12.0165	1.241122	10.9126	0.170106	3.1631
Presence of city manager	0.416918	4.3981	0.244055	4.0270	0.001960295	0.0684
Partisanship on election ballot	0.090269	1.0471	0.162845	2.9547	0.029646	1.1376
% of Councilmen elected at-large	0.227366	2.8879	0.166378	3.3054	0.067808	2.8491
Duration of government form	-0.00105884	-0.9872	0.0002179059	0.3178	-0.000328067	-1.0118
Mayor chosen through direct elections	0.279935	3.9074	0.173973	3.7984	0.049165	2.2702
Percent organized	0.004319032	3.8909	0.002495754	3.5168	0.0008676073	2.5856
Presence of bargaining units	0.564443	4.8985	0.223420	3.0328	0.185101	5.3140
Number of bargaining units	0.002194815	0.0782	0.018565	1.0342	-0.00438992	-0.5172
Labor relations policy, no barg. units	0.288882	2.8680	0.119482	1.8554	0.110501	3.6291
Presence of supervisors in barg. units	-0.00302504	-0.0343	0.008148457	0.1443	-0.00554533	-0.2077
Number of contracts in effect	0.065830	3.7577	0.037543	3.3521	-0.00163778	-0.3093
Number of memoranda of understanding	0.019262	1.0966	0.001422231	0.1267	0.004480332	0.8438
% Employees covered by contracts	-0.00156747	-0.8437	0.0004301423	0.3621	0.0004975263	0.0886
Police department	2.159786	26.3218	1.393088	26.5562	0.208478	8.4049
Fire department	0.584020	6.6141	-0.301842	-5.3469	0.627042	23.4912
Sanitation department	-0.110352	-1.0931	-0.225140	-3.4884	0.027973	0.9166
Observation from 1975	-2.936660	-41.0681	-1.667067	-36.4658	-0.367767	-17.0134
Observation from 1977	-1.734344	-25.4104	-0.845089	-19.3669	-0.217226	-10.5282

	Medical Benefits Per Hour Worked	Pension Benefits Per Hour Worked	Miscellaneous Benefits Per Hour Worked
R-Square	.2792	.2817	.2391
Degrees of Freedom	5425	5425	5425
Mean Square Error	.0950	.453	.0161

<u>Independent Variable</u>	<u>Coefficient</u>	<u>T-</u> <u>statistic</u>	<u>Coefficient</u>	<u>T-</u> <u>statistic</u>	<u>Coefficient</u>	<u>T-</u> <u>statistic</u>
Intercept	0.471960	4.0299	-0.302611	-1.1831	0.121211	2.5138
1970 Population, in 1,000	-0.000141778	-4.6046	-0.000013924	-0.0207	-0.0000512261	-4.0408
1960-70 % Increase, population	0.0001235217	3.9860	0.00001509161	0.2230	-0.0000024474	-0.1918
1960-70 % Decrease, population	-0.00116206	-0.8388	-0.00244552	-0.8082	0.0001846669	0.3237
1970-80 % Increase, population	0.0008685926	0.4937	-0.00113884	-2.9640	0.0001291427	1.7830
1970-80 % Decrease, population	-0.00436492	-3.5937	-0.00600904	-2.2652	0.0002056201	0.4112
1969 % Families below poverty level	-0.00489373	-2.7036	-0.000635615	-0.1608	-0.00133429	-1.7904
1969 Median family income, in \$1,000	-0.00453921	-0.7676	0.005242481	0.4059	-0.00121892	-0.5006
1970 Median value, own-occ, in \$1,000	0.005064067	2.7552	0.016435	4.0940	-0.000368535	-0.4870
1970 % Units in one-unit structures	0.002414862	4.7185	0.0009964427	0.8914	0.0007335412	3.4812
1970 % Black population	0.0006919473	1.3023	0.001785081	1.5383	0.0009189857	0.4201
1970 % Spanish population	0.0002270879	0.0347	0.00413678	2.8946	-0.000331499	-1.2305
1970 % Population (18 years of age	-0.00335443	-2.7267	0.001554036	0.5784	-0.00290582	-5.7370
1970 % Population >65 years of age	-0.00042326	-0.2259	0.015388	3.7602	-0.00292264	-3.7886
1970 Median year of school	-0.019847	-2.1381	0.032210	1.5888	-0.010288	-2.6920
1970 Male operative med earnings \$1,000	0.013002	1.9484	0.036002	2.4702	0.004331256	1.5765
1970 Nonworker/worker ratio	0.038842	1.3598	-0.245176	-3.9298	0.036062	3.0663
1970 % Persons >23 with >3 years h.s.	0.002002597	1.9948	-0.00267233	-1.2188	0.0003253542	0.7871
1980 Median age	-0.00088971	-0.5215	-0.00280427	-0.7527	0.0003116951	0.4438
1970 % in White collar occupations	-0.00334145	-3.8634	-0.00275849	-1.4603	0.0003926183	1.1026
1970 % Foreign stock	0.002338173	3.1553	0.004538892	2.8044	0.0009839931	3.2252
Middle atlantic division	0.077823	2.8951	0.422490	7.1962	-0.00270925	-0.2448
East north central division	0.081023	3.2578	0.550726	10.1388	0.006704584	0.6548
West north central division	0.051824	1.9839	0.440494	7.7209	-0.00400024	-0.3794
South atlantic division	-0.051501	-1.7721	0.306372	4.8266	-0.00291948	-0.2440
East south central division	-0.0058672	-0.1724	0.299835	4.0332	-0.00943216	-0.6730
West south central division	-0.025345	-0.8468	0.308731	4.7231	-0.012309	-0.9989
Mountain division	0.082755	2.6035	0.473749	6.8241	0.009549145	0.7297
Pacific coast division	0.154396	5.8609	0.560647	9.7444	0.011414	1.0524
Presence of city manager	0.035237	2.5102	0.105562	3.4431	0.030105	5.2089
Partisanship on election ballot	0.00205483	0.1610	-0.093827	-3.3653	-0.010449	-1.9881
% of Councilmen elected at-large	-0.020411	-1.7507	0.006366078	0.2500	0.007225348	1.5052
Duration of government form	-0.000563378	-3.5472	-0.000359431	-1.0362	-0.0000258746	-0.3957
Mayor chosen through direct elections	-0.014573	-1.3737	0.064810	2.7971	0.006560112	1.5019
Percent organized	0.0003988276	2.4263	0.0005942745	1.6553	-0.0000374312	-0.5531
Presence of bargaining units	0.011489	0.6733	0.130125	3.4917	0.014308	2.0366
Number of bargaining units	0.001451668	0.3491	-0.012629	-1.3908	-0.00080271	-0.4689
Labor relations policy, no barg. units	0.015444	1.0354	0.044604	1.3692	-0.00114834	-0.1870
Presence of supervisors in barg. units	-0.010573	-0.8086	-0.000762332	-0.0267	0.00570721	1.0601
Number of contracts in effect	0.003151126	1.2147	0.026019	4.5922	0.0007544783	0.7064
Number of memoranda of understanding	0.012951	4.9795	-0.00144967	-0.2552	0.001857543	1.7346
% Employees covered by contracts	-0.000169955	-0.6177	-0.00162871	-2.7105	-0.000248701	-2.1956
Police department	0.075722	6.2320	0.333175	12.5548	0.149323	29.8489
Fire department	0.012371	0.9461	0.177562	6.2176	0.068886	12.7958
Sanitation department	0.069984	4.6815	-0.00709134	-0.2172	0.023922	3.8867
Observation from 1975	-0.297045	-28.0525	-0.560596	-24.2399	-0.044186	-10.1353
Observation from 1977	-0.220206	-21.7874	-0.414261	-18.7664	-0.037562	-9.0265

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