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Non-Routine Municipal Decision-Making

Robert C. Rickards

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(Population Size, Resource Availability, and Interparty Competition

as Predictors of Demonstrated Flexibility in West German Municipal

Budgetary Priority Setting)

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Abstract

The mean priority-setting flexibility demonstrated by a municipality is defined as the summed absolute values of annual change in relative budget shares averaged over the decade from 1963 to 1972. Demonstrated budgetary flexibility is viewed as a multiplicative function of local resource availability and decision-making autonomy (measured by relative reliance on categorical assistance from higher authorities), complexity of the municipal environment (measured by population size), and stability of that environment (measured by population growth rate). The extent of political conflict within city government (measured by the degree of interparty competition) is not significantly related to demonstrated priority-setting flexibility. A multiplicative model in the form

$$Y = \alpha X_1^{\beta} \, X_2^{\gamma} \, X_3^{\delta} \, \varepsilon$$

explains 45% of the intercity variance in mean budgetary flexibility. With minor exceptions, the study population includes all West German municipalities with at least 50,000 inhabitants; n = 105. Plots of residuals against $X_1 - X_3$ and the normal probability distribution do not indicate violation of the assumptions on which the regression model is based.

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This paper explores flexibility in public sector budget-making and the socioecomomic and political circumstances in which it occurs. Flexibility is seldom associated with governmental budget formulation. Charles Lindblom explains this as the result of the incremental approach officials take to decision-making in general.[1] Bureaucrats and politicians, he says, operate in an uncertain environment about which they have only imperfect information. Their cognitive abilities are limited, as is the time available to them for reaching agreement about undertaking a wide variety of non-comparable governmental activities. So they rely heavily on past precedent as a guide for reaching acceptable decisions within these constraints.

Lindblom argues that this probably is a very rational way to reach policy decisions. Applied to the annual problem of formulating next year's budget, Lindblom's model accounts for officials' propensity to solve it by marginally adjusting authorized current year expenditures in keeping with next year's anticipated revenues. Empirical investigations show that the incremental approach typifies budget formulation at national, state, and local levels of government.[2]

The negative consequences of incrementalism in priority-setting perhaps are nowhere better illustrated than in the plight of medium- and large-size municipalities in most industrialized western nations. Ira Sharkansky notes that policy-making routines, such as the incrementalist approach, are fundamentally conservative mechanisms and thus are unlikely to lead to major changes in existing activities.[3] By making mostly marginal adjustments in present expenditure patterns, officials fail to commit enough resources to deal effectively with urban problems as they emerge. Together with governmental fragmentation, some observers view pragmatic incrementalism as producing "a series of bargains and comprises that have generated a very large volume of external costs."[4]

Nevertheless, deviations from established expenditure routines do occur occasionally. Systematic study of such priority-setting flexibility has been limited chiefly to the national level, where departures from previous spending patterns have been discovered to result from catastrophes (e.g., war or economic depression).[5] This paper seeks to identify the socioeconomic and political circumstances under which municipalities demonstrate budgetary flexibility as a first step in linking flexible priority-setting and effective responsiveness. If adaptable municipal priority structures indeed are associated with effective responses to emerging issues, statistical explanation of intercity differences in budgetary flexibility should be useful in developing policies that facilitate resource reallocation.

Toward a Dependent Variable

One measure of the priority a municipal government attaches to a particular administrative unit is its relative share in the total budget. Thus the $\underline{i}$th unit's relative priority or budget share (BS) in city h for year k can be expressed mathematically as the expenditure authorized that unit (EXP_{hik}) divided by the sum of all expenditures $\sum_{i=1}^{i} EXP_{hik}$ (total budget). That is,

$$BS_{hik} = EXP_{hik} \div \sum_{i=1}^{i} EXP_{hik}$$

Extending this concept, the annual flexibility displayed with regard to a unit's relative priority is reflected in the first difference between its current and prior year budget shares, (simply $BS_{hik} - BS_{hik-1}$). For example, if the public security departments' expenditures in 1970 accounted for 10% of city h's budget and 11% the following year, then subtracting the 1970 budget share from that for 1971 reveals an increase of +1%. Public security was 1% more important to municipal officials relative to other departments in 1971 than it had been in 1970.

The 1% figure represents the priority-setting flexibility displayed by the $\underline{h}$th city in connection with its public security department. Since budget shares summed over all activities in any year must equal 100%, the public security department's 1% gain in its share of the total budget must be counter-balanced by a 1% loss in another department's share. Since they offset each other, annual budget share changes summed over all departments necessarily add to zero. However, if the absolute values of these changes are added, the resultant sum is a number equal to or greater than zero. Therefore this sum,

$$\sum_{i=1}^{i} | BS_{hik} - BS_{hik-1} |$$

can be regarded as the overall flexibility demonstrated by city h in establishing its relative budget priorities for year k.

Defining budgetary flexibility in this fashion permits the two mutually exclusive approaches previously taken in investigating fiscal priority-setting to be combined in a hybrid research strategy. The first, based on Lindblom's analysis, stresses organizational aspects of budget formulation, especially the complexity of the decision process and the need to rely on simple rules-of-thumb in choosing among non-comparable expenditure alternatives.[6] The second views officials as passive instruments in a "black box", whose annual solution to the balanced budget problem is predetermined by socioeconomic measures of service demands or the dictates of community power figures?[7]

Organizational budgetary theory has been operationalized and tested only on a small scale. The major conclusion from these small scale studies has been that the absolute amounts of next year's categorical expenditures can be predicted quite well by any model emphasizing marginal adjustments in current year spending levels.[8] The external determinants view fails to specify the linkage mechanism by which socioeconomic variables influence decision outcomes. Empirical investigations employing this exogenous forces approach generally have used highly intercorrelated explanatory variables and yielded weak or inconclusive results.[9]

The hybrid approach taken here combines the two rival theories as follows. Calculation of first differences implicitly assumes a very simple model of annual municipal priority-setting. It focuses on budget shares rather than absolute expenditure amounts and implies that next year's predicted budget share $(\hat{BS}_{hik})$ for a given department will be equal to the current year's authorized share (BS_{hik-1}). That is,

$$(\hat{BS}_{hik-1}) = (BS_{hik}).$$

The model thus filters out differences that show some sort of policy shift

from routine decisions that merely apportion all departments their same
respective shares of a marginally larger resource pie. The extent of such
policy shifts is reflected in each city's annual demonstrated budgetary
flexibility score. Since these scores represent resources allocated on
some basis besides the simple routine decision rule, they may be related to
environmental influences.

Demonstrated budgetary flexibility reflecting policy shifts arises from
a variety of causes.[10] Catastrophic events, the focusing of public attention
on widely perceived problems, or change in the personalities or parties
dominating local politics may alter present policies. Priority shifts also
may occur due to the discovery of additional revenue sources or variation in
the availability of categorical assistance from higher authorities. In addition
they may result from intergovernmental transfers of functional responsibilities
or state and federal enactment of new regulations affecting local government
activities.

However not every shift in resource allocation patterns corresponds to a
priority change. Restructuring municipal administration, e.g. by transferring
an agency across departments, alters the affected departments' respective budget
shares, but leaves the agency's relative expenditure priority unchanged.
Similarly revision of internal accounting procedures may result in modification
of budget shares that are not linked to change in decision-makers' spending
preferences. Since the intent here is to link characteristics of a munici-
pality's environment to the level of budgetary flexibility it displays, it is
essential to screen out resource allocation pattern shifts that are unrelated
to real priority change.

This need led to the choice of West Germany as the country setting and
the decade from 1963 to 1972 as the time period for the investigation. During
these years there were no alterations in the standardized budgetary accounting

and reporting procedures used by all West German municipalities. Also, West German municipal administrative structures are extraordinarily stable over time.[11] Moreover, at least at the functional department level, the administrative structures themselves are broadly comparable.

All West German municipal budgets are divided into the same eight functional areas: general administration, public security, schools, culture, social affairs, public health, construction and housing, and public facilities and business promotion.[12] Every city agency is ordered under one of these divisions. All budget diagrams, tables, and accounts employ this functional department framework. Consequently, council members, the mayor, the city manager, the comptroller, and the department heads themselves think and talk about budgetary priorities and procedures in terms of the same functional categories regardless of the city in which they hold office. This broad comparability eliminates the possibility that intercity differences in budgetary flexibility could stem from unequal numbers of functional departments in various cities. Therefore one can be confident that budgetary flexibility, as defined above, reflects actual priority shifts as opposed to alterations in organizational structure or accounting practices.

Another reason for selecting West Germany as the country context and for basing measurement of demonstrated budgetary flexibility on the eight common functional departments is to obtain a statistically interesting number of municipalities for observation. The 105 cities under investigation include almost every West German city with a 1965 population exceeding 50,000.[13] This study population size overcomes the objection to process models tested in single city settings. With data to describe the study population, a large-scale test of the appropriateness of a very simple resource allocation decision rule becomes possible.

Many of the data required for investigation of demonstrated budgetary
flexibility have been centrally collected and published.[14] This includes
information on components of total expenditures such as general fund
subsidies, user fees, categorical assistance provided by higher authorities,
proceeds from debt issuance, and so forth. The remainder are in the public
domain and may be obtained directly from municipal statistical offices.

In measuring demonstrated budgetary flexibility and examining diverse
variables' relationship to it, it was decided to employ a cross-sectional
analysis based on the variables' mean values. This admits some possible
loss of comparability in institutional arrangements and data that would not
occur in a longitudinal analysis.[15] On the other hand, it is particularly
useful in the present circumstances where the available time-series is
relatively brief. Presumably there is much more variation in the dependent
and explanatory variables' mean values across 105 cities than in their respective
annual values for a single city over the 1963-1972 decade. Furthermore, the
time-series is quite brief for investigating the nature of any lagged relationships
that may be present. Mean scores calculated by averaging observed variable values
capture at least some of the lagged relationships' influence. Finally, random
effects of unspecified variables are more likely to cancel one another when
variable values are averaged across years than they would be if the cross-
sectional analysis were based on a single year.

Table 1 contains summary measures describing the mean annual budgetary
flexibility (MNTBFLEX) demonstrated by 105 West German municipalities between
1963 and 1972. Remembering that MNTBFLEX is based on the sum of both positive
and negative deviations from functional departments' prior year budget shares
(thereby double counting the relative proprotion of total resources reallocated),
the figure .10347 signifies that, on average, just 5.174% of a city's total

Table 1: Descriptive Measures of West German Cities' Mean
Demonstrated Budgetary Flexibility Scores for the Decade
1963 - 1972

N	Minimum	Maximum	Mean	Standard Deviation
105	.48921 -1	.18244	.10347	.27214 -1

budget pie is reapportioned annually. A very simple decision rule emphasizing stable budget priorities thus explains how almost 95% of revenue is allocated. On the other hand, the average annual amount of relative resource reallocation ranges from 2.447% to 9.122% -- showing that considerable intercity differences in priority-setting flexibility exist.

A Regression Model

Having separated the non-routine budgetary decisions from those based on simple rules-of-thumb, the next step is to look at socioeconomic and political differences that can account for intercity variation in demonstrated flexibility levels. Four differences which will be examined here are: population size, population growth rate, relative reliance on categorical assistance, and degree of interparty competition.

Population size may be one variable tying decision-makers to the municipal environment because as it increases, so too does the complexity of the budgetary process. More people mean more problems involving poorly defined variables and partially understood relationships. There are more clients demanding a wider variety of goods and services and more agencies and bureaus within the eight functional areas supplying them. Thus big city fiscal decision-makers must process a larger volume of information pertaining to funding requests for a wider spectrum of non-comparable program goals, but they must do so within the same balanced budget and time constraints as officials in medium-size cities. This greater budgetary problem complexity may be one of the specific linkage mechanisms that cause officials in larger municipalities to depend more on simple decision rules and thereby to demonstrate less priority-setting flexibility.

John P. Crecine disagrees with this reasoning, arguing instead that the budget problem's complexity in medium-size cities is roughly balanced

by their smaller computational and informational resources.[16] Since such
municipalities have smaller staffs and fewer computers, he believes that
their officials must spend more time manually processing budget request
forms, leaving less time to conduct analyses which might lead to deviations
from established expenditure patterns. Accordingly, Crecine concludes that
population size is unrelated to reliance on simple decision rules.

Robert Duncan acknowledges that the simple-complex dimension of an
organization's environment may affect the amount of uncertainty decision-
makers perceive.[17] However he also views the organizational environment as a
multi-dimensional concept, whose static-dynamic dimension is important too.
In comparing the two dimensions' respective influences, he finds that the
static-dynamic dimension of the environment contributes more to officials'
perceptions of uncertainty than the simple-complex dimension does. The linkage
mechanism here is that more dynamic environments give rise to greater decision-
making uncertainty. Since population size has been selected as an indicator of
environmental complexity, the population growth rate seems to be an appropriate
indicator of environmental stability. Therefore officials in cities with
high population growth rates ought to be more reliant on simple rules-of-
thumb and display less priority-setting flexibility.

An environmental influence included on almost every budgetary theorist's
list of important variables is resource availability.[18] Wealthier municipalities
have a greater capacity to generate general revenue under state-imposed tax-
rate ceilings than less well-off ones do. With their greater incomes, rich
cities are better able to cover existing commitments and execute new mandates
from higher authorities, while still reserving some discretionary funds to
spend on surfacing problems identified by local officials. Cyert and March term
such discretionary income "organizational slack."[19] Mohr holds that slack links
an organization to its environment because the presence of discretionary income

permits a great deal of innovation.[20] Thus municipalities with access to
more financial resources could be expected to adopt many innovations, which
should be reflected in highly adaptable priority structures.

Yet not all resources are equally available for non-routine municipal
decision-making. For example, federal and state governments stipulate how
cities may spend the categorical assistance given them. Such assistance may
insulate urban expenditure patterns from changes in the local environment because
it often finances capital projects higher authorities want municipalities to
construct. Nevertheless cities alone must bear the completed facilities'
operating and maintenance costs. In addition, they typically must "match"
some portion of the construction subsidies they receive. These matching
and operating cost requirements tend to lock assisted cities into long-term
commitments to higher authorities' priority structures by reducing the amount
of general purpose revenue that otherwise could be allocated in conformity with
changing local needs. Since West German categorical assistance programs are
moderately redistributive, relative reliance on such subsidies measures both
the accessibility of resources to a municipality and the extent of its
autonomy in allocating them.[21]

Political scientists naturally are interested in the impact political
factors may have on public expenditures. Gerald Wright, among others, suggests
that parties with narrow electoral majorities are more likely to respond to
changing public needs.[22] In this instance the specific linkage mechanism is
the ruling party's desire to improve its re-election prospects. On the other
hand, Crecine believes that a city council's political composition hardly
influences budget decisions because councilmen lack the time and expertise to
revise the executive's expenditure proposals substantially.[23] In West Germany
another factor besides inadequate time and expertise limits council's influence
on budget formulation. There top administrators do not leave office when

turnover occurs in the party controlling council. Functional department heads, the comptroller, and the city manager all enjoy terms of office from two to three times longer than those of council members. For this reason, administrators are less likely to be influenced by partisan political pressures in making fiscal decisions. To resolve the conflicting views of Crecine and Wright, the degree of interparty competition is included as a possible explanatory variable. If Wright's theory is correct, politically more competitive cities should demonstrate greater budgetary flexibility than those where the ruling party enjoys a secure majority.

For the moment, the relationship between demonstrated budgetary flexibility and the four candidate explanatory variables can be summarized as follows.

$$Y = f(X_1, X_2, X_3, X_4)$$

where

Y = mean demonstrated budgetary flexibility (MNTBFLEX).

X_1 = complexity of the municipal environment, measured by mean population size (MNPOP).

X_2 = stability of the municipal environment, measured by the mean population growth rate (MN%POPCH).

X_3 = resource availability and fiscal autonomy, measured by the mean proportion higher authorities' categorical assistance comprises of total expenditures (MNCATASST).

X_4 = extent of interparty competition (MNPRTCOM), measured as the mean absolute value of (50% - %SPD). %SPD represents the proportion of the total vote [24] cast for the Social Democratic Party in the most recent municipal election.

Table 2 presents the simple correlation matrix for the dependent and the possible explanatory variables. The r-statistic values comprising the matrix are noteworthy in several respects.

First, the possible explanatory variables are only weakly associated with one another. This means that there should be no intercorrelation problems, even if all of them are employed in the regression model.

Table 2: Simple Correlation Matrix for Dependent and Possible Explanatory Variables

	MNTBFLEX	MNPOP	MNCATASST	MN%POPCH	MNPIRTCOM
MNTBFLEX	1.0000				
MNPOP	-.4513	1.0000			
MNCATASST	-.3319	.0019	1.0000		
MN%POPCH	.3329	-.1932	-.0984	1.0000	
MNPIRTCOM	.0405	-.1595	.0816	.2201	1.0000

$n = 105$ $DF = 103$ $r@ .0500 = .1918$ $r@ .0100 = .2504$

Second, three of the possible explanatory variables are moderately correlated with budgetary flexibility. However one of these associations is opposite in direction to that suggested by theory. Demonstrated budgetary flexibility, MNTBFLEX, is positively related to the population growth rate. Apparently more dynamic environments are more likely to produce deviations from previous expenditure patterns, implying that officials are less inclined to depend on simple decision rules in such circumstances.

Third, MNTBFLEX appears to be virtually independent of interparty competition, MNPRTCOM. Nonetheless this variable was retained through testing of alternate models on the chance that, in combination with MNPOP, MNCATASST, and MN%POPCH, it still might make a statistically significant contribution to the overall explanation of intercity differences in demonstrated budgetary flexibility.

The scattergrams in Figures 1-4 depict the relationship between MNTBFLEX and the four possible explanatory variables. In the successive scattergrams, most cities demonstrating high flexibility levels are comparatively small, fiscally self-reliant, and have high population growth rates, respectively. Yet not all cities that are comparatively small or fiscally self-reliant or have high population growth rates display highly flexible priority structures. This indicates that all three conditions may be necessary to produce highly adaptable spending patterns.

A multiplicative model seems more appropriate in this situation than does either a simple additive model or an additive model with an interaction term. This point is best illustrated with a hypothetical example. Suppose that a city lacks one of the conditions necessary for high flexibility and that the X_i take on only values of 0 or 1.[25] Then in a simple additive model one would have $0 + 1 + 1 + 1 = 3$. In an additive model with an interaction term, one would have $0 + 1 + 1 + 1 (0 \cdot 1 \cdot 1 \cdot 1) = 3$. In either case a city not blessed with

Figure 1: Scatterplot of MNTBFLEX on MNPOP

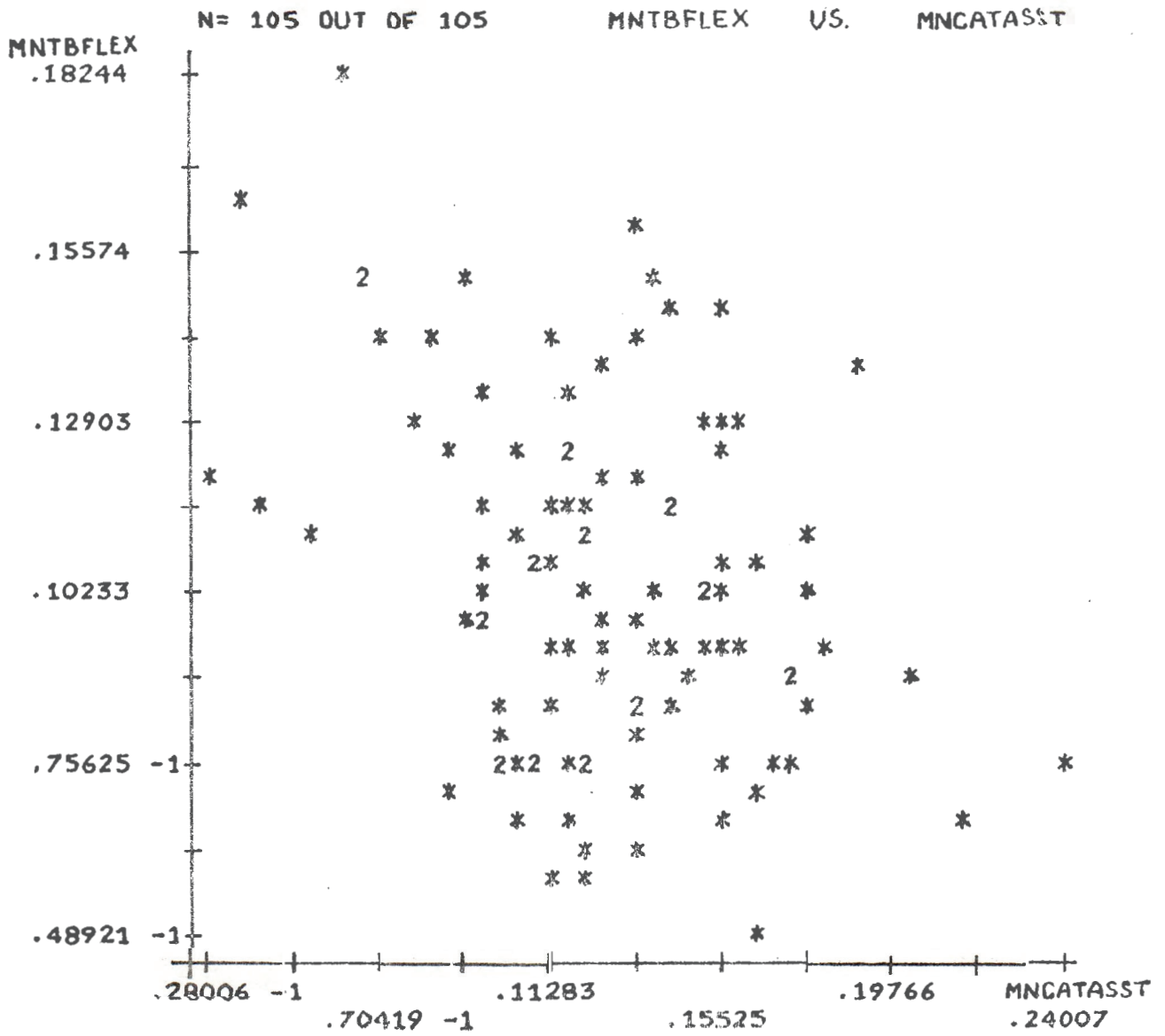Figure 2: Scatterplot of MNTBFLEX on MNCATASST
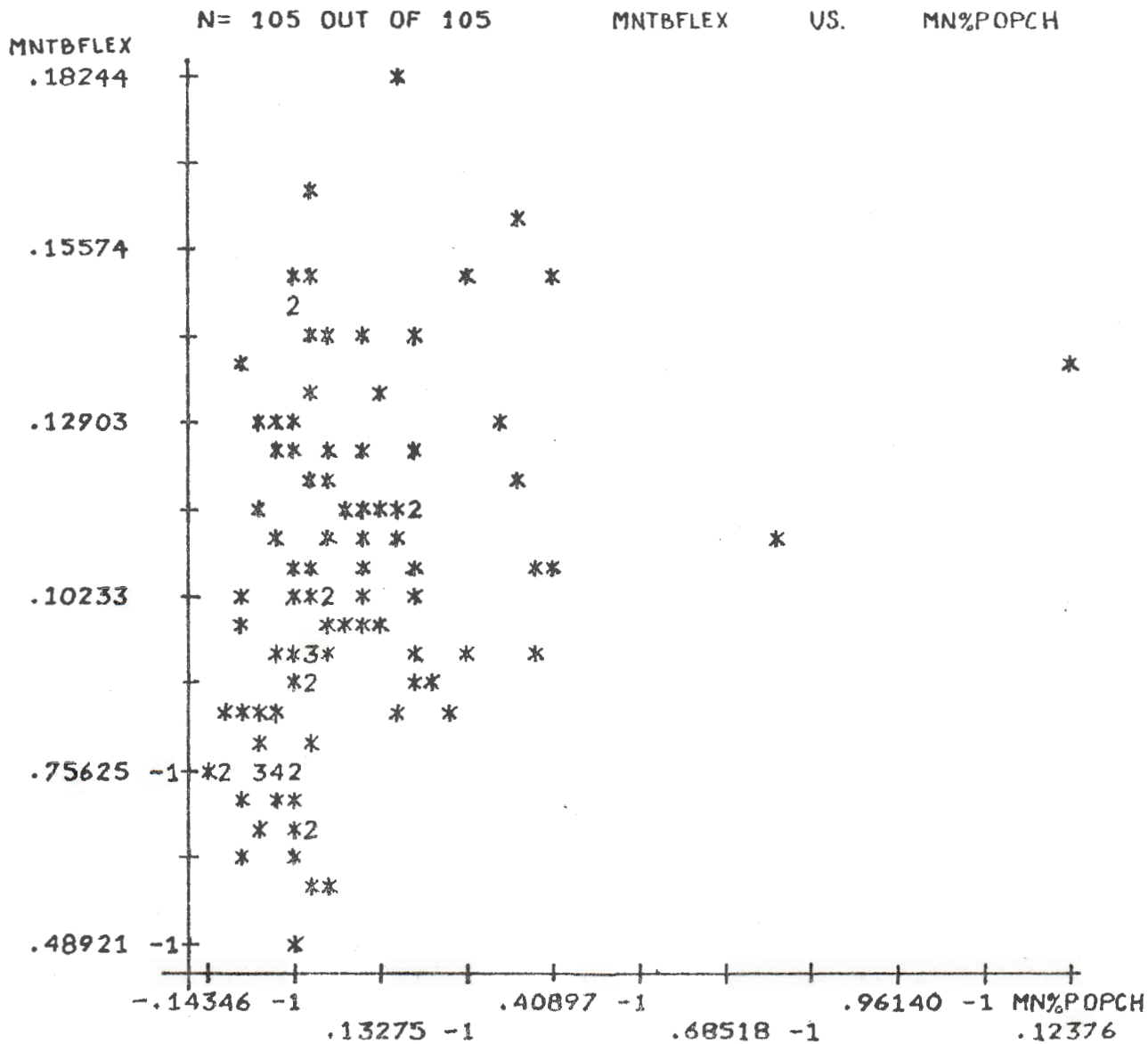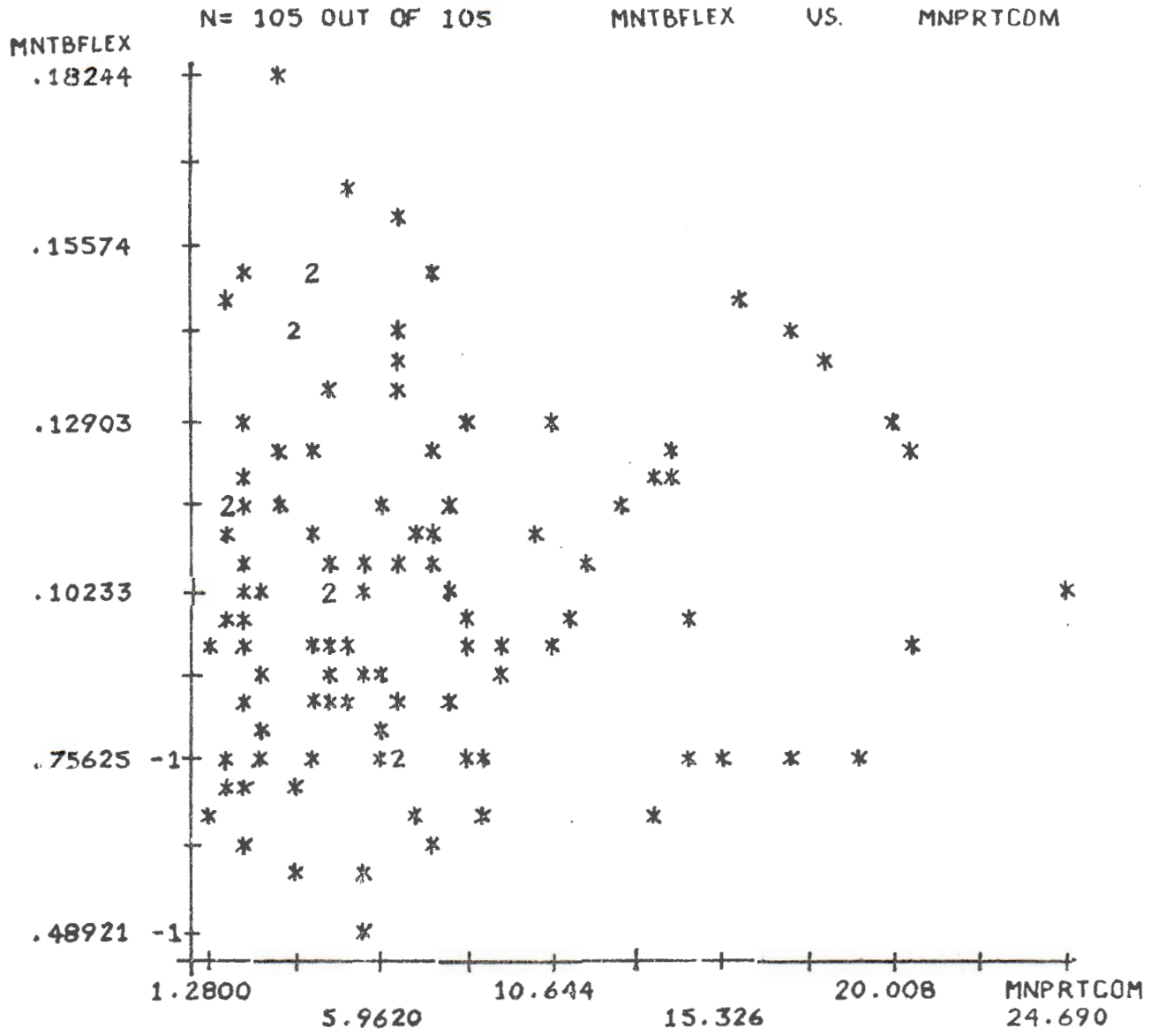
Figure 3: Scatterplot of MNTBFLEX on MN%POPCH

Figure 4: Scatterplot of MNTBFLEX on MNPRTCOM

the necessary conditions still could display a relatively high flexibility
score. Employing the same data in a multiplicative model the resultant score
would be much lower $0 \cdot 1 \cdot 1 \cdot 1 = 0$. Of the three alternate forms, only the
multiplicative model emphasizes maximum interaction among the possible
explanatory variables and thus the necessity of each condition.

Table 3 lists test results for a simple, multiplicative model of
MNTBFLEX incorporating MNPOP, MNCATASST, and MN%POPCH as explanatory variables.
The results were obtained by converting the model

$$Y = \alpha X_1^{\beta} X_2^{\gamma} X_3^{\delta} \varepsilon$$

to its linear equivalent

$$\ln Y = \ln \alpha + \beta \ln X_1 + \gamma \ln X_2 + \delta \ln X_3 + \ln \varepsilon$$

In addition it was necessary to carry out an additive transformation of
population growth rate data so that all observations would have positive
values prior to the natural log transformation. This model accounts for
45% of the intercity variation in demonstrated budgetary flexibility. The
standard error of the regression equation is .19997. MNPRTCOM is excluded from
this final model version because its contribution to explained variance was
not statistically significant.[26]

Before interpreting these test results, it may be useful to look at the
residuals to make certain that the assumptions implicit in a regression model
have not been violated.

Examining the Residuals

Here the residuals (ε_i) are the n differences between observed (Y_i) and
predicted $(\hat{Y}_i)$ values of demonstrated budgetary flexibility. They represent
the amount of intercity variation in LNMNTBFLEX that the model is unable to
explain. Thus the residuals can be thought of as the observed errors had the

Table 3: Test Results from a Multiplicative Model of Demonstrated Budgetary Flexibility

Regression of LNMNTBFLEX on LNMNPOP, LNMNCATASST, and LNMN%POPCH

N = 105   MULT r = .67186   RSQR = .45139   SE = .19997

Variable	Partial	Coeff.	Std. Error	T-Stat	Signif.
Constant		-.54796	.35426	-1.5468	.1250
LNMNPOP	-.56101	-.18387	.26996 -1	-6.8109	.0000
LNMNCATASST	-.29076	-.17950	.58776 -1	-3.0540	.0029
LNMN%POPCH	.22437	2.6912	1.1631	2.3139	.0227

model been specified correctly. That is,

$$\ln Y_i = \ln\alpha + \beta\ln X_1 + \gamma\ln X_2 + \delta\ln X_3 + \ln\varepsilon_i$$

$$i = 1, 2, \ldots, n$$

In linear regression, the usual assumptions about the disturbance term, ε_i, are that its mean equals zero, its variance is constant and independent of X_i, and that its various values are drawn in dependently of one another.[27] These assumptions can be expressed mathematically as follows.

$$E(\varepsilon_i) = 0 \text{ for all } i$$

$$E(\varepsilon_i\varepsilon_j) = \begin{cases} 0 & \text{for } i = j; \ i,j = 1,2,\ldots, n \\ \sigma_\varepsilon^2 & \text{for } i = j; \ i,j = 1,2,\ldots, n \end{cases}$$

Since the preferred model in this research is a multiplicative one, the assumptions must be modified to read $\ln\varepsilon_i$.

Residuals are examined to determine whether the assumptions underlying the model are reasonable. If they are not, it loses much of its appeal. To discover how reasonable the assumptions are, the residuals in their natural logarithmic form are plotted against the $\ln X_i$'s and $\ln Y$, and their frequency distribution is depicted in a histogram.

Figure 5 displays the error term's frequency distribution. The distribution approximates a bell-shape, with most of the values concentrated around the mean and only 5% or so of them outside the boundaries of ± 1.96 standard deviations from $\varepsilon = 0$.[28] Thus the assumption about the residuals' frequency distribution does not appear to have been violated.

Figures 6 - 8 present the scatterplots of $\ln\varepsilon_i$ against $\ln X_i$ - $\ln X_3$, respectively. To make credible the assumptions of constant variance and independent selection, the points should be randomly distributed around the values of $\ln X_i$. Again there appears to be no reason to reject these assumptions.

Finally, in a proper population, estimated values of the dependent variable,

Figure 5: Error Term Frequency Distribution from Simple Multiplicative Model
of Demonstrated Budgetary Flexibility

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MIDPOINT        COUNT FOR RESIDUAL     (EACH X= 1)

 -.53821          1 +X
 -.43423          1 +X
 -.33025          6 +XXXXXX
 -.22626         11 +XXXXXXXXXXX
 -.12228         23 +XXXXXXXXXXXXXXXXXXXXXXX
 -.18297 -1      16 +XXXXXXXXXXXXXXXX
  .85686 -1      20 +XXXXXXXXXXXXXXXXXXXX
  .18967         13 +XXXXXXXXXXXXX
  .29365         12 +XXXXXXXXXXXX
  .39764          1 +X
  .50162          1 +X

 TOTAL          105  (INTERVAL WIDTH= .10398)
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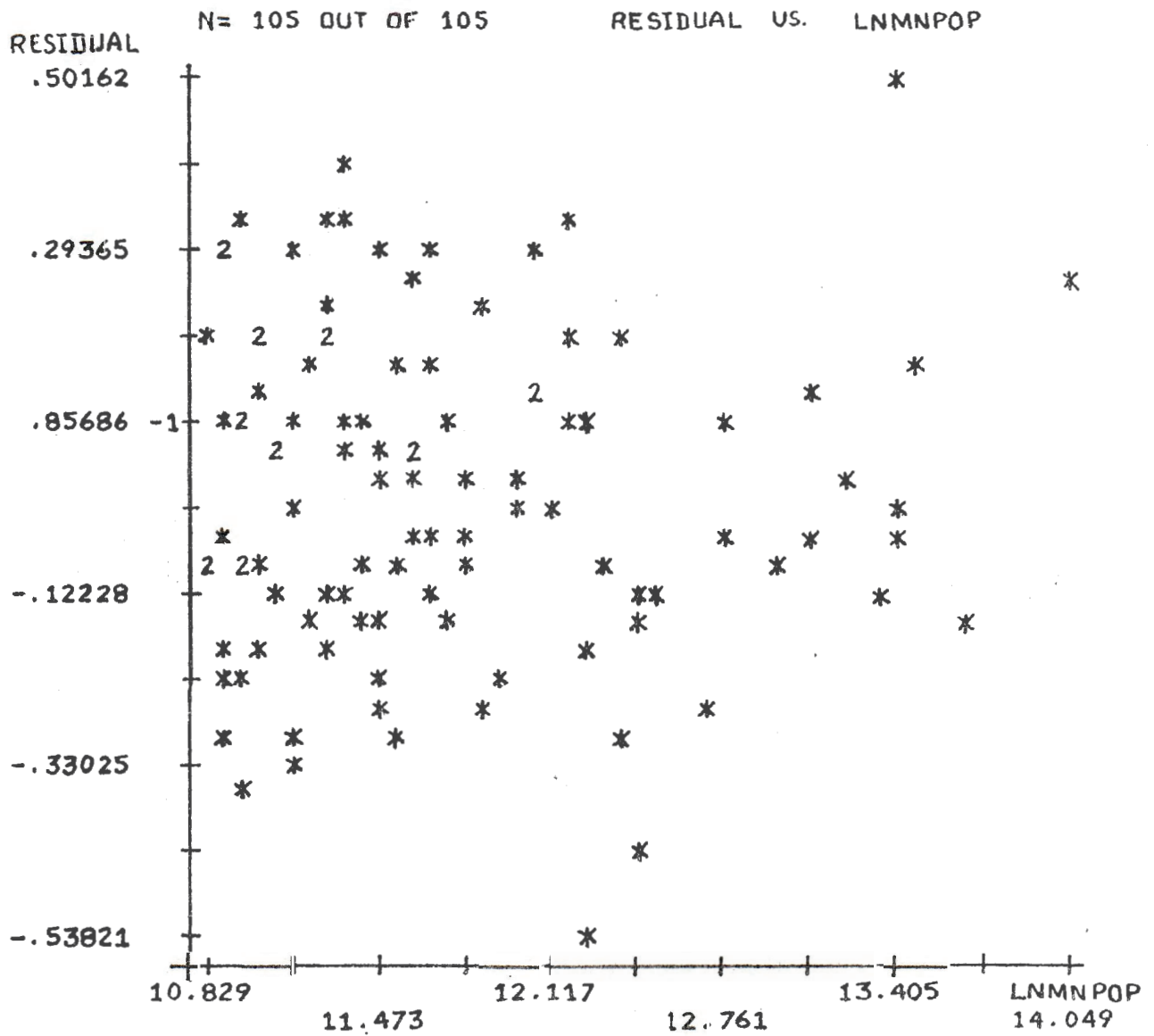Figure 6: Scatterplot of Multiplicative Model Residual on LNMNPOP

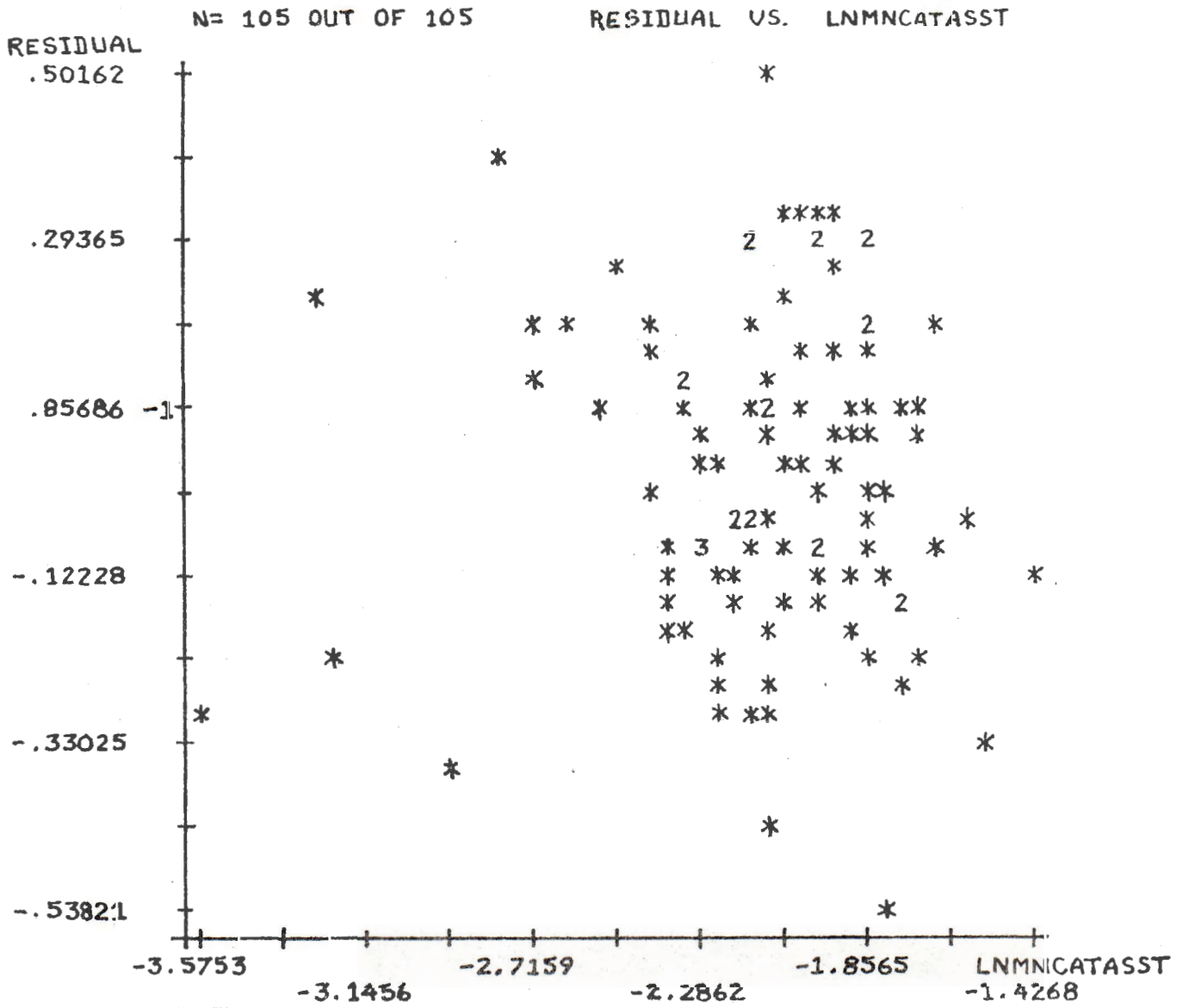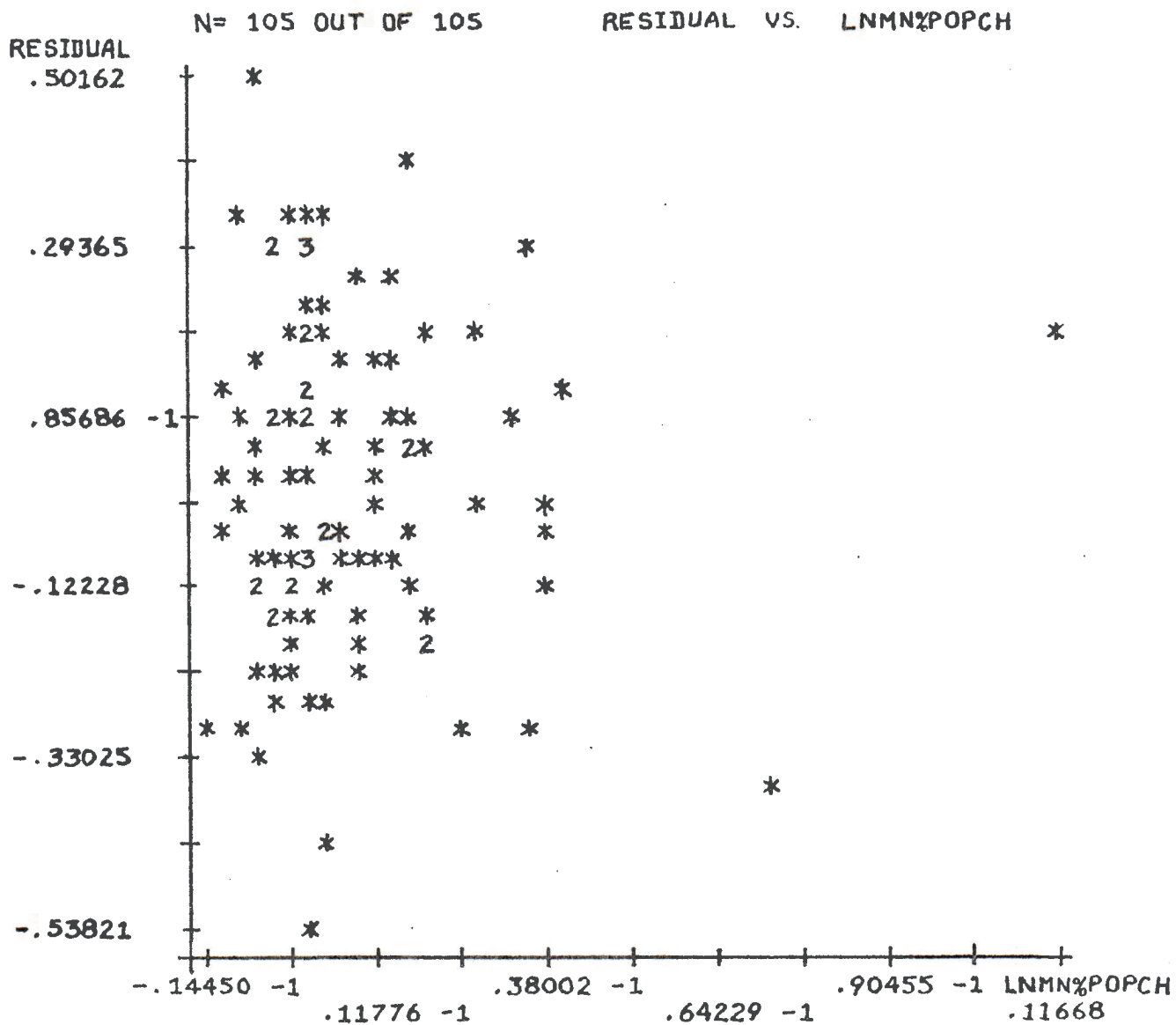Figure 7: Scatterplot of Multiplicative Model Residual on LNMNCATASST

Figure 8: Scatterplot of Multiplicative Model Residual on LNMN%POPCH

$\hat{Y}_i$, and the error term, $\mathcal{E}_i$, are uncorrelated. This implies that the residuals are evenly distributed relative to the observed Y_i. Figure 9 shows that this assumption has not been violated either. Therefore it can be concluded that the multiplicative model is a reasonable statement of the relationship between a city's demonstrated budgetary flexibility, population size, fiscal autonomy, and population growth rate.

Interpretation

Employed in a simple multiplicative model, MNPOP, MNCATASST, and MN%POPCH produce a good, partial explanation of long-run, inter-city differences in budgetary flexibility demonstrated at the functional department level of priority-setting. Contrary to Crecine's prediction, the extent of relative resource reallocation does vary with population size and the relationship between them is moderately strong and negative. This evidence seems to support Duncan's argument that complexity is a positive function of organizational size. Apparently larger staffs and information processing capabilities do not offset altogether the increased complexity of the balanced budget problem confronting fiscal decision-makers in larger cities. Presumably this leads them to rely more heavily on simple rules-of-thumb and to display less flexibility in formulating budgetary proposals.

Resource availability and autonomy in making expenditure decisions also affect priority structure adaptability. This suggests that the presence of slack and fiscal independence allows officials to meet most or all spending requests based on simple decision rules and still to devote some resources to emerging needs. Municipalities with less substantial resources or freedom to allocate them are more likely to find themselves locked into their respective existing priority structures.

Figure 9: Scatterplot of Multiplicative Model Residual on LNMNTBFLEX
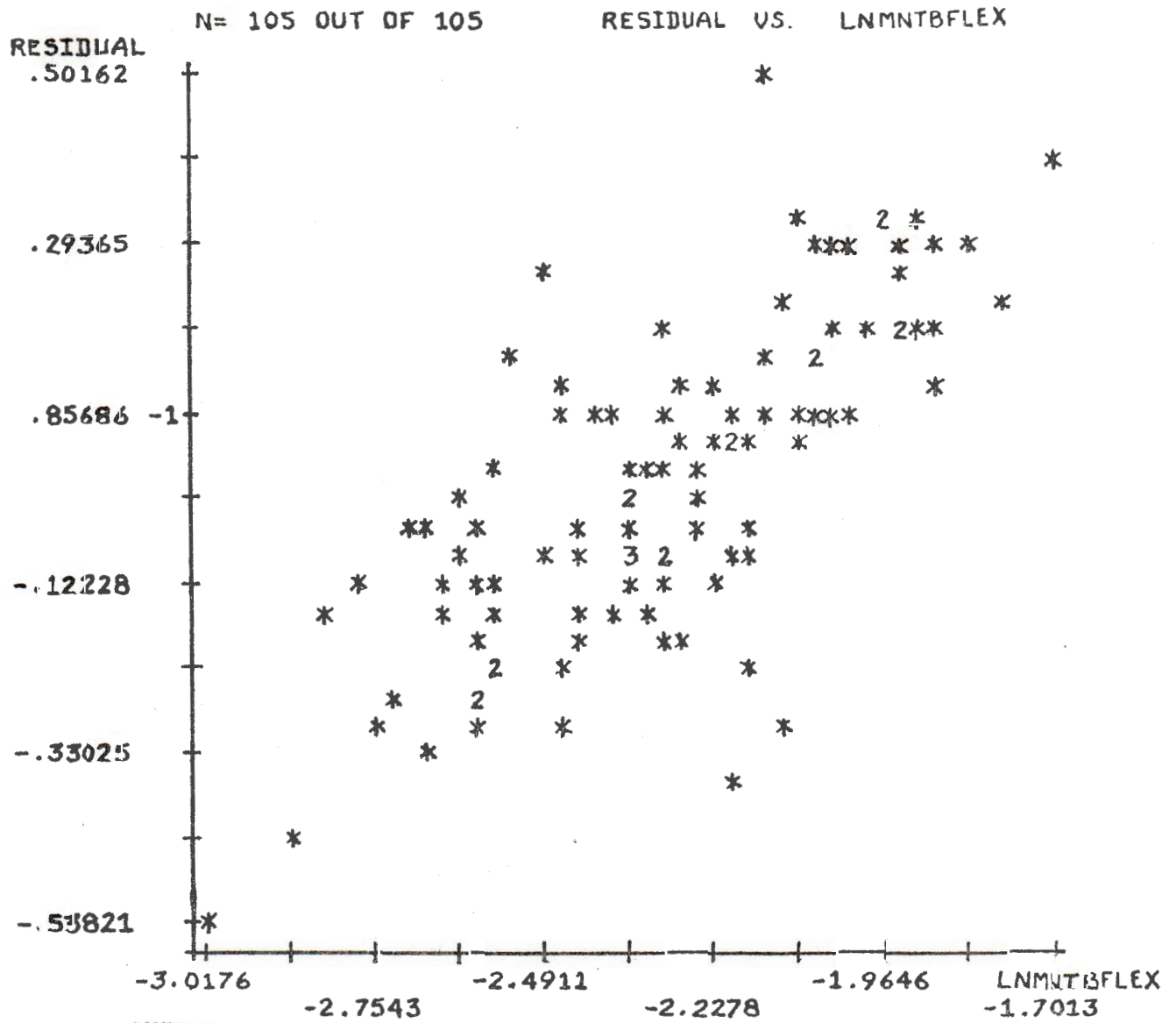
Demonstrated budgetary flexibility also is associated with the static-dynamic dimension of the municipal environment. As noted above, though, the relationship's magnitude is smaller than Duncan suggests and its direction is opposite to that in his findings. Three factors may account for this discrepancy between his results and those presented here. First, Duncan's sample was quite small, consisting of just six organizations. Second, these organizations were heterogeneous, including three manufacturing and three research and development enterprises from different industries. Third, Duncan encountered some measurement problems due to his dependence on interviewees' subjective responses to environmental instability and perceived uncertainty. At least insofar as the static-dynamic dimension's effect on West German municipal fiscal behavior is concerned, one can have greater confidence in the test results produced here because the sample size is larger, the organizational type is more homogeneous, and the measures employed are more objective.

One possible interpretation of these results is that the problems accompanying population growth provide an additional stimulus, above that already present in the environment, for officials to reach non-routine decisions. Then, the relative weakness of the static-dynamic dimension's effect might be explained by the other explanatory variables' limiting officials' capacity to respond to this stimulus.

The finding that interparty competition has an insignificant impact on demonstrated budgetary flexibility supports Crecine and the decision process modelers' view of budget formulation rather than that of Wright and his colleagues. One reason that resource allocation decisions seem to be insulated from partisan political considerations over the long-run is that bureaucrats effectively make most of them.[29] Agency chiefs initiate funding requests.

Department heads review and sign them. Next, the comptroller processes the requests and formulates the executive draft budget. Then the city manager, the comptroller, and the department heads jointly reconcile any disagreements. As discussed above, when city council finally receives the executive's expenditure proposals, its members are ill-equipped to modify them. Typically they lack sufficient time and staff to alter the executive's budget plans significantly, while still meeting the balanced budget requirement.[30] Moreover, due to their lengthy terms of office, West German municipal administrators tend to be less sensitive to partisan considerations than they might be if their continuation in office could be affected by short-run changes in council's partisan composition.

Two caveats are in order concerning the interpretation of test results presented in this study. First, the estimated coefficients only apply to this group of 105 municipalities during the decade from 1963 to 1972. The universe of West German cities does not constitute a random sample of some larger urban universe. These results need to be corroborated in other national and temporal settings. It may well be that a more complete explanation of demonstrated budgetary flexibility can be attained by employing other indicators or identifying additional variables. Furthermore, it could be that in other places or at other times partisan politics play a larger role in establishing relative expenditure priorities.

Second, the analysis conducted here examined relationships among variables' mean values over the decade. In keeping with this attribute of the research, the interpretation should be viewed as applying to long-run behavior. In the context of short-run or specific priority shifts, it may be that many other variables are equally or more important than the three discussed here.

Bearing these caveats in mind, federal and state policy-makers who want to increase the adaptability of municipalities' priority structures appear to

have two options.[31]   On the one hand, they could increase general purpose

transfers to cities, thereby increasing locally available revenue and the

degree of local priority-setting autonomy. However, since MNPOP's influence

is four times stronger than MNCATASST's, this would be a very expensive option,

especially if major cities were to be the main beneficiaries.

On the other hand, higher authorities might encourage efforts to simplify

the budget formulation process. One way to accomplish this in larger cities

would be to create borough governments with their own fiscal autonomy and to

decentralize some authority to them. While single governments for entire urban

regions may be desirable for dealing with such problems as air pollution, it

is not clear that every municipal function is best exercised by a central

metropolitan government. Decentralization ought to reduce the number of line

items in a city's budget. Borough budgets ought to be relatively simple

given the smaller populations for which services would be funded. Since

simpler budget problems are easier to solve, decision-makers would be less

dependent on rules-of-thumb for doing so. This, in turn, should allow

greater flexibility in establishing annual expenditure priorities. At a time

when city-dwellers perceive a great distance between themselves and their

elected officials and when higher authorities are trying to consolidate their

own finances, this option appears particularly attractive.

References

1. C. E. Lindblom, "The Science of 'Muddling Through,'" Public Administration Review (Spring, 1959), pp. 79-88, and "Policy Analysis," American Economic Review (June, 1958), pp. 298-312, and David Braybrooke and C. E. Lindblom, A Strategy of Decision (New York: The Macmillan Company, 1963), pp. 61-111.

2. At the national level the classic example is Otto A. Davis, M. A. H. Dempster, and Aaron Wildavsky, "A Theory of the Budgetary Process," American Political Science Review (September 1966), pp. 529-47. Many studies have been made of incremental budgeting at the state level. Among them are Ira Sharkansky, Spending in the American States (Chicago: Rand McNally, 1968); and "Agency Requests, Gubernatorial Recommendations and Budget Success in State Legislatures," American Political Science Review (December 1968). At the local level a good example of this research is John P. Crecine, Governmental Problem-Solving: A Computer Simulation of Municipal Budgeting (Chicago: Rand McNally & Company, 1969).

3. Ira Sharkansky, The Routines of Politics (New York: Van Nostrand Rheinhold Company, 1970), pp. 3-19.

4. Jesse Burkhead and Jerry Miner, Public Expenditure, (Chicago: Aldine Publishing Company, 1971), p. 155. For further discussion of this theme, see Alan K. Campbell and Jess Burkhead, "Public Policy for Urban America," in Harvey S. Perloff and Lowdon Wingo, Jr., eds., Issues in Urban Economics (Baltimore: The Johns Hopkins Press, 1968), pp. 577-649.

5. See Alan Peacock and Jack Wiseman, The Growth of Public Expenditures in the United Kingdom (London: Allen and Unwin, 1967); and Ira Sharkansky, Spending in the American States, op. cit.

6. For example, see John P. Crecine, op. cit., and Patrick D. Larkey, Process Models and Program Evaluation: The Impact of General Revenue-Sharing on Municipal Fiscal Behavior, (Diss., University of Michigan, 1975).

7. For example, see Harvey E. Brazer, City Expenditures in the United States, (New York: National Bureau of Economic Research, 1959); Roy W. Bahl, Metropolitan City Expenditures, (Lexington: University of Kentucky Press, 1969); R.A. Dahl, Who Governs?, (New Haven: Yale University Press, 1961); and F.W. Hunter, Community Power Structure, (Chapel Hill: University of North Carolina Press, 1953).

8. Both Crecine and Larkey test a number of process models, each of which attains levels of statistical explanation seldom seen in the social sciences.

9. For example, Thomas Dye investigates the influence of statewide income, population density, urbanization, educational level, partisanship, party competition, voter participation, and malapportionment on state expenditures. However, he does so employing the most diverse and intercorrelated set of regressors in a single estimating equation. See Thomas R. Dye, Politics, Economics, and the Public: Policy Outcomes in the American States, (Chicago: Rand McNally, 1967).

10. Policy shifts may occur within administrative units beneath the same budget ceiling. These shifts may be quite important, e.g. when a police department shifts from traffic regulation to street crime as its principal law enforcement objective. However in the present study attention is focused exclusively on those policy shifts that require reallocation of relative expenditure priorities.

11. West German administrative law restricts the city executive's and the city council's freedom to restructure the organization of municipal administration and to reassign functions within that organization. See Michael Borchmann, "Oberbuergermeister und Geschaeftsverteilungskompetenz," Der Staedtetag, (Stuttgart: W. Kohlhammer; December, 1977), pp. 678-82.

12. The present study employs data combining public security outlays with those for general administration. Thus the calculations of demonstrated budgetary flexibility scores are made on the basis of seven rather than eight functional departments.

13. West Berlin, Hamburg, and Bremen-Bremerhaven were excluded because the priority-setting behavior of these city-states is best compared with that of other states rather than cities. Bad Godesberg was not included due to its annexation by Bonn in 1967. Saarbruecken was omitted due to missing data problems.

14. The statistical yearbook published by the German Municipal League has appeared annually since the late 1880's. See Dentscher Staedtetag, Statistisches Jahrbuch Deutscher Gemeinden, (Stuttgart: Verlag W. Kohlhammer).

15. For a brief discussion of this problem, see Burkhead and Miner, op. cit., pp. 310-7.

16. See Crecine, op. cit., pp. 222-3.

17. Robert B. Duncan, "Characteristics of Organizational Environments and Perceived Uncertainty," Administrative Science Quarterly, September 1972, pp. 313-27.

18. For example, see: Brazer, op. cit.; Crecine, op. cit.; and Dye, op. cit.

19. R.M. Cyert and J.G. March, A Behavioral Theory of the Firm, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963).

20. Lawrence B. Mohr, "Determinants of Innovations in Organizations," American Political Science Review, (March 1969), pp. 111-26.

21. The simple correlation statistic's value for taxable capacity's relationship with MNCATASST for 105 West German municipalities equals -.4075.

22. See Gerald C. Wright, Jr., "Interparty Competition and State Welfare Policy: When a Difference Makes a Difference," The Journal of Politics, 37 (1975), pp. 796-802; Glen T. Broach, "Interparty Competition, State Welfare Policies, and Nonlinear Regression," The Journal of Politics, 35 (1973), pp. 737-43; and David G. Pfeiffer, "The Measurement of Interparty Competition and Systemic Stability," American Political Science

Review, 61 (1967), pp. 457-67.

23. See Crecine, op. cit., pp. 99-110.

24. The 50% figure was chosen because with one-half of the total vote a single party can rule alone, implementing its own expenditure priorities. The difference between 50% and %SPD measures how closely the voter preferences came to a perfect split of 50% for the SPD and 50% for all other parties combined. Thus perfect competition is denoted by a score of 0% and a one-party monopoly by a score of 50%.

    The choice of %SPD as the partisan variable in this expression is wholly arbitrary. One could employ %CDU/CSU just as readily.

25. This hypothetical example is an extreme one. Neither MNPOP, MNCATASST, nor MN%POPCH takes on the value of zero in the present data set.

26. The "best" statistical result for MNPRTCOM attains in the simple additive model of MNTBFLEX in combination with the other three explanatory variables. Below are the results from testing that model.

Variable	Partial	Coeff.	Std. Error	T-Stat	Signif.
Constant		.14128	.87032 -2	16.233	.0000
MNPOP	-.44738	-.56985 -7	.11392 -7	-5.0023	.0000
MNCATASST	-.34763	-.22614	.60996 -1	-3.7076	.0003
MN%POPCH	.27117	.35218	.12501	2.8173	.0058
MNPRTCOM	-.06308	-.28118 -3	.44490 -3	-.63202	.5288

27. See J. Johnston, Econometric Methods, (New York: McGraw-Hill Book Company, 1972), pp. 8-13.

28. (± 1.96) X (.19997) = $\pm$ .3919412.

29. See Crecine, op. cit., pp. 50-98.

30. In their study of budget-making in Dortmund, Camph and Crecine found that, "As in American cities, the net effect of the Council is not large, affecting relatively few expenditure decisions." See D.H. Camph and J.P. Crecine "Dortmund Report", (Draft paper, University of Michigan, 1973), p. 19.

31. Presumably, manipulating the population growth rate to influence budgetary outcomes would not be a realistic policy alternative in most western nations.