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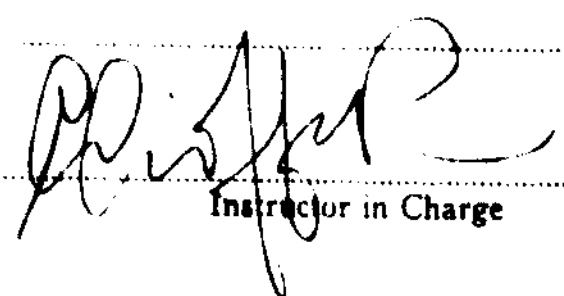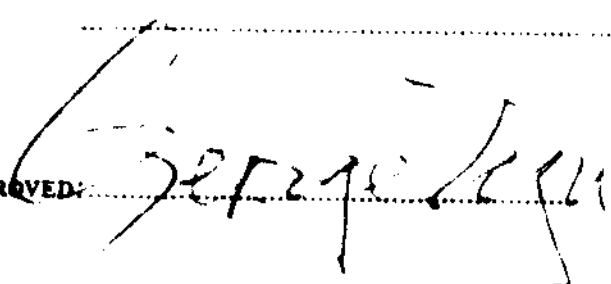
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THE RELATIONSHIP BETWEEN ECONOMIC

AND POLITICAL PERFORMANCE IN ITALY:

1948-1977

BY

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ABSTRACT

The h gh degree of variabili of the Italian political performance has been attributed to many different combinations of causal factors, most of which have included, in some form, the Italian economic performance. This analysis seeks to establish the nature of the relationship between Italy's political and economic performance rather than establish causality. The thesis proceeds by 1) constructing operational indexes for Italian political and economic performance, 2) utilizing the indexes in rejecting the hypothesis that increasing economic performance gives rise to ever increasing political performance, and 3) extracting a model (via the Gauss-Newton non-linear regression technique) illustrating that the relationship is actually an inverse quadratic one.

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Thanks go to Professor Claudio Cioffi-Revilla, my senior thesis advisor, for allowing me the freedom to explore a few paths that may have been a bit treacherous for a novice. Also to Michael Frank of the Social Sciences Quantitative Laboratory for introducing me to SAS.

SECTION 1.

INTRODUCTION

Numerous studies have been conducted that examine the impact of various forces on the political performances of selected nations. Those works have usually employed multiple-regression or some sort of autoregressive time series analysis to determine the relationships between 1) groups of salient (to the general populace) economic independent variables and 2) a dependent political performance indicator or a type of voting pattern indicator. These methodologies are very specific. They tend to focus on a select group of economic variables that may not fully indicate general economic performance. Furthermore, relying on surveys can be problematic. Although the techniques are improving, they are still subject to a great deal of judgement on the part of the researchers and respondents. Too much reliance on judgement can damage the reliability of the measurements. Election results are interesting measuring devices but they may not be fully representative of political performance either. Too many of the other actions that the general populace engages in are unaccounted for. The point is that political performance need not be measured via the indirect path of demand placement through elections nor subjective based survey results. It can also be measured by looking directly at political events data.

In this study, a more encompassing measure of economic performance is utilized; it is a broad based model similar to the

U.S. Bureau of Economic Analysis' composite economic index. Similarly, this study attempts to construct a more objective, overall measurement of political performance via events data.

The political performance indicator is more objective because it relies on actual events data to measure different aspects of performance. At the individual events variable level, the composite index is free from the effects of biased reporting because it is only the event or behavior that is recorded.[1] Only at the construction level (variable weighting) is the composite index forced to rely on judgement; thus minimizing error (in this study, it is necessarily the author's judgement).

The purpose of this study is to determine the broad, long-term relationship between economic and political performance in Italy from 1948 to 1977. Politico-economic analysis is an increasingly important interdisciplinary field that needs to be explored much further given the real-world binding of the two phenomena.

SECTION 2.

REVIEW OF PERTINENT LITERATURE

"Partial" politico-economic interdependence models usually study the interrelationship between a particular set of independent variables (such as inflation, unemployment, or wage

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[1] The benefits of events data usage are similar to those of content analysis which only considers column space to issues as the determining factor of importance; not reporters' opinions.

fluctuations) and a dependent variable (such as a subjective measurement of political support or voter results). In the United States, there has been extensive work with respect to basic economic indicators' effects on presidential popularity (Shapiro and Conforto 1980; Monroe and Laughlin 1983; Norpoth and Yantek 1983). A majority of the studies agree about the importance of economic conditions on the public's assessment of executive (government) performance as well as on the impact of election outcomes (Fiorina 1981; Klukinski and West 1981; Feldman 1982; Lijphart 1982).

Generally, studies of Western Europe have also agreed on the importance of economic indicators--particularly unemployment and inflation--in relation to various aspects of government performance (Hibbs and Vasilatos 1981; Hibbs 1982; Robertson 1983, 1984; Franz 1986; Kirchgassner 1986; Whiteley 1986).

Works concentrating on Italy have not been as numerous. However, several authors have published papers employing regression and autoregression analysis to relate economic effects to the percentage of legislative votes for left-wing parties. Michael S. Lewis-Beck and Paolo Bellucci (1982) found that "worsening aggregate economic conditions significantly increase the legislative vote for leftist parties, which have traditionally played on opposition role". Bellucci (1984) found that increasing rates of inflation penalized the Christian Democratic party and strengthened the Communists while increasing

unemployment rates had an opposite effect. In a comparative study of Britain, France, Germany, and Italy, Lewis-Beck (1985) concluded that while economic indicators are relatively important vote determinants in all the cases, only in Italy are the social cleavages of class and religion more important.

Italy is truly an interesting case due to the wealth of conflicting literary and journal works that have been published. Conflicting points of view can easily give rise to conflicting conclusions in literary arguments. And in the quantitative studies reviewed above, the scopes of analysis have been relatively limited thus giving rise to seemingly contradictory results. Particularly if the results are elevated to a broader plane.

SECTION 3.

THEORETICAL FRAMEWORK

The general theoretical framework consists of a macro-system explanation of political-economic relationships. It is based on the public choice political theory which assumes that individualistic (economic) models of behavior determines the actions of both political and economic decision-makers.[2] Specifically, political performance, which may be conceptualized

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[2] In other words, the actors primarily consider their own advantages constrained only by secondary outside forces. See Bruno S. Frey (1980) and Paul Whiteley (1980) for complete discussions of the macro-system framework of analysis.

as the level of demands responsiveness and demands satisfaction, is believed to be strongly determined by economic performance, which is conceptionalized as the level of microeconomic well-being and security as well as the macroeconomic ability to provide future levels of microeconomic benefits.'

With the "systems model" in place, an intriguing question arises. Empirically, does increasing economic performance relate positively to political performance to a significant degree? This analysis hypothesizes theoretically that this relationship does indeed hold.

SECTION 4.

PRINCIPAL HYPOTHESES

Political performance is defined generically as

$$P=f(p_1,p_2,\ldots,p_n),$$

where p_n are events data variables. Economic performance is defined generically as

$$E=f(e_1,e_2,\ldots,e_n),$$

where e_n are selected economic variables. Both composite indicators are explicitly operationalized in the following section.

. . . .

'Karl W. Deutsch (1970, 199-223) emphasizes "effectiveness" (the ability to make an unlikely outcome more likely) and "efficiency" (the ratio of the change in effectiveness to the cost of the change) as the two components of political performance. It is reasonable to hypothesize that an increase in economic assets will increase both effectiveness and efficiency. As the political system devotes more resources to make unlikely outcomes more likely and find better ways to minimize cost, political performance should increase.

The research hypothesis is that the function relating political performance (P) to economic performance (E) is an increasing one that must necessarily increase at a decreasing rate due to diminishing returns. It is determined by

$P=f(E)$

and more explicitly in the following equation

[1] $f(E)=\ln(kE)$

Statistical estimation and testing of the logarithmic model will proceed by fitting the hypothesized model [equation 1] to the observed values of the indexes. Then a maximum likelihood estimate of the constant k will yield predicted values of P, given as $\hat{p}$. As a measure of the goodness-of-fit between the observed P and $\hat{p}$, the statistic

$w=SUM_{n_{0 \cdot \cdot \cdot n}}[(P_i-\hat{p}_i)'/\hat{p}_i]$, asymtotic to $X^2_{0.05}$

will be calculated where

    i=observation
    n=30 years
    X^2=Chi-squared statistic
    0.05=level of test statistic

H_0:f(E) is logarithmic will be rejected at 5 percent if $w>X^2$ and H_1:f(E) is some other function will be accepted at 5 percent if $w<X^2$.

SECTION 5.

METHOD OF EMPIRICAL ANALYSIS

Data Sources, Selection, and Preparation

The method of empirical analysis utilizes an existing data set archived on magnetic tape in the Inter-University Consortium for Political Research, at the University of Michigan, Ann Arbor to operationalize the concept of political performance. The single nation reliability of the Consortium data is subject to time-span problems of events data coding and the problems associated with inter-coder reliability, however, multiple source merging, strict selection criteria for coders, and rigorous coder training have minimized reliability problems. The validity of the data itself is also maximized through multiple source merging and coder preparation.[4] Problems related to cross-national validity are not encountered in a single case study.

Empirical data used in the operationalization of economic performance is drawn from the United Nations, New York, and the Istituto Centrale di Statistica, Rome. Economic data is often subject to reliability problems in the form of base period changes across time, however, splicing techniques are employed to connect and smooth the series thereby alleviating the problem.[5]

[4] See Charles L. Taylor and Michael C. Hudson (1972, 391-423) for a complete discussion of the Consortium data. Note that the data is believed to be valid in that particular variables measure what they are supposed to measure. The author must take the credit or blame for the final index validity.

[5] The accounting method for unemployment was changed in 1955 and then changed back to the original method in 1965. Values for this period were linearly interpolated to maintain continuity.

Although Italy does not have a reputation for stringent accounting standards, this is assumed to be constant over time and the data is considered valid.

The sample data spans the period of 1948 to 1977, yielding thirty observations. Data prior to this time can not be considered reliable or complete and there is currently a lack of Consortium political data from 1978 to the present.

Pearson correlation coefficients are calculated within the political and economic data sets to identify variables that appeared to measure the same phenomena. None of the original political variables have been removed due to correlation problems. However, several of the original economic variables are highly correlated and the most representative variables of the correlated subgroups have been chosen to remain in the index construction.[6]

Univariate analysis is then employed on the surviving data set to identify variables that are from normal distributions and therefore susceptible to the standardization necessary in combining them into a common scale. Of the surviving indicators, all but three political variables are standardized to a mean of zero and a standard deviation of one (m=0; sd=1).

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[6]Examples of highly correlated variables were: GNP, GDP, and per capita GNP; consumer price index and whosale price index; declared bankruptcies and closures; workers strikes and the numbers of workers involved in strikes.

The three non-normally distributed variables are included as dummy variables in the index construction. The surviving variables are believed to be useful indicators of political and economic performance.

Index Construction

Political action (specifically policy outputs) results in performance levels which in turn manifest demand and support actions of the general populace (events data). Some of the events data can be tapped to directly measure the general populace's satisfaction with the policy outputs and through this, the index of political performance is obtained.

In addition to the responsiveness element of performance, the concept of political stability must be included in the final measure. Political stability is recognized to be composed of two primary elements: regime (diachronic) stability, and governmental (synchronic) stability. Post World War II Italian regime stability has proven to be very good; while on the other hand, governmental stability has proven to be far below the average of Western democratic nations. However, below average governmental stability must be treated very carefully in the particular case of Italy. The Italian political culture suggests that governmental "instability" is constant over time and therefore cannot be weighed as heavily in the final measurement.

Just as some empirical data in research is based on opinion, the final index construction in this analysis is based on

judgement. The political performance composite index is constructed by weighting variable coefficients according to their positive or negative contribution to an overall performance level where

```
 1.00= strong positive
 0.66= medium positive
 0.33= mild positive
-0.33= mild negative
-0.66= medium negative
-1.00= strong negative
```

The variables are assigned values in the following equation

$$[2] \quad P=-1.00(RIOTS)-0.66(IMPSANC)+0.66(RELSANC)-0.33(PRODEM)$$
$$-0.66(POLSTR)-0.66(ARMATTK)-0.66(DEAPOLV)+0.33(EXECADJ)$$
$$-0.33(ASSAS>1)-0.66(UNREGEXT>1)+0.66(SUPDEM>3)$$

where the weights are justified in the following key:

P= composite index of political performance

RIOTS = riots--the most serious indication of demand
    unresponsiveness for any government. Riots serve
    as the reference or base weighting of -1.00. No
    other events represent a stronger
    positive/negative contribution to P (ie. |RIOTS| >
    |all other political indicators|).

IMPSANC = imposition of sanctions--a medium negative
    contribution to P. The government considers the
    immediate situation serious enough to warrant
    control measures.

RELSANC = relaxation of sanctions--a medium positive
    contribution to P. The opposite effect of
    IMPSANC.

PRODEM = protest demonstrations--mildly negative
    contribution to P. Economic conditions may or may
    not be the catalyst. Demonstrations are often
    organized by special interest groups that do not
    represent the entire population's demands.

POLSTR = political strikes--medium negative contribution to
    P. Since exclusively economically oriented
    strikes were not coded, this is considered very
    serious. Labor stoppages for reasons other than
    economic ones are not frequent.

ARMATTK = armed attacks--mildly negative contribution to P.
    Although often conducted by fringe groups, still a
    fairly serious indication of demands
    unresponsiveness.

DEAPOLV = deaths frcm political violence--medium negative
    contribution to P. Although violence is a serious
    indication of problems, it is not weighted as
    heavily as riots because the deaths may occur as a
    result of fringe group activities.

EXECADJ = executive adjustments--mildly positive
    contribution to P. Cabinet turnover is often
    viewed as an indication of political instability,
    however, Italy's case is a rather peculiar one. A
    distinction must be made between regime and
    government stability. Regime stability in post-
    WWII Italy has been quite resilient in light of
    the strong perturbations that by all rights
    should have resulted in constitutional reforms or
    other regime turnover. Many authors see Italy's
    dynamic government coalitions (the give and take
    attitude) as instrumental in longer term regime
    stability.[7]

*ASSAS = political assassinations--mildly negative
    contribution to P. Coded assassinations were
    always the result of carefully executed operations
    by extremist groups.

*UNREGEXT = unsuccessful regular executive transfers--medium
    negative contribution to P. If a challenge to the
    prevailing executive is mounted, it can usually
    be inferred that there are serious fragmentations
    and divisions within the polity. These are fairly
    strong indi-itions of government instability. The
    lack of leadership is also recognized as a
    disruptive factor in policy execution. This
    weighting is not inconsistent with that of the
    EXECADJ when its contribution to regime stability
    is considered.

*SUPDEM = support demonstrations--medium positive
    contribution to P. Support demonstrations are not
    common and unless generated by government agents,
    they are considered as fairly important indicators
    of demands responsiveness.

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[7] For example, Joeseph LaPalombara (1987, 5, 14-15) and his emphasis on Italian politics as a spettacolo.

(* dummy variables enable the inclusion of non-normally distributed indicators that are considered important to the composite index validity)

The raw composite index from equation |1| is then standardized to

m=0 ; sd=1

The composite economic performance index is also derived from an additive equation that is similar to a model developed by the U.S. Bureau of Economic Analysis.[n]   It is an unweighted equation with the signs of the variable coefficients determined by the indicators' effects on overall economic performance given as

[3]   E=GNP+INDPRO-CPI-UNEMP+WAGES+INDSHRS-CLOSRS

where

> E = composite index of economic performance
>
> GNP = inflation adjusted gross national prcduct. Measures the overall economic process of productive activity. Italy also has a large underground economy. However, the accounting standards remained constant over the time period considered and therefore should not present a problem.
>
> INDPRO = industrial production index. Measures the more specific level of industrialization relative to agricultural output. Indicates the degree of industrialization.

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[n] See Zarnowi z and Boschan (1977) for a complete discussion on the BEA index.   n index's usefulness in predicting cyclical variations in ec n mi performance was examined and it was found that the composi e in ex is " tr nly significant" (Auerbach 1981, 594). The BEA index uses v. r able coefficients that are deviate slightly from value of +1.0 but as Auerbach states, "the extensive effort devoted   assigning and updating weights for the series inclu ed has esse ially no effect on the resulting index; it is distinguisha e from one with equal weights". Therefore the as ignments of equal weights to the Italian index should not damag its measurability; particularly in light of the fact that its purpose is not prediction.

CPI = consumer price index. Measures the general level of prices/inflation. A negative contribution to E because higher levels of inflation 1) impedes capital formation by creating higher costs of capital financing and uncertainty for investors, 2) disrupts consumption by eroding consumer purchasing power and confidence, and 3) causes resources to be diverted to information seeking activities rather than production.

UNEMP = unemployment percentages. A negative contribution to E because higher levels (above the "normal" rate) of unemployment 1) indicate inefficient uses of the labor force, 2) result in more unemployment compensation claims thus creating a drag on the economy, and 3) create pools of dependent workers who may eventually remove themselves from productive activity.

WAGES = wage levels. A positive contribution to E can offset inflation. Measures the levels of disposable income. Higher wage levels can be considered detrimental to the economy by management since they represent a major portion of production costs. However, in this analysis increased wage levels are a positive contribution to E because they indicate sufficient corporate profit levels.

INDSHRS = industrial shares index. Indicates the levels of investment activity. Investors rely on stock and bond valuation models that primarily consider growth expectations of industries and their own required rates of return on investment. In the aggregate, these models essentially measure the economy's future potential.

CLOSRS = business failures. A negative contribution to E because business closures represent losses of economic units in the economy.

The raw composite index is then standardized to

m=0 ; sd=1

Values for the respective final indexes are given in table 1 below.

Table 1.--Composite Performance Indexes

YEAR	ECON(E)	POL(P)
1948	-0.7852	-1.7929
1949	-0.7631	-1.8019
1950	-0.8443	-2.6037
1951	-1.1258	-0.1303
1952	-1.5295	0.7062
1953	-1.4445	-0.1830
1954	-1.4691	0.1217
1955	-1.0788	0.6943
1956	-1.4687	1.0926
1957	-1.3502	1.1132
1958	-1.0400	0.8748
1959	-0.6584	1.0792
1960	0.1908	-0.2164
1961	0.5314	0.6250
1962	0.5347	0.1374
1963	0.6954	0.5454
1964	0.4046	0.8469
1965	0.3049	1.3687
1966	0.4312	1.3607
1967	0.5391	0.8827
1968	0.4580	0.4251
1969	0.8035	-0.5775
1970	0.9876	0.2171
1971	0.7142	-0.2450
1972	0.6585	-0.3728
1973	1.2486	-0.6344
1974	1.4144	-0.6319
1975	1.2601	-0.9121
1976	1.2047	-0.1559
1977	1.1759	-1.3990

Modelling and Testing

The two composite indexes are then plotted with E on the horizontal axis (independent variable) and with P on the vertical axis (dependent variable). A visual inspection (figure 1; the reader should note that all figures have X as the economic index and Y as the political index) immediately indicates that the relationship 1) is not logarithmic or even constantly increasing,

2) their is a pattern that indicates a positive correlation followed by a negative one, and 3) there are three distinct clusters of observations.

From the visual inspection of the plotted observations, the research hypothesis that $f(E)=a+\ln(kE)$ is rejected and an alternative model is suggested. Visually, it appears that after eliminating the three outliers, an inverse quadratic function of the form

[4] $f(E)=a-b(E)-c(E)^2$

should be fit to the plot and tested as the replacement hypothesis. Gauss-Newton non-linear least squares regression is used to fit a curve.[9] The resultant inverse quadratic equation with parameters is obtained and given as

[5] $f(E)=0.831124-0.542696E-0.551657E^2$

where the parameters are rounded to six decimal places (figure 2). The goodness-of-fit for the replacement model is determined by the null hypothesis that

$H_0:a=b=c=0;$ $H_1:$ at least one parameter$\neq 0$

and the decision criteria is to reject H_0 if

$(SSR/k)/(SSE/n-k-1)>F_{k,n-k-1,0.05}$

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[9] A quadratic dependence is that P is determined by both E and E^2. The model given in equation [4] is simply a multiple regression equation involving three unknown coefficients, a, b, and c. These can be estimated by least squares. The model is treated as one relating P to a pair of "independent variables," E and E^2. The equation can be written as $P=a-b(E)-c(X)$ where $X=E^2$. Then hypothesis tests and confidence intervals can be obtained in the usual way.

where SSR=regression sum of squares
     SSE=error sum of squares
     n=number of observations (note outliers removed from model)
     k=degrees of freedom
     F=F-distribution
     0.05=level of test significance

The calculated value (see table 2 below for summary statistics) for the test statistic is 10.09715·F. Therefore H_o is rejected and the model's fit is considered good. The partial regression parameters are then tested with the hypothesis that

     H_o:partial regression parameter=0
     H_1:partial regression parameter≠0

and the decision criteria is to reject H_o if

     (parameter/standard error)·+t.

where t is the students t-distribution. The calculated values for the test statistics are

     a:4.38>t=2.069
     b:-4.73<t=-2.069
     c:-3.59·t=-2.069

Therefore, the H_o are rejected and the partial regression parameters are good.

A visual inspection of the residual values (figure 3) shows a fairly uniform scatter thus indicating that the model does not exhibit hetroscedasticity problems. Under the assumption that the model is good, the calculated coefficient of determination (R^2) value indicates that 55.8 percent of the variance in P is determined by E.

SAS

NON-LINEAR LEAST SQUARES SUMMARY STATISTICS   DEPENDENT VARIABLE Y

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	3	8.793029354	2.931009785
RESIDUAL	24	6.966736870	0.290280703
UNCORRECTED TOTAL	27	15.759766224	
(CORRECTED TOTAL)	26	14.336788133	

PARAMETER	ESTIMATE	ASYMPTOTIC STD. ERROR	ASYMPTOTIC 95 % CONFIDENCE INTERVAL LOWER	UPPER
A	0.8311239205	0.18968076096	0.43964522332	1.2226026176
B	-.5424950749	0.11480748888	-.77964417795	-0.3057459719
C	-.5516574083	0.15373861987	-.86895576955	-0.2343590471

ASYMPTOTIC CORRELATION MATRIX OF THE PARAMETERS

CORR	A	B	C
A	1.0000	-0.3992	-0.8360
B	-0.3992	1.0000	0.4249
C	-0.8360	0.4249	1.0000

Table 2

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SECTION 6.

DISCUSSION OF THE RESULTS

Qualitative Analysis

Proceeding under the assumption that the methodology utilized in the analysis is valid, several points can be drawn out.

Point One. Upon the visual inspection of the initial plot (figure 1) made previously, it was noted that three distinct clusters of observations emerged. These clusters may be broadly interpreted as "regimes of operation" of the Italian politico-economic system.[10]

There is a cluster of three points corresponding to the years 1948, 49, and 50. This is believed to be a reconstruction regime of post World War II Italy. The nation was recovering from the wartime devastation. P was at its minimum levels while E was well below average. The national economy was in the process of transforming from an orientation towards the production of war material to the satisfaction of deferred, basic

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[10] It is useful to think of regimes as the phases of operation or types of component interaction of a mechanical/chemical/electrical system such as an automobile. A reconstruction regime would be analogous to the starting of the automobile's engine. All the components of the system are operating under very abnormal conditions. The choke is engaged, temperature is low, oil pressure and viscosity is abnormal, etc. Then, as the system warms up, it is passing through a reconstruction regime. The different components of the system are advancing towards their normal operating levels. The steady-state regime occurs when all components of the system are operating at optimal levels according to the design specifications and slight perturbations of the system are quickly corrected.

human needs of its populace. Italy's political system was attempting to transform from autocracy to democracy. The low values of P most strongly represent the struggle among various proponents of democracy, the return of a monarchy, and marxism.

The second cluster appe. ; to be during a "kickoff regime". E was still at well below the mean for the time period under consideration. The nation's resources were being drawn into production, the economy was settling into a transformation mode, markets were being developed, and E was poised to enter a dramatic improvement. However, P had improved markedly to levels above or only slightly below the mean performance. The nation had settled upon democracy over monarchism, and the center rightist Christian Democrat party dominated the political sphere (albeit with constant challenges from the left). The nation seemed to be ready to enter a steady-state regime.

A third cluster corresponds to a period during which the economy was running at more "normal" levels of expansion and improvement. E improved very rapidly as evidenced by the lack of values around the mean. This is indicative of the extremely rapid industrialization often referred to as Italy's economic "miracle".[11] However, P was in a steady decline. The rapid increase in E and the decline in P is where Italy departs from the normal path to a steady-state regime. The departure from the

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[11] Italy's economy suffered setbacks in the worldwide "stagflation" periods of the 1970s. The reader should note that the E advanced sporadically after 1959, actually suffering declines in several years. Nevertheless, economic performance improved in broad terms over the entire period.

reconstruction regime to a steady state is normally a smooth, continuous process. Furthermore, all of the components of the system, in this case a politico-economic one, are supposed to be functioning at peak efficiency.

Point Two. The first derivative of f(E), given as

[6] $f'(E)=-1.1034E-0.5427$

measures the rate of change of P with respect to changes in E. Figure 4 shows this relationship graphically. It is one in which the changes in P with respect to E are increasing at a decreasing rate until E=-0.49185 (about 1959), where it the began to decrease at an increasing rate. At the maximum value of P on the model, the economic performance was slightly less than its mean. After this point, the economy outperformened the government.

Point Three. The sensitivity of political performance to economic performance can be calculated. Sensitivity is a measure of relative change in P to relative change in E and therefore is not effected by units of measure. It is given below as

$S_r(P)=E|f'(E)|/f(E)$

and explicitly in the following equation as

[7] $S_r(P)=(-1.1033E^2-0.5427E)/(-0.5517E2-0.5427E+0.8311)$

P can be considered sensitive to E when the absolute value of $S_r(P)>1.0$ and insensitive when less than 1.0.

The most important distinction that can be drawn from this is that P becomes extremely sensitive to E near P's mean values, which occur at two points: E=-0.81 and E=0.83. Furthermore, P remains sensitive to E untill E=-1.10 on the low end of the

spectrum, and it becomes sensitive again at E=0.45. This
indicates that the political performance is very sensitive to
improvements in economic performance very early in the growth
stages. But at a relatively early point in time the sensitivity
decreases. On the other hand, political performance becomes very
sensitive to further economic improvements at an earlier point
than might be expected. Political performance is insensitive
when the economic performance is at moderate levels.

Implications

The results suggest that the more rapid the rate of economic
growth and modernization, the more likely it is that the
political system will not be responsive to demands. Rapid
economic growth could creates tensions between those whose
economic position is improving and those whose are stable or in
decline. A relationship between economic performance and
political performance was stated by Samuel P. Huntington (1968,
41), "those [nations] at the bottom of the economic ladder, tend
to be less prone to violence and instability than those countries
just above them." Italy moved off the bottom of the ladder in
the 1960s.

The explanation for the decline in political performance
could be that Italy's social institutions that provided stability
and security for the individual and society were weakened due to
the rapid economic growth. Furthermore, the prospect for
improved individual economic position may have raised people's

aspirations beyond their immediate levels of achievement.

H. Stuart Hughes (1979, 219 230) articulates well the trauma Italian society suffered during its rapid growth. Hughes states that, "in Italy the change came in a particularly fast and uncontrolled fashion; in the social as opposed to the productive sphere, governmental planning was almost entirely absent." He also states that, "more than half of the expansion in national product went to investment rather than to current consumption." Apparently, much of the consumers consumption was not in the form of basic needs, but luxury and semi luxury items like automobiles.

Other scholars reenforce this prognosis. Sidney Tarrow (1980, 174-178) emphasizes Italy' urban social crisis of the 1970s in six points outlined below:

1. The modern city is a relatively recent product and unprepared absorb the masses of workers from the rural South after 1945.

2. The industrial revolution occurred at a pace that did not allow for the replacement of the patron-client relationships with a more liquid one.

3. The new urban working class that was formed during the 1960s lived in the "faceless suburbs of the North." This mass of undisciplined and often militant workers existed alongside the established well-organized and politically sophisticated workers of the industrial triangle (Milano-Torino-Genova). This created a volatile situation i ich large sectors of the population

were demanding participation. It caught union leaders and government by surprise.

4. There was an expanded class of small-businessmen, lower-level bureaucrats, and administrators that were outside the political reach of organized labor, but also outside the benefits of the existing urban bourgeois society.

5. A conflict of Catholicism and secularism that accompanied industrialization. Again, the suddenness with which the change took place resulted in severe problems.

6. A "convergence in time" between these trends resulted in the mass movements and protest of the 1970s.

Italy's rapid industrialization seems to have come at the price of the satisfaction of basic demands from the population. This resulted in the declining political performance seen after 1959.

SECTION 7

SUMMARY

In the beginning of this study, the relationship between Italy's economic and political performance was hypothesized to be strictly a positive one, albeit at a decreasing rate. This hypothesis was tested empirically and rejected.

In the original model's place, the inverse quadratic function emerged, was tested, and accepted. It shows that Italy experienced increasing political performance in relationship to

economic performance, but only up to a point. After about 1959, the political performance decreases at an increasing rate. The economy simply outran the ability of the political system to respond to the increasing demands being placed upon it. Upon a review of literary works, one sees that the new model is in fact more representative of actual events in Italy during the thirty-year time period.

It would be interesting to see if this model would stand up to empirical evidence when new political data from 1978 to 1987 is available. The relationship may actually be better represented by another type of function (ie., trigonometric) where the level of political performance bottoms out and then rises again. Intuitively, this seems possible because in the 1980s Italy has not seen the levels of violence and protest that was prevalent in earlier years.

In this study, the concepts of performance were operationalized using multiple indicators to obtain single indexes. Possibly, more accurate measurements could be obtained by using multiple indicators and multiple operationalization. The author feels, however, that for this study's purpose, the simplicity gained by single operationalization more than offsets any gains in accuracy.

PLOTTED STANDARDIZED VALUES OF ECON (X) AND POL (Y) PERFORMANCE
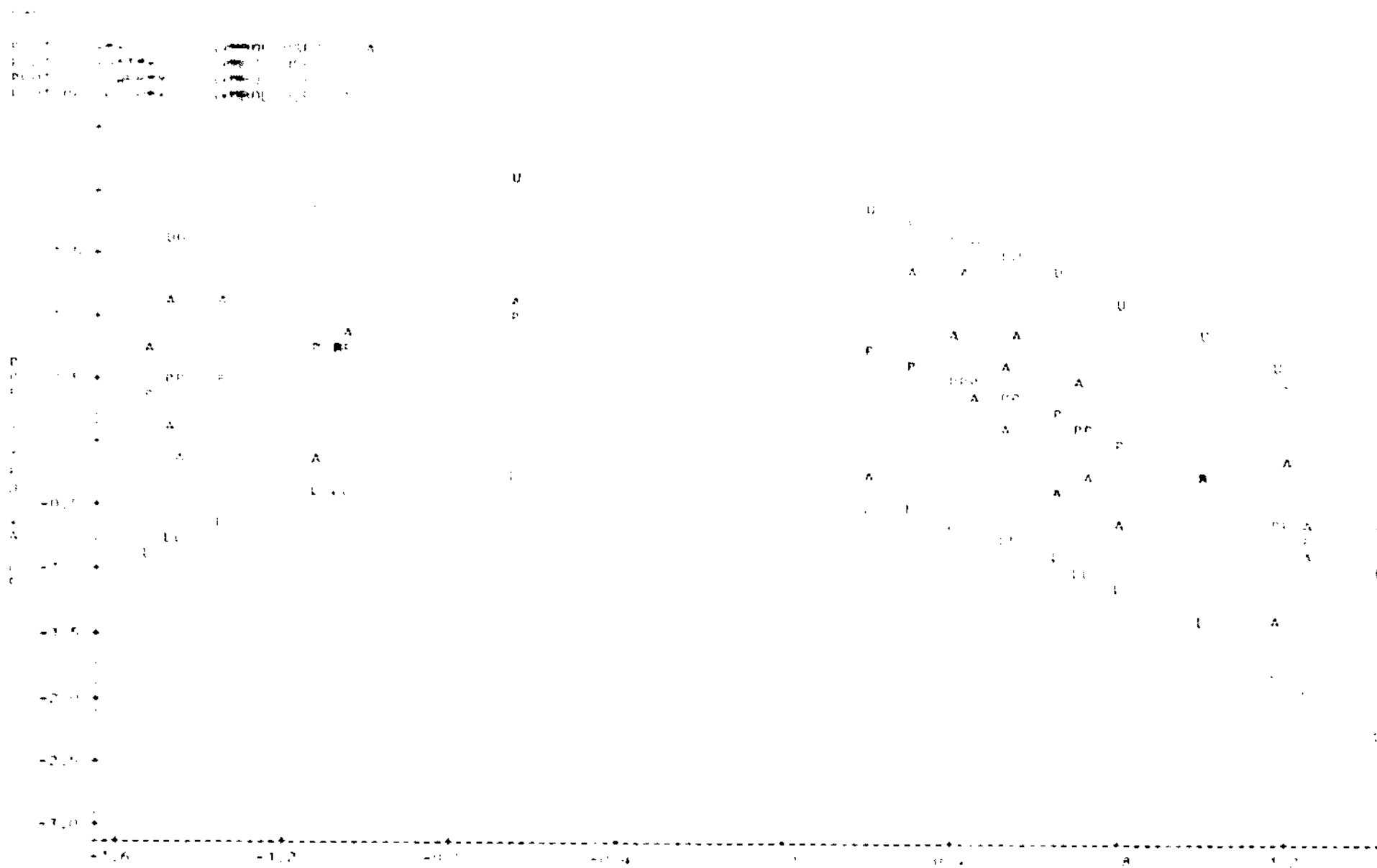
PLOT OF Y*X   SYMBOL USED IS *
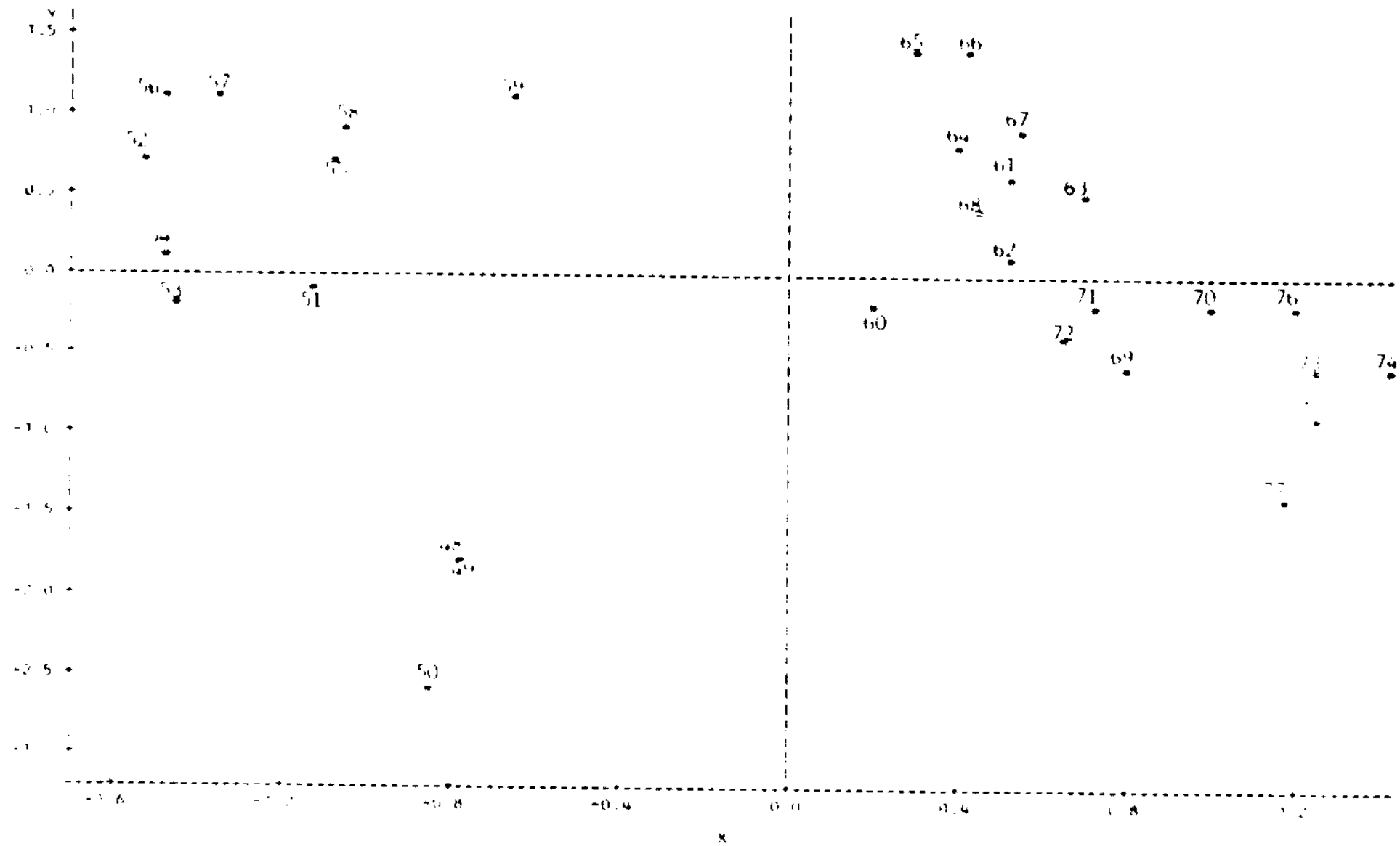
Figure 1

Note: The years have been inserted near their corresponding observations.

Figure 2

Note: Upper and lower values are calculated for a confidence interval
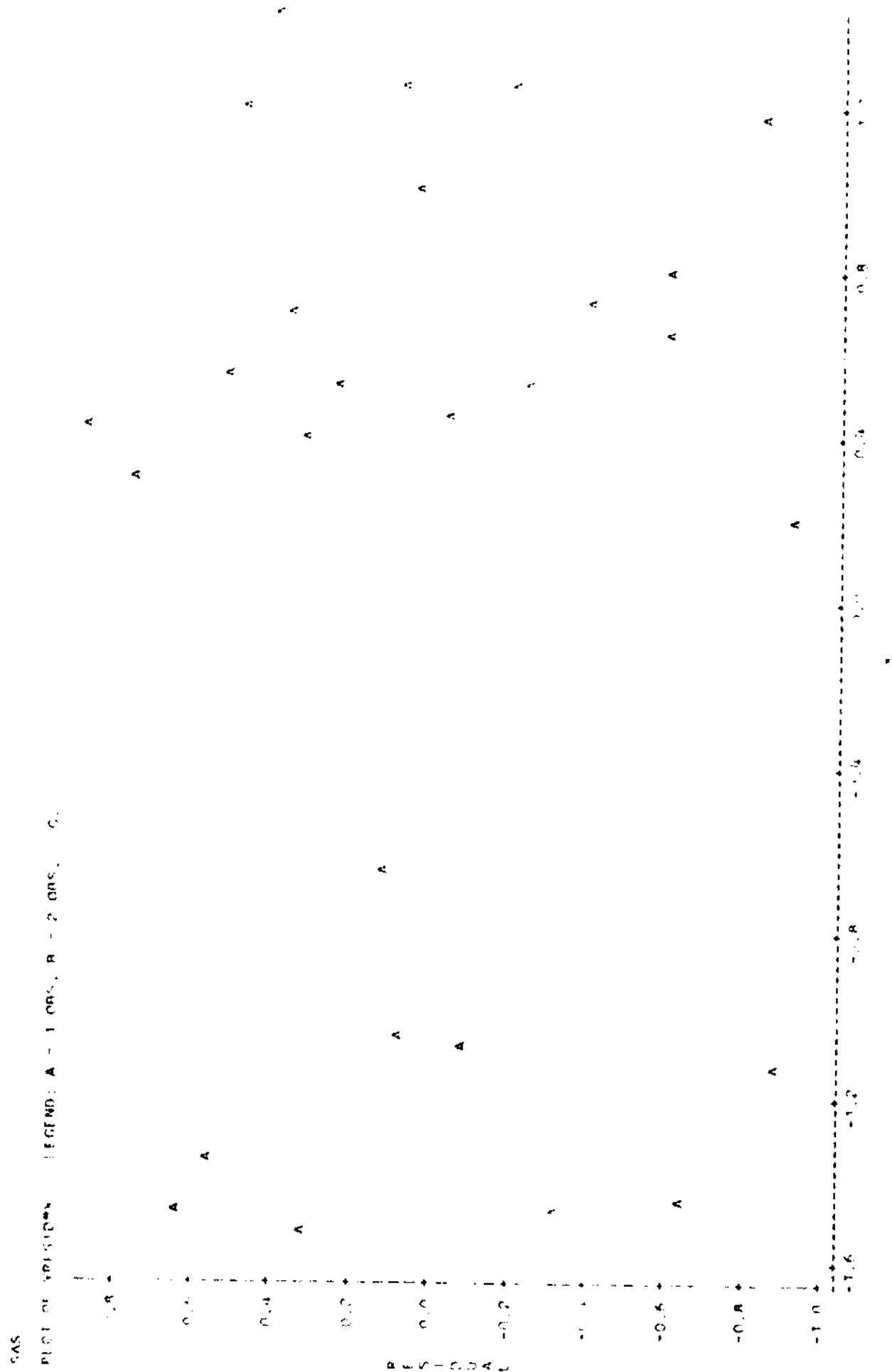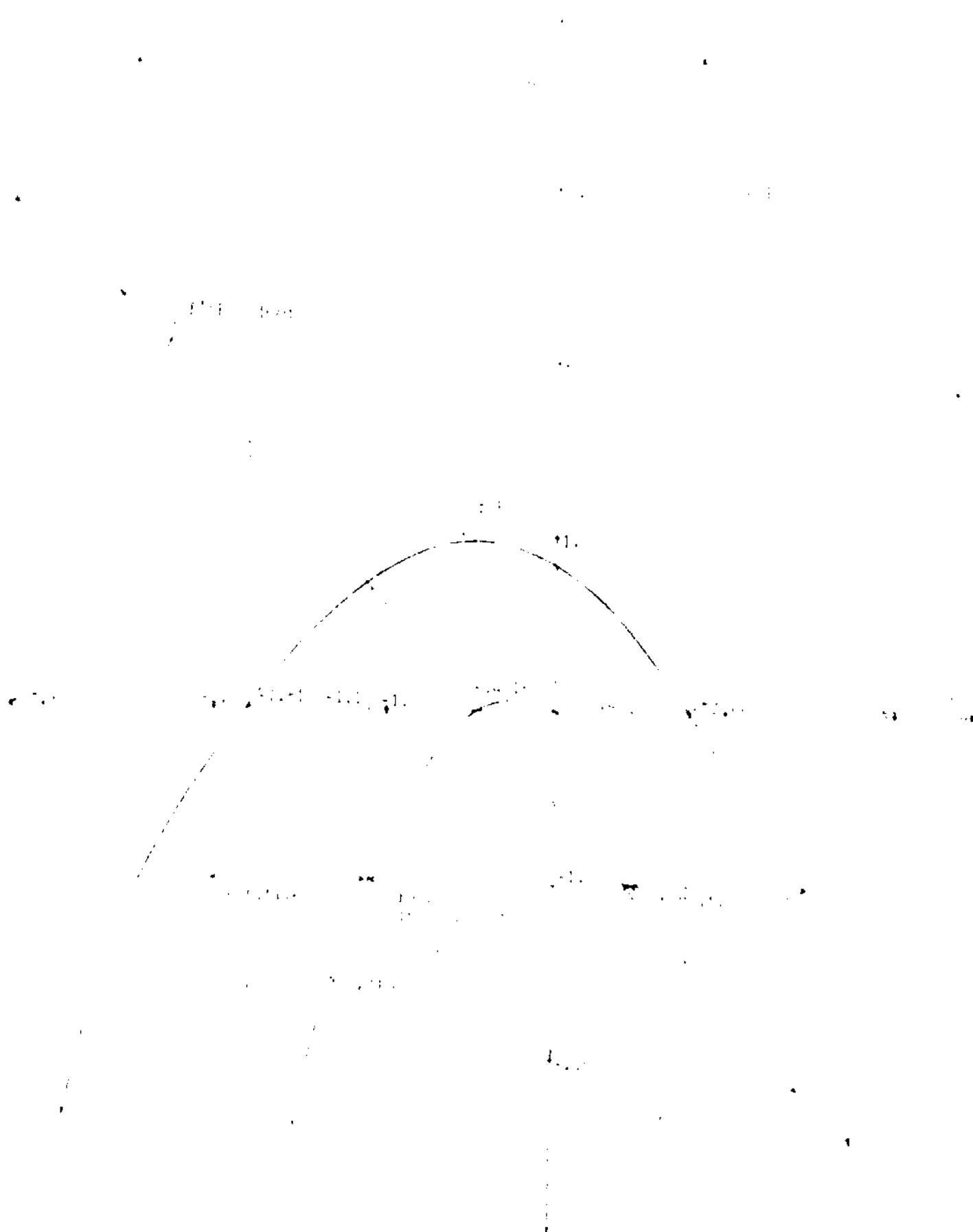   of 95 percent.

Figure 3

Figure 4

APPENDIX 1. Variable Definitions

1.1--Political Variables

RIOTS. Demonstrations or disturbances that spontaneously
become violent (see PRODEM).

IMPSANC.   An action taken by the authorities to neutralize,
suppress, or eliminate a perceived threat to the security of
the government, the regime, or the state itself. This
includes censorships and restrictions such as the
mobilization of troops or arrests of persons involved in any
type of political protest action.

RELSANC. A relaxation of a previous IMPSANC.

PRODEM.   A nonviolent gathering of people organized for the
announced purpose of protesting against a regime or
government or one or more of its leaders; or against its
ideology, policy, intended policy, or lack of policy; or
against its previous or intended action. Election meetings,
rallies, and boycotts are excluded as are riots and violent
demonstrations.

POLSTR.   A work stoppage by a body of industrial or service
workers or a stoppage of normal academic life by students to
protest governmental leadership's political actions.
Economically oriented strikes are excluded.

ARMATTK. Acts of political violence carried out by (or on
behalf of) an organized group with the objective of
weakening or destroying the power exercised by another
organized group. Three types of armed attacks were included
in the coding were 1) by political groups, 2) by ethnic
minorities, 3) by the state itself.

DEAPOLV.   This is not really an event variable but a body count
of people who have died in conjunction with armed attacks,
riots, and in some cases, demonstrations. It does not
include assassination victims.

EXECADJ.   A modification in the membership of a national
executive body that does not signify a transfer of formal
power from one leader or ruling group to another.

ASSAS. Politically motivated murders of national leaders, high
government officials, or politicians. Uncovered plots are
not coded and distinction is not made between the motives of
the assassin (ie: mental instabilities).

UNREGEXT.   An   abortive   attempt   made   by   persons not holding
     national executive office   to obtain   such   office through
     legal or conventional procedures.   National executive office
     refers both to individual leadership positions such as prime
     minister, and   to the   cabinet.   The term "regular"   means
     that the attempt conformed   to   the   prevailing conventional
     procedures of the political system.

SUPDEM.   Regime support demonstrations are organized, nonviolent,
     and intended to lend support to the government, its policies
     and actions, or one of its leaders.

Political variable   definitions were adapted from Taylor & Hudson
(1972) and Taylor & Jodice (1983).

1.2--Economic Variables

GNP.   Inflation adjusted   Gross National   Product in   millions of
     lira (from the Annuario Statistico).

INDPRO.   General   industrial production index of manufacturing,
     power, and extractive industries (Annuario Statistico).

CPI.   General consumer price index (Annuario Statistico).

UNEMP.   Unemployment rate in percentages (Annuario Statistico)

WAGES.   Index of average hourly earnings (United Nations).

INDSHRS.   Index of market prices of industrial   shares (United
     Nations)

CLOSRS.   Business closures (Annuario Statistico).

APPENDIX 2. Tables of Data

2.1--Political Data

YEAR	RIOTS	IMPSANC	RELSANC	PRODEM	POLSTR	ARMATTK	DEAPOLV	EXEADJ
1948	60	15	2	11	17	35	13	1
1949	33	31	1	20	20	19	17	3
1950	38	43	0	21	20	18	14	0
1951	11	38	2	10	5	16	19	3
1952	14	44	4	9	4	6	2	1
1953	33	27	2	3	5	3	6	1
1954	11	22	2	0	16	0	0	1
1955	4	8	0	1	0	7	5	1
1956	11	5	0	1	0	1	3	2
1957	2	5	1	0	0	5	3	1
1958	6	9	0	4	0	4	0	0
1959	15	5	0	0	1	7	0	1
1960	25	7	0	0	10	5	11	3
1961	10	9	2	2	0	57	3	0
1962	20	7	0	0	6	17	9	2
1963	3	3	1	1	6	23	0	0
1964	3	4	1	5	2	7	0	0
1965	2	6	0	4	0	2	0	2
1966	8	7	4	3	0	6	4	1
1967	1	12	1	14	0	11	0	0
1968	8	3	0	16	6	3	2	0
1969	17	12	0	7	14	11	20	2
1970	17	10	1	14	10	12	7	0
1971	17	8	1	16	9	14	4	0
1972	10	30	2	6	7	28	4	0
1973	6	21	1	4	1	21	41	0
1974	3	24	4	20	9	42	25	1
1975	26	10	0	11	3	46	11	0
1976	4	4	0	0	2	27	21	1
1977	26	36	5	27	0	91	15	1

APPENDIX 2.

2.1--Political Data (cont.)

YEAR	ASSAS	UNREGEXT	SUPDEM
1948	0	0	5
1949	1	0	1
1950	0	0	0
1951	0	0	1
1952	0	0	6
1953	0	3	5
1954	0	1	3
1955	0	3	0
1956	0	0	1
1957	0	2	0
1958	0	0	0
1959	0	0	11
1960	0	5	2
1961	0	0	8
1962	0	0	0
1963	0	2	0
1964	0	20	0
1965	0	0	0
1966	0	1	0
1967	0	0	0
1968	0	0	0
1969	0	0	1
1970	0	0	0
1971	1	0	0
1972	0	1	0
1973	0	0	0
1974	0	2	0
1975	0	0	0
1976	3	1	0
1977	1	0	0

Source: Inter-University Consortium for Political Research, University of Michigan. Also archived on magnetic tape at the University of Illinois.

APPENDIX 2.

2.2--Economic Data

YEAR	GNP	INDPRO	CPI	UNEMP	WAGES	INDSHRS	CLOSRS
1948	16977	12.2	50.5	8.9	134	29.9	804
1949	18252	13.2	51.0	8.6	142	35.3	1250
1950	19422	15.3	50.5	8.3	143	34.7	2058
1951	20691	17.4	55.5	8.8	157	38.0	3070
1952	21047	17.6	57.6	9.5	165	44.9	4477
1953	22814	19.4	59.0	10.0	169	53.4	4160
1954	23815	21.1	60.8	10.0	175	58.8	4551
1955	25510	23.9	62.0	8.8	185	82.9	4747
1956	26899	24.9	64.4	11.1	198	80.7	4717
1957	28863	26.6	65.0	9.9	207	90.9	5667
1958	30257	28.1	66.8	8.1	216	90.9	5847
1959	32363	30.7	66.8	7.0	221	139.9	6775
1960	35339	35.4	68.1	5.4	232	209.0	6788
1961	38383	39.3	69.4	4.6	248	239.0	7240
1962	41250	43.2	72.8	4.0	286	203.4	7074
1963	44457	46.9	78.1	3.4	334	175.4	6404
1964	45162	47.8	82.7	3.8	371	135.0	6223
1965	48154	50.2	86.7	5.2	386	133.3	5777
1966	51513	55.8	88.3	5.8	401	157.8	6044
1967	59492	60.0	92.2	5.3	426	145.6	6066
1968	59132	63.8	93.0	5.6	445	143.8	6652
1969	63871	65.7	95.3	5.6	489	159.6	6074
1970	68368	70.8	100.0	5.3	606	154.0	6101
1971	69515	70.8	104.8	5.3	703	120.0	6459
1972	72586	73.8	110.8	6.3	788	114.0	6154
1973	78047	80.8	122.8	6.2	966	147.0	5441
1974	81085	84.6	146.3	5.3	1209	135.0	5255
1975	82985	76.9	171.1	5.8	1794	100.0	4735
1976	89016	86.2	199.8	6.6	2133	52.0	4644
1977	90418	87.7	217.0	7.0	2673	67.0	4966

Sources: See the economic variable definitions for individual
    variable sources.

Notes: All variables that had different base periods within their
    series were spliced to the same base period within their
    series. Raw data available from author.

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