### Interparty Competition, Region, Socio-economic Development and Policy Differences in the American States

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Interparty Competition, Region, Socio-economic Development and Policy Differences in the American States. Kristi J. Thomas (Harvey J. Tucker), Political Science, Texas A&M University.

What kind of impact does party competition, region, and wealth have on state policy? This research attempts to determine the effect these variables have in three basic state policy areas: welfare, heath care, and education. In past research on this topic, many seemingly inconsistent findings are due to different time frames in which variables were taken. In order to ensure valid and reliable results, this study will look at multiple cross sections in the time period of 1951 through 1993. Two types of models will be tested for consistency, significance, and direction over time. The conclusions of this research reveal that relationships between the important and commonly used variables do change over time. Furthermore, the regional model of determining social policy outperformed the conventional model.

### Interparty Competition, Region, Socio-economic Development and Policy Differences in the American States

Since policy outcomes express the value commitments of political systems, it is important to understand what forces drive public policy. In determining these forces, the question of 'who gets what, when, and why?' can be answered. The breadth of this question calls for a broad approach of policy systems as a whole. The American states provide an excellent laboratory to observe factors that shape public policy. Among the fifty states, many of the most important system characteristics are constants. However, the party systems, socio-economic conditions, and political culture within the states vary markedly (Dye 1984). This wide approach is necessary to access the impact and the interplay between social, economic, and political factors in the determination of government policies.

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#### Focus

The question of what forces drive public policy has been a topic of lively debate in comparative state policy research. Much of the literature focuses on the influence of party competition, wealth, and region on policy outcomes (LeLoup, 1978; Stonecash and Hayes, 1981; Tucker and Herzik, 1986; Tucker 1982a; Tucker 1982b). In many of these studies, a conventional model has been used to study how socio-economic and political variables affect policy variables (Tucker and Herzik, 1986). However, few studies have

examined a model, such as the conventional, over time. An exception to this pattern is the study by Tucker and Herzik (1986) that employed the conventional model for fiscal years 1951 to 1978.

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#### Figure one about here.

In this model, socio-economic development is expected to have positive direct effects on social policy expenditure and positive indirect effects through interparty competition. Interparty competition is hypothesized to have positive direct effects on social policy expenditure. Socio-economic development should also be positively related to interparty competition. This model was then compared with a regional model. This model uses region (South/non-South) as the key independent variable.

#### Figure two about here.

In the regional model, region and socio-economic development are both causally related to social policy expenditure. Each independent variable has direct effects on social policy expenditure. Region also affects social policy expenditure indirectly through socio-economic development. In their study, Tucker and Herzik found that the regional model was superior to the conventional model by all statistical criteria, which were direction, strength, and significance of the parameter estimates. Moreover, the regional model was more consistent over time.

By examining the models over time, patterns of decline, stability, or instability can be detected. In order for the models to be sound, they must be statistically significant and consistent over time. Tucker and Herzik argue that a model that is more consistent over time is superior to one that is less consistent. In a cross-sectional research design, data are manipulated in a single point or period in time. Much of the information accumulated from

past comparative state policy studies using cross-sectional research designs may or may not be valid for the present or the future. It is possible that many of the seemingly inconsistent findings are due to different time frames in which the variables were taken (Tucker 1982). The use of research designs that require collection of data over time is likely to make one more sensitive to issues of time.

The importance of time in the study of parties is not a new concept. Writing in 1959, Key noted that then contemporary studies of the American party system typically failed to incorporate a time dimension, leading to a failure to consider some important characteristics of party systems (Key, 1959, P. 198).

Moreover, recent research demonstrates that time is an important consideration for estimating policy outputs, as longitudinal results differ from those of cross-sections (Dye, 1984; Gray, 1976; Winters, 1976). Longitudinal studies and multiple cross sectional studies have been more successful than cross-sectional analysis in uncovering statistically significant links between aspects of party competition and policy outputs (Barrileaux, 1986). In order to demonstrate validity as well as reliability, this study will look at multiple cross sections in the time period of 1951 through 1993.

To further examine the consistency and reliability of both models over time, this study will compare both models for fiscal years 1951 through 1993. The independent variables will be the same ones used in the aforementioned study. However, only one of the dependent variables, welfare expenditures per capita, will remain the same. Other social policies, such as education expenditures per capita and infant mortality rates, will be examined to further test the models.

#### **Dependent Variables**

Welfare policy, in much of the literature on public policy, is used to determine the extent to which states aid the disadvantaged. Wealth, competition, and region are expected to affect the kind and fiscal amount spent per person for welfare benefits. It is expected that greater party competition will be associated with higher welfare expenditures. Moreover, wealthy states are expected to allocate more resources to welfare than poor states. The Southern states are not expected to allocate significant resources to welfare since they are traditionally parsimonious in their social programs.

Expenditures on education is an area of policy that is largely left up to the individual state. Educational expenditures are also important because it is one of the most important policy areas to voters (Hummer, 1993). Therefore, party lines will make a difference to the voter on this issue, thus making competition between the parties important. States with high levels of party competition are expected to allocate more resources to education. The wealth and geographical location of the state are also expected to affect the amount spent per capita for education. Wealthy states should have more money available for education than poor states. Likewise, northern states are expected to allocate more resources to education than poor states. Likewise traditionally are more generous in their social expenditures.

Health care policies have not been widely researched in terms of party competition and wealth. Infant mortality rates enormously reflect the condition of public health care in states (Hummer, 1993). Public health care policies affect those with lower incomes more directly than upper income citizens. States with high party competition are expected to

respond to this group to a greater extent than states with low party competition. Therefore, states with higher interparty competition and wealth should have lower infant mortality rates. Wealthier states are expected to have better public health care, thus lower infant mortality rates. It is expected that the non-Southern states will have lower infant mortality rates than the Southern states. This expectation arises from the philosophy of limited government in the South.

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Welfare expenditure will be measured by a monthly average of per capita welfare expenditure per state. These statistics can be found in the *Book of the States* (Council of State Governments, 1966-1991). Education expenditures will be measured by a monthly average of per capita educational expenditures per state. Infant mortality rates are measured by the rates of death under one year per one thousand live births. These statistics can be found in *Vital Statistics of the United States* (United States Government Printing Office, 1951-1990). Party competition will be measured by the Ranney index. Information for computing the index can be found in the *Book of the States* (Council of State Governments). Economic characteristics of the states will be measured by per capita income. These statistics can be found in an annual publication of the Bureau of the Census, *Compendium of State Government Finances* (United States Dept. of Commerce and Bureau of the Census, 1950-1990). These operational measures have been used extensively in the comparative state policy literature (Tucker and Herzik, 1986).

#### **Independent Variables**

Political scientists have long placed great faith in party government since competition between political parties has been important in the preservation of democracy. The idea is that to compete, political parties will select their candidates more carefully and better orchestrate the passage of needed legislation. In competitive environments, legislators tend to be more responsive to the constituents needs when they are not assured of election. This idea is by no means a new one. The preeminent party theorist, V.O. Key Jr., focused on the policy consequences of party competition. Key stated that in competitive states, the anxiety over the next election pushes political leaders into serving the interests of the have-less elements of society, therefore putting the party into the countervailing power operation. In the one-party states, it is easier for a few powerful interests to manage the government of the state without party interference since the parties are not representative of the particular elements that might pose opposition to the dominant group (Key, 1949, p. 307).

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The Ranney indices are one of the most popular measures of interparty competition in the American states (Dawson and Robinson, 1963; Tucker 1982b). The Ranney indices are comprised of four elements: three measure partisan control and one measures the level of partisan competition. The three partisan control elements are : (1) proportion of state legislature upper chamber seats controlled by a party; (2) proportion of state legislature lower chamber seats controlled by a party; (3) proportion of majority control of upper chamber, lower chamber, and governorship. The level of competition element is proportion of votes in the gubernatorial election won by a party. While the Ranney index does not consist of a list of all state elected officials, it approaches a comprehensive list of state elected officials with policy responsibilities. The original index

developed by Ranney (1965, 1971, 1976) is a measure of Democratic party control which ranges from 0-100. A score of 100 indicates total democratic party control of both legislative chambers and a 100% of the two-party gubernatorial vote. A score of 0 indicates total Republican control. A second version of the index, which is used in this study, folds the original index in half to measure the level of competition regardless of dominating party. The folded Ranney ranges from 0, meaning total control by one party, to a maximum of 50, meaning evenly divided control. The folded Ranney will be used in this study since the particular party in control is not as important as the amount of competition between the parties.

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In past research, interparty competition has been measured in years after or before the period of measurement for the dependent variables (Tucker 1982a). Most of these studies have related interparty competition with state policies and have found significant results. However, because of the flaws in the research designs, the results are questionable. Although most empirical results indicate competitive systems produce different policies (Dawson and Robinson 1963; Lewis-Beck 1977), virtually all of these studies contain flaws. Causal hypotheses have been tested in wrong time sequences or only at one point in time (Tucker 1982a). Consequently, the results of the research may be disputable. Additionally, findings and patterns from the 1950's may not be accurate in the present or the recent past. However, in previous research by Tucker (1982a) welfare expenditures and interparty competition were correlated in parallel time sequences for a multiple cross section from 1950-1978. By examining the relationship between the variables in the same time periods over a longer period, the results will have more validity.

If a relationship between variables is strong in one short time period, but weak in a longer time sequence, the overall support for the hypothesis is weak.

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Some recent research has questioned the reliability of the Ranney index when measuring interparty competition. Holbrook and Van Dunk concluded in a study on district level competition measures that the Ranney index had little reliability. However, in their study, they compared their district level index and the Ranney index in two different time periods of time. It has also been suggested that studies that focus on interparty competition generally do so on the presumption that it represents the extent of competing viewpoints about public policies (Patterson and Calderia 1986). However, Stonecash (1987) concludes that there is no basis for this presumption. He claims that such studies are about aggregate partisan competition, and not necessarily about competing ideas. But the fundamental basis of political parties are ideas, ways of implementing them, and the effects of implementation. Parties are still in existence because of competing ideas. Therefore, the extent to which competing ideas are in conflict comprise the level of partisan competition.

Another factor that shapes public policy in the American states is wealth. States with high per capita income will have more resources to provide quality education and an array of social services (Dye 1990). State legislators in wealthy states can hardly be praised for providing better services. Their more wealthy residents can afford to pay higher taxes to provide extensive services (Sharkansky 1968). Income is expected to be the most explanatory independent variable since it affects policy both directly and indirectly (Figure 1 and 2).

The final independent variable is region. Region is classified as southern or nonsouthern. The former Confederate states are considered the southern states. Many researchers take region for granted because of the overall pattern of increasing homogeneity between the states. It is true that the differences between southern and nonsouthern states have become less significant for some socio-economic and political variables. At the same time, however, these differences have become or remain significant for many policies (Tucker 1984). Even though geographic location cannot cause public policy, region serves as a surrogate for other social, economic, political, historical, or other causal factors (Tucker 1984). Southern states retain their unique policy differences in comparison with non-southern states. Explanations for Southern uniqueness include: cultural differences, different policy preferences, and historical policy differences which change only incrementally (Rose, 1973; Kemp, 1978). Traditionally, southern states want smaller state government, fewer programs, and smaller expenditures. These differences cause the expectation for per capita welfare and education expenditures to be lower for the southern states. Infant mortality rates are expected to be higher than those of the northern states. Region and party competition are expected to affect policy at approximately the same rate because of their positions in the model (Figure 1 and 2).

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#### **Analysis of Bivariate Correlations**

#### Table 1 about here.

Table 1 indicates that interparty competition and per capita welfare expenditures are independent for most of the time period. In his study in 1982, Tucker concluded that there was no relationship between these variables in the time period 1950 through 1978.

This study reaffirms Tucker's conclusion. From 1979 to 1984, the relationship continues to be quite weak. However, the relationship begins to strengthen starting in 1986 with a correlation of .30. The correlations stay within the twenties and thirties until the last year studied. This indicates that there is a slight improvement in the relationship since it stays consistently stronger for eight consecutive years. There is not a more consistent or strong pattern in all of the years examined.

There does not appear to be a strong relationship between welfare expenditures per capita and region. Between 1967 and 1977, there is a slight improvement in the correlations, but not enough to be considered significant. After 1984, the relationship continues to decline even more over time. The correlations are consistent, but they are not significant.

Income does not play a large role in welfare expenditures until 1967 when the correlations begin to increase. From 1967 until 1993, the relationship is consistently significant and positively related , which was expected. However, from 1951 to 1966, the relationship is not significant and sometimes negatively related. This relationship dramatically changes over time.

#### Graph 1 and 2 about here.

As shown in graph 1 of income and welfare for 1966, there are several states that have very low welfare expenditures and high incomes. There is no relationship between the variables in this year. Graph 2 shows that welfare expenditures dramatically increased with the rising incomes in 1970. There is a positive correlation in this graph.

The correlations between party competition and infant mortality are negative as expected. High party competition is related to low infant mortality. However, the relationship is very weak from 1955 to 1959.

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Graph 3 and 4 about here.

As Graph 3 exhibits, the average for party competition in 1955 was 25.9. This indicates a fairly competitive environment. However, the average infant mortality rate is a high 32.4. Graph 4 shows that by 1960, the average for interparty competition is approximately 26.4 which is not a significant increase from 1955. However, the average infant mortality rate dropped to a low of 21.3 by 1960. The dependent variable was definitely changing in this instance. From 1960 on the relationship remains significant. The pattern appears to be very stable in this time period of twenty-eight years. Between 1960 and 1966, the correlations were particularly strong, ranging from -.69 to -.62. From 1968 to 1986, the level strength declines, but a fairly high continuous correlation remains.

Table 1 shows that the relationships between infant mortality and region are negative as expected. The South does have a higher incidence of infant mortality than the non-southern states. The relationship between income and infant mortality are also negative as expected. Wealthier states have a lower infant mortality rates than poorer states. With region and income, the correlations remain strong, consistent, and significant except for a four year period 1955 to 1958. These four years indicate a sharp change in pattern for the correlations overall. Graph 3 exemplifies the high infant mortality rates during this time period. Because all states had very high rates in the late fifties, a decrease in the correlations occurred, particularly for region. Graph 4 shows that by 1960, many of

the northern states had a decrease in their infant mortality rates while many of the southern states did not.

The relation between the folded Ranney index and education expenditures from 1951 through 1959 is very weak and sometimes negative. This was not expected. Graph 5

#### Graph 5 and 6 about here.

demonstrates the extremely low education expenditures for 1955. Many states that were very competitive had low education expenditures. However, starting in 1960, a continuous increase in the correlation begins (Graph 6). Between 1960 and 1976, the correlations stay within .33 and .54. It can be detected from graph 6 that expenditures for education dramatically increased in 1960. The average expenditure for all states in 1955 was 33.2. In 1960, the average rose to 84.8. The dependent variable was responsible for much of the variation. Then, from 1977 to 1982, the relationship considerably weakens from a high of .16 to a low of .07. The correlations then begin to stabilize twenty to thirty range from 1983 to 1993. This relationship is significant in the predicted direction for most years, but it is not consistent over time.

From 1951 to 1969, region is correlated inconsistently with education. The correlations change direction frequently and are mostly not significant. This was not expected. However, in 1970, a consistent increase begins in the predicted direction. Although the correlations are not significant for most years after 1970, they remain in the expected direction and appear to be more consistent.

Table 1 exhibits another dramatic change over time between income and education. From 1951 to 1959, there is an erratic and mostly insignificant relationship between the variables. This can be explained by the very low education expenditures in

this time period (Graph 5). Suddenly, in 1960, the correlations become significant and consistent in part because of the dramatic rise in education expenditures (Graph 6). Higher incomes were expected to correlate positively with high education expenditures. Income was also hypothesized to be the most important variable. However, the correlations between 1951 and 1959 do not meet these expectations.

The bivariate regressions presented in this table further demonstrate Tucker's contention that static cross-sectional research hypotheses and research designs may not be appropriate to cross-sectional relations that are dynamic over time. In all three relationships, correlations changed significantly over time.

#### **Multivariate Analysis**

Multiple regression is a statistical procedure that gives estimates of the importance of one variable once others have been controlled. The R square measures the model as a whole and the standardized coefficients explain the relative importance of the variables.

#### Table 2 about here.

Table 2 gives the results of multivariate correlations between welfare expenditures per capita both for the conventional model and the regional model. In the conventional model, the R squares demonstrate that the model is not significant from 1951 to 1969. In 1970, a small increase in R square occurs, and remains fairly stable in the high teens and twenties up until 1993. By looking at the standardized betas, it is clear that income is much more important than party competition in shaping policy, which was expected. From 1970 to 1993, the beta's remain significant and high, especially in the ten year period between 1974 and 1985. By looking at these data over time, it becomes clear that the

factors that influence policy and to what extent they influence policy can changes over time. The extent to which income influenced welfare spending in the seventies and eighties is quite different from the fifties and sixties. This is demonstrated by Graph 1 and Graph 2. In the fifties and sixties, many high income states had very low welfare expenditures. In those earlier years, the states with higher incomes did not have as many residents with lower incomes. Thus, these states did not require vast resources for welfare. In these earlier years, the poorer sectors of society were more concentrated in specific areas of the country.

The regional model has similar results. From 1970 on, the R squares remain in the teens and the twenties. However, the significance as well as the consistency is quite low. Again, income seems to be very important from around 1968 until 1993. This is the only consistent and significant variable in the model. Region is consistently positive, but it is not significant. However, it is not as erratic as interparty competition in the conventional model, which switches from positive to negative quite frequently. But neither model is significant, correct in direction, or consistent over time.

#### Table 3 about here.

Table three shows the relationship between infant mortality and the conventional and regional models. In the conventional model, the period between 1951 and 1959 shows a very weak and inconsistent relationship between the variables. In 1960, the relationship begins to strengthen continuously. In the late sixties, the relationship begins to decline somewhat. Party competition is negatively and significantly related to infant mortality, just as expected. From 1960 to 1984, party competition is continuously a major factor in infant mortality rates, which was not expected. Surprisingly, income rarely has an impact on

infant mortality rates. From 1985 to 1990, all correlations become insignificant. Party competition is becoming a less important factor in determining infant mortality rates.

In the regional model, region is significant from 1959 until the last year of the study. It is both significant, negatively related, and consistent over time. Income remains significant, consistent, and in the hypothesized direction in the regional model. Even though the R squares begin to decline a bit over time, they remain more consistent than in the conventional model. The regional model appears to be more stable in this instance, whereas the conventional model is sporadic. The regional model is the better model.

#### Table 4 about here.

Table 4 exhibits the relationship between education expenditures per capita and the conventional and regional models. From 1951 to 1959, the conventional model indicates that there was little to no relationship between party competition and education expenditures. The one exception is in the year 1956, and it is significant in the inappropriate direction. However, from 1960 until 1977, the correlations continuously stay at a level of .21 to .55. From 1960 to 1976, party competition seems to have a stronger influence on education. Income was expected to have the most influence on education. But from 1970 to the mid-eighties, income explains more of the relationship between education and per capita expenditures, which was expected. Party competition begins weakening and correlating in the wrong direction in the mid-seventies, then increases in the late eighties. The correlation's seem to be steadily declining after this point until the last year studied. Income remained fairly significant and consistent throughout the years studied, but the relationship is steadily declining. The R squares begin very low, and

then suddenly rise in 1960. There is a consistent and significant relationship until 1978, then it steadily declines.

The regional model is similar to the conventional model. However, the regional model is more stable. Region stays consistently negative throughout all years studied as predicted. Interparty competition switched from positive to negative numerous times. Income appears to be more significant, positive, and consistent over time in the regional model. This was expected. Wealthy states have more resources to spend on education. The R squares are significant for most years. The regional model is the better model by all statistical criteria. The variables remain more consistent, in the right direction, and significant for most years in the regional model.

#### Summary

The significance of party competition in both education expenditures and infant mortality rates rises in or about 1960. One possible explanation is the increased interest in social problems in that time and the policies of the Great Society. Party lines were very clear during this era, and competition was obviously a factor in the shaping of public policies. In the late seventies and in the eighties, the significance of party competition began to decline. This could be because of the pessimism of government policies and party politics during the Watergate era. Party strength and power began to dwindle during this time. This is evident through the distribution of the Ranney index in these years. Subsequently, income became more of a factor in shaping all three policy areas during this time. This is especially evident in the policy areas of education and welfare. As parties

begin to lose strength because of individualistic media centered campaigns, this trend is likely to continue.

In two out of the three tests, the regional model was superior. The operational measures used could be causing the poor performance in both models with welfare as the dependent variable. In the models with education and infant mortality as the dependent variables, the regional model did much better. Even though the regional model did change some over time, its parameter estimates remained consistent, significant, and in the expected direction.

It can be concluded that welfare is more strongly related to income than to party competition or region. Infant mortality is highly related to region, income, and party competition after 1960. Education, too, is highly related to income after 1960. The relationships between education and party competition and region are not consistent at all over time.

This study has addressed the need in comparative state policy research to examine relationships between important variables over time. The result of this analysis for fiscal years 1951 - 93 shows that relationships between variables do change considerably over time. By considering consistency, strength, and significance in all relationships over time, validity and reliability increase. Using these criteria, the regional model outperformed the conventional model for two out of three dependent variables. Thus, this study reaffirms the findings of Herzik and Tucker (1986) that region remains important over and above those variables long thought to determine regional diversity. In this study, parameter estimates were examined for a time period twice as long as that studied by Herzik and Tucker. Additionally, different operational measures were used and a new dependent

variable was added that had not been studied in this context before. Nevertheless, the findings were consistent with the conclusions made by Herzik and Tucker. However, the regional model should be further tested with other dependent variables and different operational measures to affirm these findings.

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	Bivariate Correlation's Over Time								
		oita Welf			Infant Mortality Rates and Per Capita Education and				
	IPC	Region	Income	IPC	Region	Income	IPC	Region	Income
Year									
1951	0.15	0.16	0.08	-0.42	*-0.43	*-0.50	0.10	-0.09	0.01
1952	0.14	0.19	0.08	-0.46	*-0.52	*-0.53	0.17	0.03	0.27
1953	0.08	0.14	-0.01	-0.09	*-0.40	*-0.33	0.21	0.03	0.26
1954	0.01	0.12	-0.05	-0.11	*-0.40	*-0.45	0.18	0.02	0.27
1955	0.02	0.10	-0.04	0.01	0.04	0.06	0.07	0.01	0.24
1956	-0.02	0.04	-0.07	-0.05	0.00	0.04	-0.21	0.14	0.00
1957	-0.18	-0.05	-0.11	0.00	0.04	0.11	-0.02	-0.05	0.07
1958	-0.18	-0.05	-0.09	0.01	0.02	0.12	-0.00	-0.02	0.15
1959	-0.29	-0.05	-0.11	0.04	*-0.32	0.11	-0.12	-0.22	0.21
1960	-0.15	0.17	-0.02	-0.69	*-0.36	*-0.40	0.45	0.09	*0.43
1961	-0.13	0.19	-0.01	-0.62	*-0.37	*-0.36	0.47	-0.02	*0.50
1962	-0.10	0.18	-0.03	-0.65	*-0.30	*-0.47	0.53	0.10	*0.42
1963	-0.04	0.15	-0.04	-0.68	*-0.34	*-0.50	0.56	0.04	*0.44
1964	-0.07	0.16	-0.02	-0.63	*-0.30	*-0.47	0.52	0.06	*0.47
1965	0.09	0.18	0.01	-0.68	*-0.40	*-0.42	0.45	0.04	*0.44
1966	0.20	0.18	0.00	-0.65	*-0.37	*-0.55	0.46	0.06	*0.37
1967	0.20	0.22	0.18	0.02	-0.15	-0.45	0.46	0.04	*0.38
1968	0.26	0.24	0.28	-0.48	*-0.28	*-0.32	0.41	0.02	*0.35
1969	0.21	0.23	*0.32	-0.41	*-0.27	*-0.30	0.42	0.03	*0.37
1970	0.12	0.20	*0.41	-0.34	*-0.29	*-0.29	0.40	-0.05	*0.43
1971	0.10	0.17	*0.44	-0.51	-0.25	*-0.37	0.33	-0.14	*0.50
1972	0.12	0.19	*0.46	-0.50	*-0.39	*-0.35	0.40	-0.13	*0.51
1973	0.16	0.16	*0.35	-0.45	*-0.33	*-0.46	0.54	-0.11	*0.54
1974	0.22	0.17	*0.44	-0.45	*-0.43	*-0.30	0.46	-0.12	*0.62
1975	0.06	0.17	*0.41	-0.50	*-0.28 *-0.38	*0.35 -0.23	0.35 0.36	-0.10 0.16	*0.71 *0.40
1976 1977	0.05 0.04	0.15 0.16	0.37 *0.37	-0.38 -0.34	-0.38 *-0.37	-0.23 -0.15	0.30	*-0.24	*0.46
1978	0.04	0.10	*0.37	-0.34 -0.46	*-0.37	*-0.36	0.12	-0.24	*0.39
1979	0.05	0.10	*0.34	-0.40	*-0.38	-0.25	0.10	*-0.27	*0.28
1980	0.09	0.10	*0.44	-0.33	*-0.30	-0.23	0.13	-0.25	*0.36
1981	0.05	0.09	*0.47	-0.36	*-0.39	-0.21	0.10	-0.24	*0.34
1982	0.10	0.08	*0.52	-0.41	*-0.36	-0.24	0.14	-0.26	*0.44
1983	0.05	0.17	*0.45	-0.46	*-0.35	-0.17	0.27	-0.22	*0.42
1984	0.09	0.13	*0.53	-0.46	*-0.29	-0.20	0.24	-0.23	*0.28
1985	0.18	0.09	*0.36	-0.26	*-0.35	-0.23	0.26	-0.03	*0.29
1986	0.30	0.08	*0.36	-0.23	*-0.37	0.22	0.28	-0.02	*0.31
1987	0.31	0.08	*0.40	-0.19	*-0.33	*-0.28	0.31	-0.01	*0.34
1988	0.33	0.09	*0.38	-0.05	-0.26	-0.15	0.34	-0.01	*0.29
1989	0.26	0.09	*0.37	-0.07	-0.24	-0.19	0.27	-0.01	*0.27
1990	0.24	0.07	*0.38	-0.16	*-0.31	-0.25	0.21	0.01	*0.27
1991	0.21	0.06	*0.37				0.19	-0.01	0.25
1992	0.24	0.04	*0.35				0.23	-0.02	*0.27
1993	0.23	0.03	*0.37				0.21	-0.01	*0.29

Table 1 р. 0 \_\_\_\_ . • • .

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See Bibliography for data sources IPC = Interparty Competition \* = significant at the .05 level.

	Standardized		R Square	Standardized		R Square
Year	IPC	Income		Region	Income	
1951	0.21	-0.08	0.03	0.20	-0.05	0.03
1952	0.19	-0.07	0.02	0.24	-0.08	0.04
1953	0.11	-0.07	0.01	0.19	-0.10	0.03
1954	0.07	-0.10	0.01	-0.18	0.22	0.03
1955	0.12	-0.13	0.01	0.18	-0.14	0.02
1956	0.07	-0.12	0.01	0.11	-0.13	0.01
1957	-0.18	-0.00	0.03	0.03	-0.12	0.01
1958	-0.20	0.03	0.03	0.02	-0.10	0.01
1959	-0.30	0.02	0.08	-0.05	-0.11	0.01
1960	-0.18	0.07	0.03	0.18	-0.03	0.03
1961	-0.20	0.11	0.02	0.20	-0.03	0.04
1962	-0.13	0.05	0.01	0.18	-0.05	0.03
1963 1964	-0.02 -0.09	-0.03 0.03	0.00 0.01	0.15 0.16	-0.05 -0.03	0.02 0.03
1965	-0.09	-0.06	0.01	0.18	-0.03	0.03
1966	0.12	-0.00	0.05	0.18	-0.01	0.03
1967	0.15	0.09	0.04	0.19	0.15	0.07
1968	0.16	0.20	0.10	0.20	0.25	*0.12
1969	0.15	0.20	0.10	0.18	*0.30	*0.14
1970	-0.06	**0.44	*0.17	0.16	0.39	**0.19
1971	-0.09	**0.48	*0.20	0.12	**0.42	**0.21
1972	-0.10	**0.45	**0.22	0.14	**0.44	**0.23
1973	-0.13	**0.47	**0.26	0.14	*0.33	*0.14
1974	0.06	**0.41	**0.20	0.15	**0.44	**0.22
1975	-0.03	**0.41	**0.17	0.19	**0.42	**0.21
1976	-0.03	**0.38	*0.14	0.16	**0.39	**0.17
1977	-0.08	**0.40	*0.15	0.17	**0.40	**0.19
1978	-0.03	**0.38	*0.14	0.11	**0.40	**0.17
1979	-0.10	**0.37	*0.12	0.08	**0.37	*0.15
1980	-0.11	**0.48	**0.20	0.09	**0.48	**0.24
1981	-0.05	**0.49	**0.23	0.08	**0.51	**0.26
1982	-0.05	**0.54	**0.28	0.11	**0.55	**0.31
1983	-0.16	**0.52	**0.22	0.18	**0.46	**0.24
1984	-0.11	**0.57	**0.30	0.10	**0.52	**0.29
1985 1986	0.03	*0.35	*0.13 **0.25	0.07 0.07	**0.35 **0.40	*0.13 **0.22
1987	*0.31	**0.39	**0.25	0.07	**0.37	
1987	*0.25 *0.30	**0.35 **0.38	**0.22	0.05	**0.37	*0.15 *0.14
1988	*0.30	0.38	**0.17	0.04	**0.35	*0.13
1989	0.33	**0.35	**0.17	0.04	**0.37	*0.13
1990	0.16	**0.34	**0.16	0.04	**0.35	*0.13
1991	0.15	*0.34	*0.15	0.00	**0.34	0.13
1993	0.15	**0.34	**0.16	-0.01	**0.37	*0.13
1000	0.10	0.04	0.10	0.01	0.07	0.10

 Table 2

 Multiple Regression Analysis of Per Capita Welfare Expenditure

 Conventional Model
 Regional Model

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See Bibliography for data source, IPC = Interparty Competition. \* = significant at the .05 level. \*\* = significant at the .01 level

Year	Standardized	d Beta <i>Income</i>	R Square	Standardized <i>Region</i>	Beta <i>Income</i>	R Square			
				0					
1951	-0.09	*-0.43	**0.26	-0.18	*-0.38	**0.27			
1952	-0.14	*-0.42	**0.29	*-0.31	*-0.33	**0.34			
1953	0.10	*-0.38	0.12	*-0.31	-0.19	**0.19			
1954	0.30	**-0.64	**0.25	-0.21	*-0.32	**0.23			
1955	-0.08	0.12	0.01	0.01	0.05	0.00			
1956	-0.16	0.16	0.01	-0.03	0.06	0.00			
1957	-0.09	0.16	0.02	-0.04	0.13	0.01			
1958	-0.11	0.19	0.02	-0.09	0.18	0.02			
1959	-0.00	0.11	0.01	*-0.33	0.13	*0.19			
1960	**-0.64	-0.09	**0.48	**-0.32	**-0.38	**0.28			
1961	**-0.64	0.04	**0.38	**-0.33	*-0.31	**0.23			
1962	**-0.58	-0.09	**0.42	-0.23	**-0.44	**0.28			
1963	**-0.63	-0.06	**0.46	*27	**-0.43	**0.29			
1964	**-0.56	-0.15	**0.41	-0.24	**-0.45	**0.29			
1965	**-0.64	-0.06	**0.46	*-0.33	**-0.35	**0.27			
1966	**-0.49	*-0.28	**0.48	*-0.29	**-0.49	**0.38			
1967	**-0.46	-0.09	**0.34	-0.14	**-0.35	**0.22			
1968	**-0.43	-0.08	**0.23	-0.24	-0.27	*0.15			
1969	**-0.42	-0.08	**0.22	*-0.25	-0.26	*0.17			
1970	-0.26	-0.19	*0.14	*-0.27	-0.24	*0.15			
1971	**-0.43	-0.19	**0.29	-00.21	**-0.36	**0.19			
1972	-0.16	**-0.43	**0.27	**-0.35	**-0.34	**0.27			
1973	-0.18	-0.29	**0.22	**-0.32	**-0.43	**0.31			
1974	**-0.39	-0.15	**0.22	**-0.42	*-0.26	**0.26			
1975	**-0.45	*-0.25	**0.32	*-0.29	**-0.36	**0.21			
1976	**-0.34	-0.16	**0.17	**-0.39	-0.25	**0.21			
1977	*-0.32	-0.06	*0.12	**-0.38	-0.16	*0.16			
1978	**-0.38	-0.23	**0.26	*-0.32	**-0.35	**0.22			
1979	**-0.44	0.12	**0.17	**-0.38	-0.23	*0.14			
1980	**-0.37	-0.06	**0.16	*-0.29	-0.18	*0.12			
1981	*-0.33	-0.09	*0.14	**-0.38	-0.18	**0.18			
1982	**-0.38	-0.08	**0.18	**-0.37	-0.24	*0.18			
1983	**-0.47	0.02	**0.21	**-0.36	-0.18	*0.16			
1984	**-0.45	-0.04	**0.22	*-0.27	-0.18	0.11			
1985	-0.19	-0.14	0.10	**-0.34	-0.21	**0.17			
1986	-0.19	0.18	0.10	*-0.33	0.24	*0.15			
1987	-0.15	-0.26	0.10	*-0.30	*-0.27	**0.18			
1988	-0.03	-0.15	0.02	-0.24	-0.15	0.09			
1989	-0.18	-0.02	0.04	-0.22	-0.17	0.09			
1990	-0.11	-0.22	0.10	*-0.28	-0.22	*0.14			

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 Table 3

 Multiple Regression Analysis of Infant Mortality Rates

 Conventional Model
 Regional Model

See Bibliography for data source, IPC = Interparty Competition. \* = significant at the .05 level. \*\* = significant at the .01 level.

Year	Standardized IPC	Beta <i>Income</i>	R Square	Standardized <i>Region</i>	Beta <i>Income</i>	R Square
1951	0.21	-0.15	0.02	-0.18	0.13	0.02
1952	-0.08	0.33	0.08	-0.25	*0.43	0.11
1953	0.10	0.20	0.07	-0.11	0.31	0.07
1954	0.01	0.27	0.07	-0.21	*0.39	0.10
1955	-0.26	*0.43	0.09	-0.18	*0.34	0.08
1956	*-0.45	0.33	0.10	-0.20	0.11	0.03
1957	-0.10	0.13	0.01	-0.14	0.15	0.02
1958	-0.14	0.23	0.03	-0.18	0.26	0.04
1959	-0.26	*0.32	0.10	-0.23	0.22	0.09
1960	*0.31	*0.28	**0.26	0.04	**0.42	**0.18
1961	0.26	*0.34	**0.29	-0.09	**0.51	**0.25
1962	**0.43	0.14	**0.29	0.02	**0.44	**0.20
1963	**0.46	0.14	**0.32	-0.03	**0.43	**0.18
1963	**0.38	0.10	**0.31	-0.03	**0.46	**0.21
1965	*0.29	0.24	**0.25	-0.05	**0.46	**0.20
1966	*0.36	0.27	**0.23	-0.01	**0.39	*0.15
1967	*0.36	0.18	**0.23	-0.03	**0.41	**0.16
1968	*0.30	0.17	**0.19	-0.03	**0.39	*0.15
	*0.30	0.19	**0.21	-0.04	**0.42	**0.18
1969			**0.24		**0.46	**0.21
1970	*0.27	*0.31		-0.10		
1971	0.15	**0.43	**0.26	-0.20	**0.53	**0.30
1972	**0.41	0.22	**0.29	-0.19	**0.55	**0.31
1973	0.27	0.29	**0.3	-0.15	**0.59	**0.36
1974	*0.25	**0.52	**0.44	-0.14	**0.63	**0.41
1975	*0.20	**0.67	**0.55	-0.08	**0.70	**0.51
1976	*0.20	**0.64	**0.25	-0.17	**0.30	0.17
1977	-0.03	**0.47	**0.21	-0.23	**0.46	**0.27
1978	-0.02	**0.40	*0.15	*-0.25	**0.40	**0.22
1979	-0.04	*0.30	*0.11	*-0.28	*0.31	**0.17
1980	-0.03	**0.38	*0.13	*-0.27	**0.38	**0.21
1981	0.00	*0.34	*0.12	-0.25	*0.35	**0.18
1982	-0.05	**0.46	**0.2	-0.25	**0.43	**0.25
1983	0.05	**0.40	**0.18	-0.20	**0.42	**0.22
1984	0.16	0.22	0.10	-0.25	*0.30	*0.15
1985	-0.07	*0.32	0.10	-0.05	*0.28	0.08
1986	*0.29	*0.29	0.10	-0.04	*0.30	0.10
1987	*0.26	*0.30	**0.18	-0.05	*0.33	0.11
1988	*'*0.32	*0.26	**0.19	-0.03	*0.28	0.08
1989	0.22	0.22	*0.12	-0.03	0.26	0.07
1990	0.15	0.24	0.10	-0.02	0.26	0.07
1991	0.16	0.24	0.10	-0.03	0.24	0.06
1992	0.17	0.23	0.10	-0.05	0.26	0.07
1993	0.15	0.26	*0.11	-0.04	*0.29	0.08

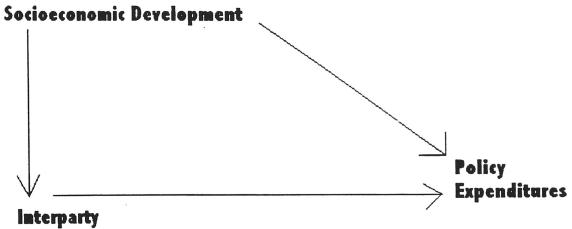
 Table 4

 Multiple Regression Analysis of Per Capita Education Expenditures

 Conventional Model
 Regional Model

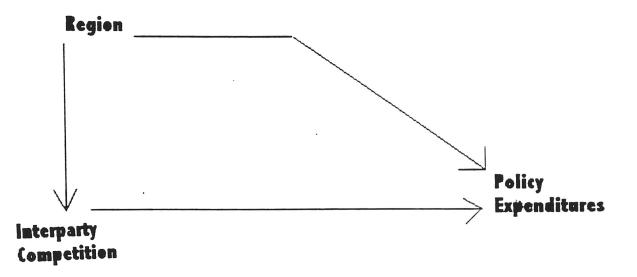
See Bibliography for data source, IPC = Interparty Competition \* = significant at the .05 level. \*\* = significant at the .01 level



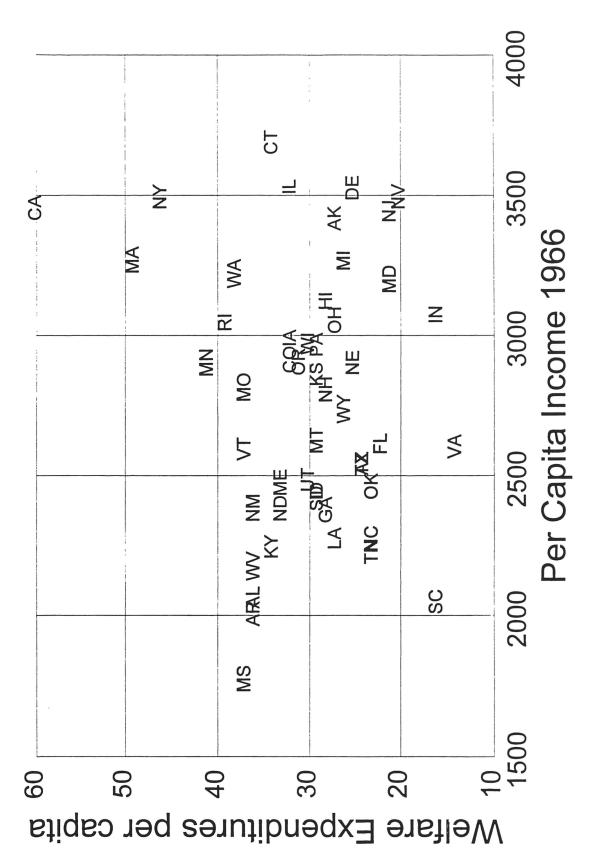


Interparty Competition





# **Income and Welfare 1966** Bivariate Correlation = 0.00



# **Income and Welfare 1970** Bivariate Correlation = 0.41

