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Federal Expenditures and the Political Economy of the Mexican Revolution: An Exploratory Empirical Study

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FEDERAL EXPENDITURES AND THE POLITICAL ECONOMY

OF THE MEXICAN REVOLUTION: AN EXPLORATORY

EMPIRICAL STUDY

James A. Hanson

September 1971

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EMPIRICAL STUDY

James A. Hanson*

Introduction

Although economists have been rapidly increasing the volume of literature dealing with the application of economic tools to political problems, most of their work deals with theoretical models of democratic government and little empirical work has been done in the area. Moreover, their models of a government which acts as a vote-maximizing entrepreneur facing a participating citizenry seem somewhat inappropriate for the less developed countries.

In general, the assumed motivation for such acute political entrepreneurship is self-interest--the combination of rewards for staying in office, whether pay, graft, or prestige, must exceed those in alternative occupations.¹ However, in reality the temptation must always exist to prolong the stay in office and the resulting benefits through an expansion of the day-to-day administrative power which the electorate must cede to the governors rather than through the electoral process. In this case the benefits of office are sought by power rather than competition, in an analogous fashion to the seller in a competitive market who

*Assistant Professor, Brown University. The author is indebted to Peter Allgeier for performing preliminary calculations, for improvements in phrasing, and for translating the recent Mexican documents which were used; to Jack Hadley and Mike Toothman for calculations, and to all of them, as well as to his colleague, Robert Barro, for helpful discussions and criticisms. Of course, the responsibility for any errors, opinions, and interpretations remains his own.

¹ See, for example, A. Downs, An Economic Theory of Democracy (New York: Harper Row, 1957) Chapters 1 and 2.

who seeks profits by forming a monopoly with its corresponding market power, rather than by competing. This type of government should not be treated as a vote-maximizing entrepreneur but as a group seeking benefits from running the government rather than dealing with it, as the other interest groups do.

The disparity of power between governed and governing which permits this situation to arise is particularly common in less developed countries. Moreover, if, as is quite likely in LDC's, the percentage of the populace who can effectively demand participation in government decision-making is low, the government can probably withhold actual participation and offer compensation through favorable government policies at the expense of the non-participants.¹

Such situations often end with sudden changes in the government, and, sometimes, institutions. Usually these are only changes of the guard; occasionally the small group which was favored by government actions is also changed. Examples of this type of governmental change can be found in the 19th century history of many of the Latin American republics. Much rarer are the changes in governing structure which involve mass participation and rarer still are those which have succeeded in maintaining and implementing the goals which generated mass participation. Thus, although insurrections have often succeeded, only a few revolutions have attained even a qualified success; the distinction made here is between the simple change-over which occurs in an insurrection and the constructive phase which is necessary for a revolution to achieve its goals.²

Often the difficulty in carrying out the constructive phase of a popular revolution results from a redefinition of the revolutionary goals in a way that is inconsistent with its original aims. In this case the new government ceases

¹Some hints of these problems are contained in Buchanan and Tulloch, The Calculus of Consent (Ann Arbor, Michigan, 1965), pp. 234-295, 339; and Downs, Chapter 2.

²See also K. Boulding, Revolution and Development

to serve those for whom and by whom the revolution was waged. Instead, the regime's decision making processes are manipulated or circumvented, once again becoming coincident with the interests of the ruling individual or ruling groups. Since an individual figure often dominates the government, in this case we shall term the result "personalism," although "personalism" is, of course, also a group phenomena.

The "political" economists' models suggest that one way to reduce the diversion from the original revolutionary goals is greater participation in or "democratization" of the decision making processes. Then those who rule will be more closely identified with the interests of those who waged the revolution, and their power will be reduced. However, if many different interest groups of relatively similar strength actually participate, their efforts can be largely offsetting, or they can be played off against one another, narrowing only slightly the ruling group's freedom to maneuver and benefit itself. In a sense the ruling group charges large fees for mediating conflict between the interest groups. To prevent this, the groups seeking participatory power often band together to establish an institutional framework within which they will negotiate their differences; they agree on "how to disagree." Institutionalization can therefore be thought of as the development of governing processes and operations which adhere to generally accepted, publicly known procedures of decision making, and which are not readily subject to manipulation by those in authority. When this occurs, the various interest groups have agreed on the form and process of disagreement. In addition, they also usually agree to reduce the governors' or administrators' benefits. The governors are then forced to operate within a system of constraints which they, the populace, and the interest groups recognize. Usually a series of criteria for judging the decision making process and the day-to-day administrative decisions are also developed, as is a mechanism for obtaining new administrators.

This paper investigates the success of the Mexican attempt to reduce "personalism" through the "democratization" of their revolution. Thus it is an attempt to make an empirical assessment of the progress of Mexican government from the "personal" model of government to the institutional democracy of the political economists. The Mexican case is especially interesting for it has been lauded by many, both within and outside the Republic, as providing an example par excellence of an institutionalized social revolution of national proportions, which has been sustained over a period of several decades without losing the momentum of its infancy and adolescence.¹

In the first two sections of this paper the lines are drawn over the degree to which various observers believe popular participation has been achieved, personalism reduced, and the benefits of government activity diffused. Those more interested in empirical results or those familiar with the controversy over the degree of power retained by the president and the administrators and the evidence on the distribution of benefits, might skip to section four, which presents some obvious tests of the relative strength of presidential power and party-popular control and rejects them. The fifth section presents a more sophisticated test of "personalism" versus institutional restraints based on the variation in expenditures over a presidential term. The sixth section discusses another test of "personalism" based on the pattern of public spending and the seventh still another, based on the relationship between the proposed budget and the additional spending which is controlled by the president. In the last section the results are summarized and some projections about Mexican political problems and budgetary policies are ventured.

¹See La República, the magazine published by the PRI; also see Ross, Stanley (ed.), Is the Mexican Revolution Dead? (New York: Knopf, 1966), pp.129-134, 156-160, 169-174, and 195-209.

II The Party and the Institutionalized Revolution:

A Sympathetic View

In the view of many, the development of an official party was a crucial element in the democratization and institutionalization of the ongoing Mexican revolution.¹ The party first appeared in an organized fashion in 1929 as the Partido Nacional Revolucionario (PNR). At that time the outgoing president, Calles, sought to overt civil strife with the Agrarista party and other supporters of the recently assassinated, president-elect General Alvaro Obregón through the formation of a national political party.² All groups supporting the revolution participated in the party which provided established procedures for nominating officials and making decisions. According to some observers, it was only the development of allegiance to the party, wrapped as it was in revolutionary nationalism, and the aggregation of interests within it, that prevented a military take-over and permitted the orderly changes of civilian administration during the early depression years. In addition, Calles' adherence to the party's choice of candidates permitted the philosophical changes toward peaceful social revolution implied by Cárdenas' nomination and

¹See, for example: R.E. Scott, Mexican Government in Transition (Urbana, Illinois: University of Illinois, 1964); henceforth Scott, W. Padgett, The Mexican Political System (Boston: Houghton-Mifflin, 1966), henceforth Padgett; P. Sigmund, ed., Models of Political Change in Latin America (New York: Praeger, 1970), Part One--Mexico: The Institutionalization of the Revolution, henceforth Sigmund; P. Calvert, "The Mexican Political System," Journal of Development Studies, IV, July, 1968, pp. 464-480, henceforth Calvert; J. Wilkie, The Mexican Revolution: Federal Expenditure and Social Change Since 1910 (Berkeley: University of California, 1967), henceforth Wilkie.

²Calles' troubles and the degree to which revolutionary goals had been subverted are outlined in Padgett, pp. 30-32; Scott, pp. 117-120; and Wilkie, pp. 63-64. Recent interpretations also suggest that Portes Gil, Obregón's replacement, was an important force in the early party. See Calvert, pp. 476-477, and Wilkie, p. 64.

and later prevented open warfare between the conservative and radical groups.¹

Under Cárdenas, the loose regional-functional structure which the party--now called the Partido de la Revolución Mexicana--had used for nominations to the National Assembly was formalized into three or four more organized, functional sectors: military, agricultural, labor, and popular. Each sector received a certain number of delegates to the National Assembly which were then chosen by the sectoral leaders, with a majority of the sectors necessary for presidential nomination. All sectors would then unite in campaigning for the election of the Assembly's nominees. The party offered participation to the army as an alternative to military coup, however, the formal organization of the other sectors provided a growing counterweight to military pressure, as well as support for Cárdenas in his quarrel with Calles. Further, the party's corporate structure reduced the importance of regional caciques.² Since the sectors represented the majority of the Mexican electorate, Cárdenas felt there was little chance for the government to swing off on a personalistic course.³

Since the thirties, the party's "continuismo" of the revolutionary tradition has provided the support which made charismatic presidents in the tradition of Calles and Cárdenas unnecessary and permitted the choice of administrative types.⁴ Following Avila Camacho's defeat of the conservative general Almazán without military intervention, the formal military sector was dissolved; henceforth military participation was on an individual basis, showing the success of the search for

¹ Padgett, pp.49, 50; Calvert, pp. 476, 477.

² Scott, pp.127-135.

³ F. Brandenburg, "The Liberal Machiavellian" in R. Tomasek, Latin American Politics, 2nd ed., (New York, Anchor, 1970), p.315, henceforth Brandenburg.

⁴ Padgett, pp.40-43, 50, 143-145; Clavert, pp.474, 477; Scott, pp.246-248, 310.

political counterweights to the army.¹ Also under Avila Camacho, Cárdenas' fourth sector--the popular sector--was finally organized. The process of reducing military power and increasing participation continued in 1946 with the nomination of the first president of completely civilian origins, Miguel Alemán Valdés, and the institution of nominations for all offices but the presidency by party-wide primaries of the now renamed PRI (Institutionalized Revolutionary Party). Although sectoral nominations were restored in 1950, the PRI still tried to include as many interests as possible. It declared itself the "organizer and control over the middle-class, as well as the defender of the municipio, of agrarian reform, of the rights of women, of youth and Indians, of morality in citizens and government official, of civic education, of economic intervention of the state and of protection of public interests, without by this limiting the opportunities of private enterprise for its development."²

In 1959 still further steps were taken to increase participation and communication between the grass roots and the hierarchy. Some provision has been made for the nomination of conflicting slates within the PRI.³ Moreover, the role of the PRI as political entity, independent of both the government and the sectors, has increased. Preassembly decision making has been reduced, party nominations have been democratized, and an independent party organization involving more active recruitment and grass roots financial support has developed.⁴

¹Scott, p.134; Calvert, p.477; Lieuwen, Arms and Politics in Latin America (New York: Praeger, 1960), Chapter 4.

²Tiempo, February 17, 1950 as cited in: Scott, p.143.

³Scott, pp. 143, 144.

⁴Padgett, pp. 54-62.

Surveying these changes it would seem that every twist and turn of party structure has been designed to increase public participation, thereby bringing the Revolution closer to the individual. The success of this policy has been lauded by many scholars. According to Padgett, the changes in party structure have resulted in an institution which is "a legitimizing symbol for the selection of candidates and a repository of procedural desires for minimizing arbitrary choice in the nominations of candidates at various levels. It should also be viewed as a vital communications center...and a mediating and liaison device."¹ "As an institution the party has durability beyond the personal popularity of individuals and it is this fact which has contributed to a change from personal continuism to a pattern of party continuism."² "Leaders now acted less on individual whim than on limitations imposed by public opinion."³ An even more enthusiastic interpreter of the party's role, Scott, sees it as "an interest aggregator for Mexico's proliferating functional interests (who) feel growing dependency upon the party mechanism for adjusting their conflicts."⁴ Scott's summary view is that "the PRI is the most influential mechanism in Mexico's political system but it is only one of a large number of subsystems."⁵ The final measure of this growing political participation is his estimate that 65 per cent of the population have begun to play political roles.⁶

¹Padgett, p.62.

²Padgett, p.50.

³Wilkie, p. 75.

⁴Scott, p.175; see also Scott, pp. 146, 257-8, 301-

⁵Scott, p. 315.

⁶Scott, "The Established Revolution" in Pye and Verba, eds., Political Culture and Political Development, (Princeton: Princeton University Press, 1965) p. 345.

Lest there be any doubt in Mexico about the party's intentions along these lines and its overall role, the policy statements which are ~~emitted~~ from the huge office on Avenida Insurgentes are designed to convince even the most skeptical Mexican of the PRI's unswerving loyalty to the three tenets of the Revolution:

(1) la democracia, the right of the people to participate in the conduct and management of public affairs and in the orientation and planning of vital problems concerning the collectivity; (2) el nacionalismo, the sovereign decision of the people to determine their present and their future in accord with their respective genius and the imperatives of their own history and to achieve their greatness in conformity with what corresponds to their highest interests; (3) la justicia social, the firm and constant will to transform decrepit social institutions, with the aim of satisfying the increasingly urgent needs of the disadvantaged and to fashion a strong and free Mexico in which everyone has the right to reap the benefit of his work in a climate of peace and concord.¹ It is also claimed that the PRI, as its name implies, has the leading role in effecting the peaceful reforms and transformation within the nation, which are necessary to achieve these goals.²

¹"Cuatro Años de ALM; Así se gobierna, señor Presidente!" La República, #251, pp.2-4. The author is indebted to Peter Allgeier for this and most of the other recent documents cited, as well as their translation.

²Martínez Domínguez, Alfonso, Posición del PRI ante los Problemas Nacionales de Actualidad, Mexico D.F., 1968, p.24.

III The Presidency and the Institutionalized Revolution:

A Critical View

Of course not all students of the Mexican party agree on the party's role in maintaining revolutionary goals and curbing personal and governmental excesses, nor are the favorable views unhedged. Despite the previously documented attempts to develop a viable national revolutionary party in which all sectors of society participate and which constrains the national leaders to pursue revolutionary goals, some observers agree with Brandenburg that "Mexico is ruled by an elite to which we assign the label of Revolutionary family" and that the head of this family is usually the president.¹

Interpreters of this persuasion view the period before the formation of the PNR as one in which the Revolutionary aims were blunted, class conflict muted, and the revolutionary leaders grew rich and fat.² Under the same interpretation, the formation of the party was simply Calles' transformation from caudillo to a more modern machine boss;³ certainly most observers agree that he controlled the actions of Ortíz Rubio and Abelardo Rodríguez and downgraded Revolutionary goals.⁴

Later, "as the official party constantly grew stronger, the President of

¹See Brandenburg, "The Revolutionary Family," in Sigmund, p.27.

²Padgett, p.20; Wilkie, pp.61, 65.

³Daniel James, Mexico and the Americans (New York, 1963), p.246, cited in Padgett, p.48. See also Scott, pp.123, 124.

⁴For example, the Labor Code of 1931 restricted labor's rights and, compared to the administration of Portes Gil, the rate of land distribution was substantially slowed, largely at the whim of Calles, who disciplined those who disagreed. Although some provision was made for agricultural credits, no money was actually allotted in 1933 and 1934. See Wilkie, pp. 68, 137-139; Scott, p.123; Padgett, pp. 30, 33, 91.

Mexico grew stronger still.... He tied the whole political system together, making possible the party's very existence. To this end the president used his power to enforce discipline among the functional sectors...[and] the state politicians.... It was the president who balanced the competing demands of the many interests."¹ As the locus of power gradually shifted from the party to the presidential government, the president became the focal point of political action,² until one observer has claimed that it is "the orientation of the president and those close to him which are decisive in determining which groups and interests receive priority in the decision making choices";³ and another that "the power of the president has no limit but that of time, his six years in office."⁴ Moreover, those interests and groups that cannot be overlooked and are less subject to manipulation and control can often be played off against one another by the "Liberal Machiavellian."⁵ Given this interpretation, it is not surprising that most of the 65 per cent who play political roles are subjects; it is estimated that only 10 per cent, mostly drawn from the urban middle and upper classes, are truly participants and provide inputs to the political process."⁶

¹Scott, pp. 136, 137. See also Padgett, pp.155-6.

²Scott, pp. 244, 257, 280.

³G. Almond and G. B. Powell, Comparative Politics: A Developmental Approach (Boston: Little, Brown, 1966), p.270. See also Scott, pp.261-282.

⁴Statement of Enrique Parra Hernández, an inner circle politician in the Alemán epoch, quoted in Brandenburg, p.312.

⁵This presidential title is used by Brandenburg. For some examples see Scott, pp. 210, 259, 309, where the development of a rival labor organization is discussed. Also see G. Huizer, "Peasant Organization in Agrarian Reform in Mexico" in I. Horowitz, ed., Masses in Latin America (New York: Oxford, 1970) for a discussion of early manipulations for the benefit of officialdom within the agrarian reform program.

⁶R. Scott, "The Established Revolution," p. 345.

It is also not surprising that "the personality of each president is apt to influence the political process,"¹ each administration comes to be identified with the president and all policies, public works, etc., bear his stamp.² It is still the president who gives public works to the nation.³ This tendency toward personalism is reinforced by the president's first act, the replacement of all government officials with those loyal to him, which means a turnover in roughly 18,000 elected and 25,000 appointive posts.⁴

As suggested earlier, personalistic rule can easily result in a redefinition of the revolution and divert programs from the fulfillment of revolutionary goals--critics of the Mexican regime suggest this has been the case. According to them and contrary to Cárdenas' hopes, "decision making in Mexico has been dominated by the urban middle sectors since the early 1940's"⁵--the so-called popular sector plus the business interests. In many cases the latter have bypassed the PRI and dealt directly, effectively, and quite profitably with the various executive offices.⁶

¹Scott, p.280.

²Scott, p.137.

³"El señor presidente da a los mexicanos" quoted in Brandenburg, p.346.

⁴Brandenburg in Sigmund, p.29. Of course, many simply switch positions. See also Scott, pp.248-258.

⁵Johnson, Political Change in Latin America: Emergence of the Middle Sectors (Stanford: Stanford University Press, 1959).

⁶See Padgett, pp.123-29, and R. Vernon, The Dilemma of Mexico's Development (Cambridge, Massachusetts: Harvard University Press, 1965), p.130 (henceforth Vernon) for some evidence on the extent to which these groups dominate the party. The role of the business "camaras" and their extra-party links to the president are discussed in Scott, pp.285-88. For some earlier evidence see S. Mosk, Industrial Revolution in Mexico (Berkeley: University of California, 1950) Chapters 2-5, 10.

As a result the building of infrastructure and industrialization received first priority after 1940¹ and most of the benefits of these programs were obtained by these dominant groups, while the lower classes, workers, and farmers benefitted much less.

The evidence on this last point is not completely clear and comes from a variety of sources. For example, one critic, Brandenburg, suggests that there is a conscious government tendency to provide jobs for college graduates as well as Revolutionary offspring.²

Another, more quantitative measure of the government's impact is the available information on income distribution. These figures show that income distribution was materially altered between 1950 and 1957 and there may have been some absolute decline in real incomes of the lowest classes and some expansion of the share of middle and upper middle income groups.³ In terms of functional categories, wage earners seem to have suffered some relative decline between 1940 and 1950 and scarcely improved themselves between 1950 and 1957. Most of the absolute rise in

¹See Wilkie, pp.82-88, 149-150; Vernon, pp.88-127.

²Brandenburg, pp.333-334.

³I.M. Navarrete, La Distribución del Ingreso y el Desarrollo Económico de México (Mexico, D.F.: Universidad Nacional, 1960). A partial translation is I.M. Navarrete, "Income Distribution in Mexico," M. Uriquidi, trans., Mexico's Recent Economic Growth (Austin, Texas: University of Texas, 1967) (henceforth Navarrete), and much of the available work on Mexican income distribution is summarized in M. Singer, Growth, Equality, and the Mexican Experience (Austin, Texas: University of Texas, 1969), pp.119-139 (henceforth Singer). Of course, these estimates are subject to the usual problems inherent in such comparisons, namely the treatment of imputed incomes and subsistence consumption which are particularly important to the lower classes and the substantial differences in consumption habits which makes two different price deflators almost necessary, although only one exists.

their incomes seemed to have occurred as a result of the shift from agricultural to nonagricultural employment.¹ During much of this period the rate of inflation exceeded wage increases² and, despite the PRI's self-proclaimed role as a labor party, strikes were held down.³

Moreover, comparisons between industry and agriculture show that average income per agricultural worker is much lower than average income in the rest of the economy and the improvement in agriculture's relative status between 1940 and 1950 was largely the result of increases in entrepreneurial income.⁴ As would be expected, given the unequal earnings in industry and agriculture and the regional concentration of industrial employment, there are large differences in per capita regional incomes.⁵ Further support for this view can be found in a state poverty index of deprivation computed by Wilkie. This index shows that while there has been a substantial overall reduction in the poverty index, there has been little or no change in the relative position of the states and regions and a widening of the dispersion about the national average between 1940 and 1960.⁶

¹Navarrete, Singer, pp.134-139.

²Wilkie, p.88; Vernon, p.93.

³Singer, pp.66-80, 153-57; Wilkie, p.89. According to Singer organized labor did somewhat better, but their gains merely kept pace with inflation.

⁴Navarrete, p.140. Since farmers tend to have larger families, the per capita distribution is even worse.

⁵Navarrete, pp.144-158.

⁶Wilkie's index of deprivation is an unweighted average of the per cent of the population who are illiterates, speak only Indian languages, live in villages under 2,500 inhabitants, go barefoot, wear sandals, eat tortillas, and have no sewage disposal in their residence. The index is calculated for each state and for the nation as a whole. Using the figures by state, the decile figures, as

Singer suggests that the slow growth of social welfare programs necessary to cure this deprivation, as well as the slow growth of the whole Mexican economy in the early 1960's, was caused by a lack of tax revenues. According to him, it was difficult to raise taxes for these programs because political participation was not diffused enough to permit the lower classes to offset the negative voices of the urban middle classes on whom the taxes would fall.¹

More recently the very need to return to a "balanced revolution" under López

6 cont'd

a percentage of the national mean, are

	1st or lowest decile of population	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1940	133	122	120	110	109	103	95	74	66	24
1950	140	127	123	114	109	103	88	69	22	22
1960	150	133	119	118	108	95	82	66	26	26

Obviously the component parts of the index are interrelated and may reflect government policy. For example, the areas with many Indians score high in the poverty index but this may reflect the wavering of the Mexican government between permitting the Indians to retain their own culture and language and integrating them into national life. Similarly it is easier to go without shoes on the unpaved streets of small villages than in Mexico City and sewage needs may also be less. Finally the government may simply have found it cheaper to reduce poverty in Mexico City and let those who seek escape from the deprivation of the countryside move there, although external diseconomies must now be rising rapidly. Nevertheless, these figures show a significant and growing spread between the Mexican Center City of cities and the periphery. See also P. González Casanova, "Internal Colonization and National Development," in Sigmund, pp.30-3.

¹Singer, pp.273-275. Brandenburg in Sigmund, p.29; Brandenburg, p.316. This problem is not confined to Mexico; see for example, J. Cooke, "Perónism and the Coup d'Etat of 1966," in Sigmund, pp.171-174. Of course, this interpretation, that participation had not increased enough to force higher taxes on the upper classes, is just the opposite of Vernon's argument that so many groups had become participants with veto power that nothing could be done. See Vernon, The Dilemma of Mexico's Development, (Cambridge: Harvard University Press, 1965) pp.188-193.

Mateos is prima facie evidence of the deviation from these revolutionary goals.¹ Moreover, the disorders that preceeded the 1968 Olympics in Mexico City and the complaints of the participants seem to indicate some dissatisfaction with the achievements of the revolution among the poor, the favoritism shown the urban upper middle class, and the lack of participation and control.²

These alleged failures of the Mexican revolution to achieve its goals immediately raise the larger question: Has the revolution been effectively institutionalized? To what extent are political decisions made on the basis of the ongoing PRI-revolutionary ideology, by politicians and bureaucrats pursuing revolutionary goals, rather than at the personal whim of the president and the ruling classes? As described earlier, the party leaders claim they have effectively institutionalized participation and the Revolution, but hopefully we can find more substantial proof than political statements. Otherwise, we must conclude that despite all efforts to the contrary, the Mexican caudillo and cacique, in the tradition of Porfirio Díaz and Santa Ana, still exists; he has merely swapped his serape for a three-piece suit and his caballo for a Mercedes Benz.

¹Wilkie, pp.89-91.

²See "Documents of the Student Revolt," in Sigmund, pp.33, 36.

IV Using the Federal Budget to Measure Institutionalization:

Trends in Expenditure

One area which might permit some statistical assessment of the growth or decline in institutionalization and personalization is the Federal budget. Not only does the budget lend itself more readily to measurement and comparison over time than speeches, legislative programs, and political or sociological indices, which might change independently of government policy, the budget also represents one obvious area in which the government's commitment to the revolutionary program, as well as its own goals, would clearly manifest itself.¹ Finally Professor Wilkie's monumental work makes comparable figures on the budget available for the various presidential terms.

In broadest terms some differences between each president's commitment to the revolutionary goals of the party can be observed through a comparison of the percentage of spending devoted to the three broad categories of expenditure defined

¹This is not to imply that other policies such as laws on discrimination, working conditions, minimum wages, the right to strike, tariffs, land distribution, etc., are not important, only that the Federal budget is the most easily measured tool of government policy. Even confining the investigation to budgetary figures does not solve all the empirical problems of political economy. First one may question the correctness of the figures, for there may be large unconcealed expenditures. However, Wilkie suggests that expenditures are not so much hidden as inflated. (Wilkie, pp.8-9). This suggests that comparisons between administrations might require a correction for changes in the rate of contract, as well as price, inflation. That items providing similar services cost significantly different amounts is well demonstrated by Wilkie's example of the different costs of an hectare of irrigated land under López Mateos (27,693 pesos) and Ruiz Cortines (3,798 pesos). But even if estimates of graft were available, more difficult problems would be encountered in judging the extent to which the budgets were made taking graft into account. Though these are interesting questions, this paper must ignore them.

by Wilkie: administrative, economic, and social.¹

With regard to administrative expenditures, including the military and the public debt, the general tendency has been to reduce the proportion of federal funds spent on this area. Whereas Venustiano Carranza spent as much as 85.6 per cent of the annual budget on his administrative apparatus (1916), by 1963 López Mateos assigned only 36.1 per cent of federal funds to that sector.² Presidents Cárdenas, Avila Camacho, Alemán and López Mateos all left office with a lower percentage of administrative expenses than had been obtained during the initial year of their respective administrations; of course, this did not preclude departures from the trend during their terms of office.

Economic expenditure has received increasingly larger proportions of the national budget, most notably during the Alemán and Ruiz Cortines administrations, when for nine out of twelve years it accounted for more than half of the funds spent. As discussed earlier, the three presidents succeeding Cárdenas appear to have made a definite decision to give national economic development priority over attention to the social needs of the people. Party leaders have attempted to justify this policy, interpreted by many as a departure from the tenets of the Revolution, by claiming that development of the country's economy would eventually result in greater social welfare through a "trickle down" process. The admirable growth of the Mexican economy since World War II probably reflects this emphasis and certainly denotes one of the most striking achievements of the Revolution.³ During the López Mateos administration economic development did not receive quite the same priority that it had

¹For an exact description of the items included in each category, see Wilkie, p.13.

²Wilkie, pp.98-99.

³Vernon, pp.88-102.

enjoyed previously.

Social development has been the least favored of the expenditure categories; even under Cárdenas, the president most often associated with high social priorities, the amount of the budget allotted to social development did not reach 20 per cent. During the administrations of Avila Camacho, Alemán, and Ruiz Cortines, the very strong emphasis upon economic development meant that the declines in the percentage of funds spent on administrative expenditures did not provide enough funding and (in budgetary terms) that the percentage spent in social development would also fall. This decline in the proportion of federal funds assigned to social development marked a reversal of the pattern established by Calles and, to a greater extent, by Cárdenas. As previously mentioned, by the time of López Mateos' inauguration it was clear that a renewed emphasis on social development was essential. Under that president the "balanced Revolution" began and by 1962 social development expenditures reached one-fifth of federal expenditure for the first time. To be sure, many in Mexico complained most vociferously that the original aims of the Revolution demand a significantly larger effort in the social sphere. However, the election of the rather conservative Gustavo Díaz Ordaz in 1964 insured that Mexico was not on the verge of a renaissance of Cardenismo, even if there were to be progress toward the realization of "balanced Revolution."

While the differences in budgetary emphasis between administrations are fairly large and could be interpreted as an indication of a relatively unconstrained presidency, it is easy to pose an alternative hypothesis of institutionalized revolution which is supported by this budgetary data. Under this view the various presidents have actually followed the dictates of the PRI, which in turn enunciated very early a long-run development strategy consistent with the revolution: the

big push. Under this strategy in the first years of the party social needs were sacrificed to build up infrastructure; later this sacrifice would make possible a large increase in income which could be used to satisfy social needs.¹ If the members of the PRI actually had a low social discount rate, the emphasis on economic growth with a later switch to the "balanced revolution" may have been an effective and optimal growth strategy.²

¹See the statements of Alemán and Ramón Beteta in Wilkie, pp.82, 84, 90-1 for suggestions, somewhat ex post, of this view.

²Wilkie suggests the balanced revolution was not really so balanced. See Wilkie, pp. 91-93, 164.

V Using the Federal Budget to Measure Institutionalization:

Deviations from Trends in Expenditure

Rather than the percentage spent in each category, the deviation from the trend¹ in budgetary expenditure seems a more appropriate measure of growing or declining institutionalization. The reason for using the deviations arises from what one author has called "The Political Cycle of Public Expenditure."² Since Presidents cannot constitutionally succeed themselves and wholesale changes in the civil service occur every six years, there is a tendency for each administration to compartmentalize itself. The president, in order to define his administration to the public and establish himself within the Revolutionary Family, launches his term with a budgetary splash and great public fanfare, concentrating his efforts on the areas of concern which, as described earlier, he has staked out as his special province. After the initial impact is made and the tone set, the growth of expenditure slackens. Finally, the presidential term closes with a rush of expenditure and public deductions, for there is a reluctance to allow the benefits, whether measured in prestige or graft, to fall to the successor and the members of the next administration.³ Moreover, no president likes to commit his successor to major expenditures for often they will not be carried out,⁴ and presidents have tradition-

¹The term "trend" will be used interchangeably to refer to the arithmetic and the semi-logarithmic time trend. While expenditures might obviously be determined by more complicated variables such as urban population, percentage of the population of school age, etc., we have chosen relatively simple hypothesis as is appropriate to an exploratory paper.

²J. Kohler, "Information and Policy Making: Mexico," unpublished Ph.D. dissertation. Yale University, 1968. See also Wilkie, p.107.

³Brandenburg, pp.332-340.

⁴See for example, the discussion of the fate of the Plan de Once Años for education in Wilkie, p.164.

ally been free of their predecessor's influence since the time of Cardenas.¹ In keeping with this tradition, the budget which is passed by the outgoing president and left for the new president to administer usually contains no new major commitments. Thus the continued existence of this compartmentalized pattern with whatever benefits the administration reaps from it would result in a large, relatively constant variation from the trend in expenditures, with some increase if the political cycle and personalism increased. On the other hand, if it were true, as has been suggested, that the party, rather than the president were important, the need to initiate projects at the beginning of an administration and complete them within a six-year span should diminish. Instead the projects could start at any economically optimal time, with the variance in the trend caused by lumpiness of projects. Thus the variations from the trend of expenditures should diminish as the Revolution became less personal and more controlled by the party.²

In addition, one might expect that variations in receipts and expenditures should also diminish through time for reasons which are unconnected with changes in personalism. On the one hand many former functions of the state have been taken over gradually by quasi public government agencies, often ~~one~~ created by the president to cope with a "new" problem. While transfers and subsidies to these agencies from the federal government are included in the figures used here, the agencies also obtain funds in other ways such as floating international loans, operating revenues, etc. Therefore fluctuations in spending by these agencies are understated

¹ Padgett, p.144.

² Of course, this argument assumes that optimal policy is a steady increase or decrease in projects or spending.

by the data on government spending used here.¹ Moreover, purely as a result of improvements in forecasting, there would be less need to change programs unexpectedly. Further, earlier administrations suffered through much larger external fluctuations, namely the Great Depression, World War II, and the Korean War, and the impact of external fluctuations should have declined as the Mexican economy became more diversified and industrialized. Finally, as Mexican political stability became an established fact and the claims with the U.S. were settled, the costs of borrowing to maintain the desired pattern of expenditure became less. Also, changes in tax rates to cover any desired expenditure pattern would have become easier if participation had really increased.²

On the basis of these observations the following test of personalization-institutionalization was made:

H_o : The variation in the trend of expenditure from administration to administration is declining through time, i.e., the ratio of variation from the trend is significantly less than one or at most one.

H_a : The variation in the trend of expenditure from administration to administration has not fallen, i.e., the ratio of variation from the trend between administrations is greater than one.

¹See Wilkie, pp. XXV, 6, 273. Vernon suggests that the lack of control over these agencies such as Pemex, the railroads and the electricity commission, led to a tremendous rise in public investment and capital goods imports when Lopez Mateos took over. (See Vernon, p.119). Unless the Budgetary Reform of 1965 is successful, this phenomenon may continue, leading to a new type of political cycle of expenditures in which not the president but the bureaucrats in charge of the agencies determine spending patterns. In that case it is likely that a big upsurge in spending will occur in the first year of an administration, before the president really gains control. Of course this is not presidential personalism but it does represent relatively uncontrolled spending by the governing class and thus falls under our broad definition of personalism. For a further treatment of this question see Sections VII and VIII.

²See footnote 1, p.15, No. 1.

The test was performed on total expenditures and on individual classes of budgetary expenditures which were judged to be particularly important in the revolutionary framework, education, public health, public works, agriculture, and investment and other economic expenditures. Expenditures were deflated and calculated on both a per capita and actual basis.

It was then assumed that total government expenditure and spending in each category was made with the aim of increasing expenditures at some constant, real, peso rate or at some constant real growth rate per year. Under this assumption, regressions were run in the form:

$$y_t = a + bt + u_t$$

t = time measured from the midpoint of the administration ($t = 5, 3, 1, -1, -3, -5$)

y_t = log of expenditure or expenditure, where expenditure is measured in 1950 pesos.¹

u_t = random normal variable, mean = 0, variance = v^2 .

The results of these regressions are shown in the Appendix, Table I, together with their variance. The most obvious point is the small difference between the results obtained with per capita and actual figures; the available population figures

¹See Wilkie for Expenditure data, except for the last year which was calculated from the Anuario Estadístico. For the price index see Banco de México Informe Anual, 1967 and Banco de México Informe Anual 1955. The Banco de México's whole sale price index (210 articles) was used as it was felt to be more comprehensive than the food price index (16 articles) which Wilkie, who was concerned with a longer period, had to use. The price index for the first three years of the Cárdenas administration was calculated by using the ratio of the food price index to the wholesale price index in the next three years. In the public works expenditure category the deflator was calculated by using slightly different weights for subsets of the wholesale price index: consumption articles -.60, metals -.15, construction materials -.15, and vehicles -.10. Population figures were the same as Wilkie's.

used are too similar to a time trend to substantially change the results. Second, it is easy to see that differences between the coefficients of the time trend and the constants or mean expenditures in each administration are often statistically significant. However, these differences are simply a manifestation of the different presidential emphasis discussed in Section IV. Although these differences in emphasis are interesting, it is the variations from the trends which, as discussed above, are the key to determining whether personalism increased or decreased.

Table I

Significant Differences in the Ratios of Sum of Squared Errors
Between Administrations Through Time

<u>Key to Symbols</u>	<u>Administrations</u>	<u>Type of Expenditure</u>
LM =	López Mateos 1959-64	TB = Total Budget
RC =	Ruiz Cortines 1953-58	AG = Agriculture
A =	Alemán 1947-52	PW = Public Works
AC =	Avila Camacho 1941-46	PH = Public Health
C =	Cárdenas 1935-40	E = Education
		I = Investment

<u>Sig. Level</u>	<u>Significant Increase in SSE</u>	<u>Significant Decrease in SSE</u>
	Time Trend of Per Capita Real Expenditures	
.05	TB : LM/RC, A/AC (TB : A/C, LM/AC, LM/C) ¹ PH : RC/A, LM/RC (PH : LM/A, LM/AC, LM/C) (E : LM/A, LM/AC, LM/C) I : A/AC (I : RC/AC, LM/RC)	PH : A/C
.10	E : PC/A I : LM/RC (AG : A/C), LM/A) (TB : RC/C, LM/A)	AG : RC/AC (PH : PC/AC) (PW : RC/AC, PC/C)
	Time Trend of Per Capital Logs of Expenditures	
.05	PH : LM/PC (PH : LM/A)	PH : A/C AG : PC/A (PH : A/C, PC/AC, PC/C) (PW : PC/AC, PC/C, LM/AC, LM/C) (AG : PC/C, LM/C)
.10	(TB : LM/AC)	PW : A/AC (PW : A/C, E : A/C)

<u>Sig. Level</u>	<u>Significant Increase in SSE</u>	<u>Significant Decrease in SSE</u>
	Time Trend of Actual Real Expenditures	
.05	E: LM/RC PH: LM/RC TB: AC/C, LM/RC (TB: A/C, RC/C, LM/A, LM/AC, LM/C) (E: LM/A, LM/AC, LM/C, RC/AC, RC/C) (PH: LM/A, LM/AC, LM/C) (AG: A/C, LM/C) I: A/AC (I: RC/AC, LM/AC)	PM: A/AC
.10	E: RC/AC (TB: AC/C) PH: RC/A PW: LM/RC AG: LM/RC I: LM/RC	
	Time Trend of Logs of Real Expenditures	
.05	PH: LM/RC (PH: LM/A)	PH: A/AC AG: RC/A (PH: A/C, RC/AC, RC/C) (PW: RC/AC, RC/C, LM/AC, LM/C) (AG: RC/C, LM/C)
.10	TB: A/AC (TB: LM/AC)	PW: A/AC (PW: A/C)

¹ Parentheses show comparisons between nonconsecutive administrations.

In Appendix Table II, the ratios of deviations from the regression equations are shown in matrix form. The results are summarized in Table 1.

It is clear that in many categories of expenditure the deviations from the arithmetic or natural time trends have increased phenomenally and decreased in only a few cases. Thus, under our hypothesis personalism has increased significantly, and no institutionalization or democratization has occurred. However, in most cases the ratios of deviations from the semi-logarithmic time trend of expenditures, which would be one if percentage deviations were the same in two administrations, are not significantly different from one at even the 10 per cent level of significance. In fact, most categories of expenditure show significant declines in the variation from the semi-logarithmic regression.

Three interpretations of these results seem reasonable. The first is that only the variations in actual expenditure and particularly per capita expenditure are relevant. As discussed earlier, these are analogous to fees charged for mediating conflicts and, particularly when deflated by population, they should decline or at least not rise. In other words, our theory really provides no hypothesis about the ratio of percentage variations and only the results obtained with regressions on the natural values of expenditures are relevant.

Alternatively one could argue that percentage and arithmetic variations are equally important. However, in many cases the declines in percentage variation simply represent presidential decisions to maintain expenditure at a relatively constant, low level in the areas of little presidential interest, while devoting most of the time, administrative talent and the substantial amounts of nonbudgeted revenues to areas of interest.¹ Thus, Cárdenas and López Mateos stressed the social side

¹Tests of the growing importance of nonbudgeted spending as a measure of personalism are discussed in Section VII.

of the revolution and concentrated their efforts in fields like Public Health and Education. Also under Cárdenas, large agricultural expenditures were made. On the other hand, the three intervening presidents neglected these areas and concentrated on public works and economic expenditures. Thus it would be easy to predict the positive, significant increases in percentage variation in the trend of public health expenditures during the López Mateos and earlier administrations, as well as the significant declines in variation between Cárdenas and the next three administrations. Similarly the large variation in agricultural expenditure in the Cárdenas administration, relative to the significantly smaller variances in the other administrations, is predictable. Finally, the relatively large difference in variations of the total budget between the López Mateos and Ruiz Cortines administrations seem mainly due to the former's well-documented concern for paying off the national debt.¹ Concerning ourselves only with the expenditure classes of administrations which stressed similar goals, a comparison of educational and public health expenditures between the Cárdenas and López Mateos administrations shows a significant increase in absolute deviations but no significant change, plus or minus, in the percentage deviations. Thus, by this measure, personalism did not decline and may have gotten worse. However, a comparison of the deviations in public works and in economic expenditure among the Avila Camacho, Alemán and Ruiz Cortines administrations shows a significant decline in the percentage variations over time in some case and therefore some decline in personalism. In summary, the results are inconclusive, particularly when we take into account the idea of a party-imposed, big push in economic expenditure, voiced earlier.

Still another explanation of these inconclusive results is simply that there is an identification problem. While greater personalism creates an increasing

¹ See Wilkie, pp. 91-93, 164. The deviation from the trend is 30 to 50 per cent smaller when payments on the national debt are removed from the total budget.

"demand" for variation in absolute terms, the growth of Federal revenues permits the increasing absolute variation to be hidden more easily. In effect, "supply" or ability to vary expenditure has increased simultaneously, and in percentage terms the net result has been a decline in variation. Thus, a more sensitive hypothesis is necessary. The next section is devoted to testing another, perhaps more sensitive, hypothesis about the political cycle, taking into account the sign pattern of variation. Section VII deals with still another test based on the rate of spending from nonbudgeted revenue.

VI Using the Federal Budget to Measure Institutionalization:

Sign Patterns in the Regression Residuals

The previous section showed that the tests on the total deviations from the time trend yield results which depend crucially on the interpretation of government behavior. This is particularly true when the deviations from the semi-logarithmic time trends were examined. It was then suggested that this may be due to a poorly formulated hypothesis and perhaps an identification problem. In addition there is a purely statistical problem which makes hypothesis testing difficult--the correctness or incorrectness of the assumption regarding the independence, through time, of the residuals. Of course, this is an important question when determining the critical region for testing the hypothesis of unchanged variance. The most obvious problem arises directly from the Political Cycle of Public Expenditure described earlier; if such a cycle exists, the deviations from the trend line will not be random normal variates and the critical regions which were chosen to accept or reject the hypothesis are less meaningful.

As discussed earlier, the Political Cycle of Expenditure implies that the sign pattern of residuals from the regression equation for presidential administration should be minus, plus, plus, minus, minus, plus. If we regard each correct sign as a success we can test the hypothesis that there is a Political Cycle against the alternative that the signs are purely random, with no pattern. In that case the chance of success would be one half. Appendix II lists the number of correct signs or successes obtained under the Political Cycle hypothesis in each administration for each type of expenditure and each form of the regressions (log, actual, per capita, actual).

Summing the number of successes across administrations for each type of expenditure, there are thirty trials;¹ except in public health and agriculture, the number of successes is significantly greater than the expected number of fifteen at the five per cent and, in many cases, the one per cent level. In the case of the total budget the number of successes is significantly different from fifteen at the one per cent level. Therefore the hypothesis that the residuals or deviations are random is rejected and the alternative hypothesis of a Political Cycle of Expenditures is accepted.²

A casual examination of the signs of the residuals seems to indicate that there has been some tendency for the Political Cycle of Expenditures to become more prevalent in the recent administrations; the number of correct signs in the three administrations of Alemán, Ruiz Cortines and López Mateos is usually five or six, while in the administrations of Cárdenas and Avila Camacho the number is only three or four. This observation supports Brandenburg's view that "the high point of official party domination (of the nominating process) was reached in 1933,"³ and is confirmed by

¹The number is twenty-four for agriculture and investment owing to missing observations in the Avila Camacho and Cárdenas administrations respectively.

²The coefficient of a dummy variable, taking on the value +1 in years 2, 3, and 6, -1 in years 1, 4, 5, was estimated as a test of constant "seasonal" variation for deviations from the trend over the Political Cycle. It generally proved to be not significantly different from zero except when a single coefficient was estimated over the last three administrations. The relatively high standard error, despite the favorable result of the sign test, would seem to indicate substantial differences from the trend from year to year of the Political Cycle. For example, even including the effect of the "seasonal" dummy the sixth year residual was usually positive, and the first year residual negative, indicating each administration really started slowly but finished strong. Since variations within the cycle result in a nonsignificant seasonal coefficient of the Political Cycle, it makes little sense to use differences between the coefficients as a test of the relative strength of the cycle in different administrations.

³Brandenburg, p.314

statistical test. Using a 2 x 2 contingency table to test the difference between the number of successes in the first two administrations and the last three we find that there is a significant, positive difference between the number of successes or correct residual signs in the last three administrations and the first two for total expenditures, for public works and for public health.¹

In conclusion the sign tests confirm the existence of a Political Cycle of Expenditure and seem to show that it has become more prevalent in the three most recent administrations. By this test, personalism increased rather than decreased between the time of Cárdenas-Avila Camacho, and the three relatively colorless administrators: Alemán, Ruiz Cortines and López Mateos. This observation might also imply that the Mexican presidents and administrations have used some of the decline in externally caused variation and some of their increased ability to resist it to impose the Political Cycle of Expenditure upon the country.

¹The lack of a significant number of successes in the test for a Political Cycle of Public Expenditures in the area of Public Health (whether per capita or total expenditure) is thus seen to be the result of the lack of a cycle in the earlier administration, for the later administrations show almost complete adherence to the hypothesized cycle. In the case of education there is no significant difference in the adherence to the cycle while for agricultural and investment expenditures the hypothesis cannot be tested because of the absence of data for the Avila Camacho and Cárdenas administrations, respectively.

VII Using the Federal Budget to Measure Institutionalization:

The Proposed Budget and Actual Expenditure

One last test of growing or declining institutionalization-personalism is available, the ratio between proposed and actual expenditures. This comparison seems useful given the presidential role in budget making and expenditure. Although deadlines for submission of the budget, adjustment, and its approval appear to have institutionalized budget making,¹ the president is actually left with large discretionary powers. The proposed budget is typically rubber stamped by the Congress with little or no change,² not only because the Congressman holds his seat at the pleasure of the president, nor because the Congress has too little time to consider the request, nor even because members must not upset the proposed balance between expenditure and revenue, but largely because actual spending will typically differ radically from proposed.³ Many budgetary items include provision for amplification by the president should more funds become available, leaving to him the amount of amplification.⁴ Moreover, when necessary the presidents can send initiatives to cover increased expenditures; the usual reaction to and treatment of these requests is probably well described by a representative of the opposition party (PAN) when confronted by Lopez Mateos' additional requests:

"It would really be grave to approve, or disapprove an amplification of the budget which is equal to 40 per cent over the amount originally authorized for the fiscal year.... [Since only 33 days remain in the

¹See Scott, "Budget Making in Mexico," Inter-American Economic Affairs, IX, No. 2, (Autumn, 1955) pp.3-20.

²Wilkie p.17.

³See Padgett, pp.147-8; Scott, pp.260-6; Wilkie, pp.19-20.

⁴Wilkie, p.274.

fiscal year, a vote] would be more an approval of accounts than an authorization to spend an additional 40 per cent of public funds."¹

The presidents have typically amplified those areas which interested them the most, leaving expenditures in other areas at projected levels. This procedure allows the government to make significant propaganda claims, while actually pursuing other ends. Moreover, because of the difficulty of relating these actual expenditures to the projected amounts, it causes significant confusion among those who attempt to analyze the budget.²

Given these observations, three tests of growing or declining presidential control or personalism, as manifest in the difference between proposed and actual budgets, suggest them-selves. First, since the president has such control over additional spending and since the difference between proposed and actual spending is such a source of confusion, the existence of a significant, negative time trend in the ratio of proposed to actual expenditures would indicate some growth in personal presidential power or at least a relatively uncontrolled government. Second, since spending can be switched from one category to another after the proposed budget is approved, as well as augmented, we might also test for the existence of a significant time trend in the ratio between the sum of absolute deviations from the proposed budtet and the proposed budget. Finally, if the party rather than the

¹ El Día, November 28, 1964, as cited in Wilkie, pp.274-5.

² For example, see the discussion of the "balanced revolution" of the Lopez Mateos administration and the debate over Lopez Mateos' educational expenditures in Wilkie pp.91-3, 164. Although Lopez Mateos, in comparison to his predecessors, budgeted and spent large sums of money for education and public health, almost all the additional funds of his administration, which amounted to 40 per cent of total spending, were channeled into investments and payments on the public debt. See Wilkie, pp. 160-1, 166-7. One of Wilkie's contributions was, of course, the tracing of these additional expenditures.

president is really becoming more important, we might expect that there should be a significantly positive time trend in the ratio of proposed to actual spending in the first year of each administration. As mentioned above, this budget is actually made up and approved by the new president's predecessor. If the party is gaining control and "continuismo" of the party is becoming the rule, there should be no need to leave the incoming president free reign; conversely, growing presidential power and maintenance of the tradition of noninterference with successors would dictate a lower and lower ratio of proposed to actual expenditure and a significantly negative coefficient.

Regarding the ratio of proposed to actual spending, time trend regressions of the ratio of proposed to actual spending, time trend regressions of the ratio, calculated using Wilkie's data, were run in actual and semi-logarithmic form. The results were, respectively:

$$\begin{array}{l} \text{a) } Y = .6883 - .0034t \\ \quad \quad (.0883) \quad (.0007) \end{array}$$

$$\begin{array}{l} \text{b) } \log Y = -.3817 - .0050t \\ \quad \quad (.1280) \quad (.0010) \end{array}$$

where Y = proposed expenditure/actual expenditure

t = time ($t = 1, 2, \dots, 30$)

and the standard errors are shown below the corresponding coefficients.

As can be seen, the trend coefficients are significantly below zero at the .01 per cent level, supporting the hypothesis of growing presidential power and control.

As to the ratio between absolute deviations from the proposed budget and the actual budget, the absolute deviations for important categories of expenditures were

calculated,¹ summed, and divided by the proposed budget. Regressions of the time trend in actual and semi-logarithmic form were run. The results were, respectively:

$$Y_t = .4073 + .0091t$$

(.1992) (.0013)

$$\log Y_t = .0397 + .0254t$$

(.5697) (.0040)

$$\text{where } Y_t = \frac{\sum (\text{actual expenditure}_t - \text{proposed expenditure}_t)}{\sum \text{proposed expenditure}_t}$$

$$t = \text{time } (t = 1, 2, 3 \dots 30)$$

Thus not only did the percentage of budgeted spending, as opposed to presidentially motivated additions to the budget, actually decline, but, even taking into account switching between expenditure categories at presidential order, which appear to have been more common in the Cárdenas and Alemán administrations, there has been a significant increase since 1936 in the percentage of federal expenditure which is made at presidential discretion, after the proposed budget has been approved by Congress.

Finally, a regression was then run on the time trend of the ratio between proposed and actual spending in the first year of each of the six administrations

¹The categories used were Agriculture and Irrigation, Public Health, Education, Communications and Public Works, Investments and Additional Economic Spending, Public Debt, Military, Industry and Commerce, and Additional Social Spending. These categories amounted to almost 90 per cent of spending in the last three administrations. The coverage is somewhat less in the first two administrations (roughly 80 per cent under Cárdenas, 85 per cent under Alemán), but the addition of the Treasury expenditures to the figures brings the coverage to roughly 85 per cent in the Cardenas administration and 90 in the Aleman administration. The new regression results are almost unchanged. Interestingly, regressions on the last three administrations alone, where coverage is very similar, yield almost the same trend coefficients and intercepts. According to our hypothesis this indicates increasing presidential power or "personalism", as opposed to democratization in the last three administrations.

since Cárdenas.¹ The results in actual and semi-logarithmic form were:

$$Y = .7352 - .0272t$$

$$(.1049) \quad (.0072)$$

$$\log Y = .3178 - .0372t$$

$$(.1431) \quad (.0096)$$

where Y = ratio of proposed to actual expenditures in the first year of each administration.

t = time (t = 0, 1, ... 6) and standard errors are shown below the coefficients.

The coefficients are significantly less than zero at the one per cent level, indicating a significant decrease in the ratio of proposed to actual expenditures through time and, according to our hypothesis, an increase in presidential-administrative control, with a corresponding decrease in the constraints placed on the new administration by party "continuismo."

¹For the administrations from Cárdenas to López Mateos figures were obtained from Wilkie, pp.23-4. Figures for the Díaz Ordaz administration were calculated from Secretaría de Industria y Comercio, Anuario Estadístico Compendiado de los Estados Unidos Mexicanos, 1965 and 1966 on a comparable basis to the earlier data, i.e., excluding the proposed and actual expenditures of the autonomous institutes and public enterprises which were included in the budget for the first time under the Budget Reform Act of 1965. Interestingly enough, the ratio between proposed and actual expenditures in the autonomous institutes was higher than in federal government spending. This would indicate tighter government control over this spending and seems to contradict Vernon's view of that their spending is uncontrolled in the first year of a new government. See Vernon, pp.118-119.

VIII Summary and Conclusions

The results of all the tests which we have devised--increasing variance in expenditure, increased imposition of the political cycle of expenditure, growing differences between proposed and actual expenditures--seem to indicate a growing tendency toward arbitrary presidential and governmental control with a corresponding decline in institutional restraints. By our definition this is an increase in "personalism." Thus our results not only support Brandenburg's contention that "personalism persists," but that it is increasing.

This is not to imply that the Mexican system of government is completely unsuccessful. There is no denying that adherence to the system provided some of the pressure for orderly transitions of power in the depths of the depression, when other Latin American governments were sinking into military distatorships, nor that the number of active political participants is not significantly greater than in the pre-revolutionary time of Porfirio Díaz. Moreover, even if we accept Brandenburg's contention that "Mexicans avoid personal dictatorship by retiring their dictators every six years"¹ this is certainly an improvement over the 35-year personal rule of the Porfiriato, particularly since the increase in political mobility permits any politically ambitious Mexican to enter the administrative elite and work his way up, obtaining some of the benefits of government policy and perhaps even attaining the presidential jackpot.² Moreover, many others, nonparty as well as party members, benefitted from the unparalleled growth in urban areas. Thus, although most Mexicans would agree that the party's propaganda claims remain unfulfilled, the system has its good points.

¹ Brandenburg, p.313.

² Brandenburg in Sigmund, p.29, Brandenburg, pp.327-340. Of course the benefits of government office at low levels are not very great, but there are benefits at higher levels. See Wilkie, pp. 8 and 9, Vernon pp.149-153.

A difficult question is whether the good points such as stability, jobs for the party members and white-collar workers, and urban growth will continue to be valued so highly by the future Mexican polity, which will probably expand greatly and demand more general participation and benefits at the expense of the present governing classes and the present beneficiaries of government policy. The analysis of the budget has shown that the ruling groups have operated with less and less institutional restraint, yet the number of claimants for participation and government benefits has also increased as a percentage of the population. Whether participation can continue to increase and whether the benefits can continue to be spread over larger and larger groups is not clear; as mentioned earlier, the hesitation in Mexican growth in the early 1960's and the student riots of the late 1960's may well be manifestations of the difficulty in adjusting to greater demands for participation and a wider distribution of government benefits. Another manifestation of this problem are the roadblocks to upward mobility in the upper echelons of the trade unions and the army.¹

If the twin problem of greater participation and better distribution of benefits can be solved through a combination of interest group manipulation by a "Liberal Machiavellian" president who is really not a vote aggregator, but a social reformer, and by the urban middle group giving up some of their power and benefits to forestall more serious threats to their position, then budgetary policy may become more stable. As discussed in the introduction, assuming always that stable or steadily growing expenditures are more productive, it seems reasonable for the growing number of participants to develop an institutional

¹ Brandenburg, p. 336.

system which constrains the government to reduce deviations from the trend in expenditures which benefits only the governors. Moreover, a larger number of more equal participants will decrease the need to use the confusing tactic of large supplementary appropriations. In fact, the representatives of the participants might even develop an interest in more accurate published appropriations in order to pinpoint deviations from "fair" shares and thereby mobilize support within their interest groups. Perhaps the 1965 Budgetary Reform, which consolidated the accounts of the government and the increasingly important autonomous institutes, is a step in this direction.

APPENDIX TABLES I AND II

Budget Category	Adm	Const	SE	Coef of Time	SE	t Stat	SSE	Cor Coef	No. Correct Sign	SSE of More Recent Admin. vs. SSE of Earlier Admin.				
Per Capita														
Total Budget	C	84.07	8.27	2.07	.628	3.30	110.4	.86	4					
	AC	106.42	6.58	1.09	.795	1.36	177.2	.56	3	1.605				
	A	146.92	21.68	4.80	2.080	2.31	1210.2	.70	6	10.961	6.83			
	RC	195.03	21.50	5.66	1.376	4.12	529.9	.90	4	4.799	2.991	.438		
	LM	287.69	38.16	7.27	4.240	1.71	5032.5	.65	6	45.58	28.407	4.158	9.498	
Log Per Capita														
Total Budget	C	4.427	1.03	.0255	.0081	3.14	.0185	.84	4					
	AC	4.666	.63	.0106	.0075	1.41	.0156	.58	3	.843				
	A	4.979	1.46	.0327	.0138	2.37	.0534	.76	6	2.886	3.423			
	RC	5.267	1.16	.0301	.0080	3.77	.0178	.88	5	.957	1.135	.331		
	LM	5.653	1.31	.0250	.0146	1.72	.0595	.65	6	3.216	3.814	1.114	3.361	
Total Budget (const. in mills., coef in mills.)														
	C	1593	195	52.3	11.5	4.5	37127	.92	4					
	AC	2286	203	49.7	16.3	3.0	75227	.83	3	2.026				
	A	3724	714	175.0	57.1	3.1	912575	.84	6	24.579	12.131			
	RC	5981	933	261.8	38.9	6.7	422638	.96	5	11.384	5.618	.463		
SSE x 10 ¹²	LM	10617	1859	439.9	160.1	2.7	7177213	.81	6	193.314	95.408	7.865	16.981	
Log Total Budget (in thous.)														
	C	14.27	.129	.0340	.0082	4.14	.0188	.90	4					
	AC	14.64	.092	.0026	.0074	3.07	.0152	.84	3	.803				
	A	15.11	.188	.0469	.0145	3.23	.0588	.85	6	3.128	3.894			
	RC	15.59	.164	.0452	.0080	5.67	.0178	.94	5	.947	1.179	.303		
	LM	16.16	.172	.0411	.0145	2.83	.0592	.82	6	3.149	3.921	1.007	3.326	

Source of Data

1935-1963 J. Wilkie, The Mexican Revolution: Federal Expenditure and Social Change Since 1910.

1964 Secretaria de Industria y Comercio, Anuario Estadístico

Per Capita figures 1950 pesos (old deflator) Actual total budgets 1950 pesos

Other total figures for 1935-1962 calculated using population figures found in Wilkie, Ibid., p. 24. Population for 1963 and 1964 calculated from 1962 population using a 3.3 percent growth rate, which was figure used in period.

APPENDIX TABLES I AND II

Budget Category	Adm	Const	SE	Coef	SE	t	SSE	Cor Coef	No. Correct Signs	SSE of Recent Admin. SSE of Earlier Admin.			
Per Capita Educ.	C	10.63	.97	.194	.103	1.88	2.98	.69	5				
	AC	10.79	.82	.150	.094	1.60	2.45	.63	3	.821			
	A	12.05	.52	.080	.065	1.24	1.18	.53	3	.396	.483		
	RC	17.47	2.33	.616	.145	4.25	5.87	.90	5	1.970	2.400	4.970	
	LM	33.43	6.44	1.813	.261	6.95	19.06	.96	5	6.392	7.786	16.125	3.25
Log Per Capita Educ.	C	2.358	.097	.0190	.0106	1.80	.0312	.67	5				
	AC	2.375	.076	.0139	.0088	1.57	.0219	.62	3	.702			
	A	2.497	.041	.0066	.0051	1.29	.0073	.54	3	.233	.333		
	RC	2.852	.131	.0350	.0080	4.40	.0177	.91	5	.567	.808	2.425	
	LM	3.490	.187	.0534	.0062	8.61	.0108	.97	6	.343	.488	1.466	.605
Total Educ. (Const. in mills pesos)	C	201	22	5.30	1.88	2.82	992	.82	5				
	AC	232	25	6.11	2.07	2.95	1196	.83	3	1.205			
(coeff in mills pesos)	A	304	26	6.43	2.26	2.84	1432	.82	3	1.444	1.198		
	RC	536	98	27.09	4.69	5.78	6150	.95	4	6.200	5.143	4.295	
SSE x 10 ¹²	LM	1240	307	86.98	11.25	7.73	3541	.97	4	35.705	29.617	27.731	5.758
Total Educ. Exp. (pesos)	C	19.11	.120	.0280	.0105	2.66	.0310	.80	5				
	AC	19.25	.107	.0256	.0090	2.85	.0225	.82	3	.726			
	A	19.53	.086	.0207	.0071	2.92	.0141	.82	3	.452	.622		
	RC	20.08	.180	.0500	.0081	6.15	.0185	.95	5	.597	.822	1.321	
	LM	20.91	.243	.0700	.0061	11.44	.0105	.99	6	.335	.462	.742	.562

APPENDIX TABLES I AND II

Budget Category	Adm	Const	SE	Coef	SE	t	SSE	CC	No. Correct Signs	SSE of Recent Admin. SSE of Earlier Admin.			
Per Capita	C	4.08	1.403	.388	.067	5.75	1.273	.94	1				
Public	AC	5.60	.988	-.246	.076	-3.23	1.623	.85	3	1.275			
Health	A	5.16	.436	-.123	.017	-7.16	.082	.96	5	.064	.051		
	RC	5.91	.897	.251	.039	6.39	.431	.95	3	.338	.265	.524	
	LM	10.08	1.402	.133	.194	.67	10.54	.32	5	8.286	6.498	12.854	24.41
Log Per	C	1.343	.362	.099	.018	5.42	.094	.94	1				
Capita	AC	1.703	.202	-.049	.016	-2.94	.077	.83	3	.817			
Public	A	1.635	.085	-.024	.003	-7.16	.003	.96	5	.033	.040		
Health	RC	1.765	.148	.042	.006	7.26	.009	.96	3	.099	.121	3.00	
	LM	2.302	.149	.015	.021	.71	.119	.34	5	1.263	1.546	38.29	12.76
Total Public	C	78	28	8.0	1.3	6.2	46326	.95	1				
Health	AC	119	18	-3.9	1.7	-2.2	82043	.75	3	1.770			
	A	129	6	-1.2	.7	-1.9	12191	.69	5	.263	.148		
	RC	182	37	10.5	1.4	7.6	51927	.97	3	1.120	.633	4.259	
	LM	371	60	10.5	7.0	1.5	13799631	.60	5	297.65	168.20	11319.4	265.75
Log Total	C	18.1	.39	.107	.018	6.0	.0932	.95	1				
Public	AC	18.6	.16	-.037	.016	-2.2	.0765	.74	3	.817			
Health	A	18.7	.05	-.010	.005	1.8	.0079	.68	5	.085	.104		
	RC	19.0	.19	.059	.006	9.7	.0095	.98	3	.102	.125	1.202	
	LM	19.7	.17	.030	.020	1.5	.1146	.71	5	1.230	1.504	14.506	12.063
Log Per	C	11.27	2.40	-.106	.347	-.3	33.763	.16	4				
Capita	AC	10.65	3.00	.426	.385	1.1	41.440	.48	2	1.227			
Public Works	A	19.04	2.28	.391	.270	1.4	20.480	.59	6	.607	.846		
	RC	21.90	1.63	.313	.180	1.7	9.132	.66	5	.270	.377	1.275	
	LM	24.86	2.13	.122	.305	.4	26.103	.20	5	.773	1.078	.446	2.858
Log Per	C	2.400	.208	-.006	.0303	-.207	.2572	.10	1				
Capita	AC	2.332	.257	.043	.0307	1.401	.2655	.58	3	1.032			
Public Works	A	2.940	.117	.020	.0139	1.438	.0542	.58	5	.210	.204		
	RC	3.083	.075	.014	.0085	1.616	.0202	.628	3	.078	.076	.371	
	LM	3.210	.004	.004	.0124	.322	.0431	.159	5	.167	.162	.793	2.139

APPENDIX TABLES I AND II

Budget Category	Adm	Const	SE	Coef of Time	SE	t Stat	SSE	Cor Coef	No. Correct Sign	SSE of Recent Admin. SSE of Earlier Admin.			
Total Public Works	C	21.2	61.4	-.467	6.48	.07	.04	1176647	4				
	AC	23.0	6.9	1.15	.82	1.4	.57	1906988	2	1.621			
	A	48.2	7.8	1.70	.77	2.2	.74	1644493	6	1.398	.862		
	RC	67.0	7.8	1.98	.56	3.5	.87	877791	5	.746	.460	.534	
	LM	91.4	10.2	1.94	1.14	1.7	.65	3694158	5	3.139	1.937	2.264	4.208
Log Total Public Works	C	19.2	.21	.002	.030	.07	.03	.2623	4				
	AC	19.2	.28	.055	.031	1.8	.67	.2638	2	1.006			
	A	20.0	.15	.034	.014	2.2	.75	.0624	6	.238	.237		
	RC	20.3	.12	.029	.008	3.5	.87	.0201	5	.077	.076	.322	
	LM	20.6	.11	.020	.012	1.7	.64	.0417	5	.159	.158	1.668	2.074
Per Capita Agri.	C	6.1	1.42	.261	.163	1.6	.63	7.44	3				
	AC			missing data for one year									
	A	13.8	2.48	.229	.244	.7	.32	33.14	4	4.454	--		
	RC	16.4	1.68	-.358	.169	-2.1	.73	8.02	5	1.078	--	.242	
	LM	18.1	4.37	1.16	.27	4.3	.91	19.98	3	2.685	--	.603	2.491
Log Per Capita Agri.	C	1.78	.29	.054	.032	1.7	.64	.2983	3				
	AC												
	A	2.61	.17	.012	.023	.52	.25	.1542	4	.517	--		
	RC	2.79	.10	.021	.009	-2.2	.75	.0253	5	.085	--	.164	
	LM	2.87	.23	.061	.013	4.5	.91	.0514	3	.172	--	.333	2.032
Total Agri.	C	116	29	5.78	3.01	1.9	.69	255071	3				
	AC												
	A	349	76	11.56	9.6	1.2	.51	2565881	4	10.059	--		
	RC	498	36	-3.37	5.0	-.7	.32	688690	5	2.680	--	.268	
	LM	673	200	54.3	10.8	5.0	.93	3294845	3	12.917	--	1.284	4.784
Log Total Agri.	C	18.5	.31	.063	.033	1.9	.69	.301	3				
	AC												
	A	19.7	.19	.027	.024	1.1	.48	.1674	4	.556	--		
	RC	20.0	.07	-.006	.009	-.7	.32	.0253	5	.084	--	.151	
	LM	20.3	.28	.077	.014	5.7	.94	.0521	3	.173	--	.311	2.059

APPENDIX TABLES I AND II

Budget Category	Adm	Const	SE	Coef of Time	SE	t Stat	SSE	Cor Coef	No. Correct Sign	SSE of Recent Admin	SSE of earlier Admin
Invest. & Econ Exp Per Capita	C	missing data for one year									
	AC	14.75	3.6	.87	.28	3.1	22.442	.84	2		
	A	41.16	15.0	3.36	1.40	2.4	555.403	.77	5	35.99	
	RC	60.83	10.0	1.87	1.13	1.7	360.838	.64	4	31.83	.88
	LM	59.43	13.2	-.35	1.92	-.2	1035.21	.09	5	143.62	4.00 4.51
Invest. per Capita Logs	C	missing data for one year									
	AC	2.65	.27	.064	.025	2.5	.177	.79	2		
	A	3.64	.40	.094	.035	2.7	.342	.80	4	1.93	
	RC	4.09	.18	.034	.020	1.7	.110	.65	4	.62	.32
	LM	4.06	.22	-.005	.032	-.15	.293	.08	4	1.65	.86 2.66
Total Invest.	C	missing data for one year									
	AC	319	87	22.5	5.9	3.8	.96524	.89	2		
	A	1051	415	99.3	35.2	2.8	34.736	.82	5	2.47	
	RC	1866	367	84.6	33.1	2.6	30.780	.79	4	16.08	.65
	LM	2181	489	26.1	70.3	.4	138.63	.18	4	46.13	1.86 2.87
Log Total Invest.	C	missing data for one year									
	AC	12.63	.3	.076	.025	3.0	.177	.83	2		
	A	13.78	.4	.109	.035	3.1	.342	.84	4	1.93	
	RC	14.42	.2	.049	.020	2.5	.110	.78	4	.62	.32
	LM	14.57	.2	.011	.03	.3	.293	.17	4	1.65	.86 2.66

Figures for period 1939-1964 were deflated by the Banco de Mexico's whole-sale index covering 210 items rather than Wilkie's price index.

Wilkie was interested in analyzing expenditure over longer periods and so could not use the wholesale price index which begins in 1939. For the years 1935 through 1938 it was essentially assumed that the wholesale index was 2 percent higher than Wilkie's index. This linking factor is the result of using the average ratio between Wilkie's index and the Banco de Mexico's index in the period 1939 to 1941.

For Public Works a slightly different index was used.

The index used in this study is based upon figures taken from the aforementioned Banco de Mexico index and is weighted as follows: consumption articles (representing wages) = .60; metals = .15; construction material = .15; vehicles and accessories = .10.