

POLICY INNOVATION IN MODERN FEDERAL SYSTEMS:  
Establishing and Implementing Research Priorities

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## FORWARD

This paper presents a plan for cross-national collaboration in the analysis of policy innovations within three modern federal systems: The Federal Republic of Germany, Switzerland, and the United States. It argues for: a) coordinated problem identification and research design; b) minimization of duplicated effort; and, c) maximization of return on research investment through the preservation and exchange of data and related analytical resources.

The proposal for a joint research program grows out of a set of collegial and institutional relationships built over recent years. These relationships were forged in the context of the Financing Education in Federal Systems project, a study of the social and political conditions of education finance in the American states, the Canadian provinces, the Swiss cantons, and the West German Länder. §

The evaluations and prescriptions presented in this paper represent more than a set of collaborative reflections on the state of the art. Rather, the authors are here presenting an initial formalization of specific plans for a set of cooperative research activities, integrated into a common theoretical context and implemented through common research designs.

The cooperating scholars represent research centers in Geneva (Switzerland), Karlsruhe and Berlin (Germany), and Binghamton (New York, USA). Initial plans call for implementing the study of education policy innovation in the three countries, with additional substantive areas to be incorporated in future years. An initial proposal for the Swiss portion has recently been submitted to the Schweizerischer Nationalfonds zur Förderung der Wissenschaftlichen

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§ For a summary of the project results, see Richard I. Hofferbert, "Final Report: Financing Education in Federal Systems," Center for Social Analysis, SUNY-Binghamton, March, 1977. See also, Richard I. Hofferbert, et. al., Financing Education in Federal Systems: Project Papers, CSA Working Paper No. 7, March, 1977, Center for Social Analysis, SUNY-Binghamton, New York. The FEIFS project was sponsored by NSF Grants No. GS 38031 and SOC 75-21630.

Forchung. The next step will be submission of comparable proposals to the U.S. National Science Foundation and the Deutsche Forschungsgemeinschaft.

Although certain commitments have been made, there are still ample opportunities for significant amendment of focus and design. Given that the primary stimulus for this particular paper is the convening of a multi-national group of scholars to discuss comparative social research, we have sought to present our observations in a broad theoretical and methodological context. We view this as a working paper, however, and therefore have tried to be sufficiently specific to draw sharp criticism and suggestions for improvement from our fellow conferees.

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INTRODUCTION

Considerable research in recent years has been concerned with the contextual and organizational conditions facilitating adoption of innovations by governmental jurisdictions. Gaps exist in this research, however, which make generalizations across policy areas quite risky. Research to date leaves open the question, for example, of whether innovation is a generalized process in a given jurisdiction or whether some jurisdictions will be innovators in some programs and followers in others. Further, the question is unresolved as to whether the dominant sources of innovation lie in the resources and demands indexed by social structural traits, in the formal policy making structures and procedures, or in the professional skill, communication habits, and orientations of incumbent participants in the policy process.

We shall present strategies for taking account of major social and economic influences and for examining and weighing the impact on subnational policy innovation of:

- political alterations attainable by mass publics through the electoral process;
- administrative, fiscal and planning structures;
- patterns of decision making and bargaining practices of incumbent policy makers.

Particular attention will be given to identifying the impact on adoption of program innovations of subnational (hereinafter referred to as "provinces") variance in decision modes. (Dror, pp. 129ff)

Research is needed, further, which addresses not only the conditions under which innovations are encouraged, but also the processes by which they are actually adopted. That is, not only why do some jurisdictions readily adopt new policy strategies, but also how they adopt them. Research tactics are necessarily different to deal with the why and how of innovation adoption. The proposed research will attempt to answer the why question through rigorous analysis of social, political, and administrative data--available primarily from public records. The how questions will be addressed with information obtained directly from participants in and informed observers of the policy processes in the provinces of the three federations. The

latter requires, in effect, a large number of comparative case studies--case studies carefully designed with a keen eye to the cross-situational comparability of the data acquired.

The program of research outlined here seeks to explain the processes of policy innovation, particularly by the subnational governments of Switzerland, the Federal Republic of Germany, and the United States.

## THEORETICAL BACKGROUND AND PRIOR RESEARCH

### A Model for Policy Innovation Research

The general model to be followed in this research, for each nation, is presented in Figure 1. It incorporates possible flows of impact from the socioeconomic and political environments of provincial decision structures, directly and mediated through formal planning characteristics and policy maker behavior. The systems approach, as embodied in this model, is fairly common in the field of innovation research at the aggregate level, as well as in much comparative policy analysis. A specific point to be stressed here, however, is the focus of attention upon the two central components of the model--administrative structures and policy maker attributes. We view these components, to the extent that they are dependent upon socioeconomic or political context, as contributing to the explanation of both why and how innovations occur. Further, to the extent that they are relatively unconstrained by socioeconomic or political context, they constitute points of potential manipulation or malleability in the process: they constitute leverage points of demonstrable policy consequence and subject to change by policy makers. (Hofferbert and Sande, 1976; Hofferbert and Klass, 1976)

To aid understanding of the full implications of the model, it is necessary to examine the policy literature upon which our program of research is based.

### Comparative Policy Output Research: An Overview

The research proposed here represents a continuation and development of the comparative analysis of policy outputs begun in the American states and subsequently extended to provincial and local units in several countries. (Hofferbert, 1972; Boaden; Fried; Welsh) Two paramount conclusions emerge from this body of research: a) Policy outputs of relatively autonomous localities are generally more strongly shaped by socioeconomic resources than by any of the institutional or political attributes that have been examined (Dye, Fried); b) expenditure decisions rarely depart dramatically from patterns set through prior practice.

The watershed for comparative policy studies was the Dawson and Robinson article on the social and political correlates of state and local expenditures on certain policies in the states. (Dawson and Robinson) This article showed that (as was commonly believed) there were high correlations

between inter-party competition and various forms of welfare expenditure, but that socioeconomic attributes such as the relative wealth of the states were more strongly related to the policy outcomes than political forces. The importance of the socioeconomic environment, relative to political traits, for a wide variety of public policies was further demonstrated by Dye. (Dye) He suggested that such attributes as party competition, voter turnout, or legislative apportionment had no systematic, independent effect on state policy outputs. Instead, variables which measured economic features of the states--urbanization, personal income, industrialization, and median education--seemed to emerge as the most important correlates of policy. (See also Hofferbert, 1966 and 1972)

As both the technology and domain of inquiry expanded, the initial conclusions about the importance of socioeconomic variables became refined, elaborated and, in some cases, muted. For example, what had been commonly termed the "socioeconomic context of policy" can, in fact, be usefully conceptualized as two distinct dimensions, one representing the variation among provinces in the level of industrialization and the second the variation in the degree of sociopolitical integration. (Hofferbert, 1968; Cameron and Hofferbert, 1974) These two dimensions correlated differently with public policy in ways which vary across policy arenas and within policy arenas across time. However, they also had a remarkable degree of comparability of impact across numerous national contexts. (Cameron and Hofferbert, 1974; Hofferbert and Sande, 1975; S. Cameron and Hofferbert, 1977)

The same concern for elaborating the complexity of the policy context has also led to inquiry as to whether or not there are distinct clusters among the attributes commonly associated with the political system--the "black box"--and among the many discrete measures of policy outputs. (Sharkansky and Hofferbert) Of particular interest here is the fact that one of the clusters of policy performance variables, tracing the variation among the states in welfare/education policies, was closely associated not only with the socioeconomic dimensions but also with important elements in the states' political environments. These findings were in accord with others which reasserted the importance of political variables for public policy and, in particular, for patterns of innovation in public policy and non-incremental change. (Walker)

As a result of this research, increased attention has been given to longitudinal analysis and the patterns of policy change which represent deviations from the pervasive incrementalism which seems to characterize the policy context.



The net effect of the comparative subnational policy research has been to encourage a modest renovation of theoretical priorities, methods, and techniques used by some students of policy. Theoretically, the effect is two-fold. First, there has been a rearrangement of priorities which has elevated the importance of explaining variation in policy outputs. This contrasts with the prior, nearly exclusive focus of empirical political research upon parties, elections, and instruments of governance. Second, in the effort to explain variance between jurisdictions in their policy outputs, it has become accepted as reasonable and necessary to take systemic account of socioeconomic resources in assessing the options open to incumbent policy makers.

Methodologically, this body of research has heightened concern for and skill in the use of comparative approaches. The study of policy has moved well beyond its former reliance upon single cases and narratives of decision making activity. Technically, the field has widened the population of scholars employing sophisticated quantitative tools appropriate for cross-sectional and longitudinal analyses.

Substantively, the research goes a long way toward indicating "why" gross patterns of policy vary as they do across jurisdictions.

Against the backdrop of these strategic and tactical developments stand the major substantive findings and directions suggested by the comparative output studies, namely the high policy salience of socioeconomic resources and the pervasiveness of incremental policy making.

### Research on Policy Innovation

Closely related to the comparative policy output studies, but distinguished from them, is a set of analyses of policy innovation and diffusion. (Walker; Gray; Foster; Scott; Bingham; Menzel; Eyestone) General definitions of innovation have been comparable: usually a variant on "the successful introduction into an applied situation of means or ends that are new to that situation." (Mohr) Unlike the comparative policy output studies--which have been pursued in a theoretically thin, but data rich atmosphere--the studies of innovation and diffusion borrow from a long heritage of theory and research produced in allied disciplines. (Rogers and Shoemaker; Schmookler; Zaltman; Duncan and Holbeck; Hage and Aiken; Mansfield; Griliches) Research strategies have tended to reflect the dominant orientations of each researcher's disciplinary identity. (Warner) Economists have focused on the firm and the relevance of such factors as demand, profitability, cost, trialability,

etc. (Schmookler; Mansfield; Zaltung, et. al.) Sociologists and students of organizational behavior have concentrated attention on the work situation, hierarchical structure, administrative complexity, etc. (Hage and Aiken; Mohr; Wilson) Other sociological studies have shifted the center of gravity of their inquiry toward the organizational context-- "community attributes"--providing stimuli and resources for innovation. (Aiken and Alford; Bingham; Crain; Eyestone; Walker; Mohr; Menzel)

The type of innovations and adopting agents examined range from the diffusion of hybrid seed corn among farmers (Griliches) or drinking water boiling by Peruvian peasants (Rogers and Schoemaker) to public housing programs by U.S. cities (Aiken and Alford) or "Mothers' Aid" by American states (Gray). Economists have developed to a fairly high form the study of technology diffusion among industrial firms. The societal processes of invention and technological change are further well-refined, compared to the analogues in the political process. (Schmookler)

Much can be and has been borrowed by students of public policy from the organizational and economic studies. (Walker; Gray; Menzel; Bingham; Eyestone) Efforts have been made to find governmental analogues for independent variables found by sociologists and economists to be consequential for the adoption of innovations. Environmental resources, organizational features (i. e., agency, provincial, or city structural characteristics), and actor traits or attitudes have been studied with varying sophistication and precision.

Fundamental problems remain, however, and key questions are still open. If a summary conclusion were to be put forth, despite occasional challenge, it would comport with Mohr's study of public health agencies--namely that size and externally provided resources (particularly financial) are the most consequential elements of why there is a proclivity to adopt innovations. Bingham, however, proceeds further and indicates the extent to which particular organizational traits (mode of appointment, degree of centralization, etc.) mediate and account for how environmental resources are translated into policy adoptions. Foster, in his study of school district reorganization, finds that the impact of environmental changes is differentially relevant under alternative organizational conditions. (See also, Scott; Aiken and Alford) It is unclear, however, to what extent one can generalize across different categories of policy innovation, jurisdictional types, or time periods--not to mention national contexts. (Gray; Walker) And particular theoretically appealing aspects of decision practices (e. g., program planning, research utilization) have not been examined at all in a comprehensive policy model.

## Major Research Problems

Four somewhat overlapping categories of problems have limited both the theoretical integration and the practical application of comparative output and innovations research in the public sector:

- the polycentric nature of public policy making
- the static nature of policy studies' methodology
- inadequate systematic comparative analysis of the policy consequences of decision making attributes and processes (i. e., the "black box" of the policy process)
- the complex and long-standing dilemma of how to explain the policy agenda

It is our intention to construct a program of collaborative research which will significantly reduce the severity of these problems.

### Polycentrism in Policy Making

Explanations of policy performance which are based upon correlations between policy indicators and such comparative contextual conditions as wealth, industrialization, migration, partisan structure, or governmental form have progressed toward specification of why much of the range of general policy is constrained for individual jurisdictions within any given set. Such explanations, however, assume a certain undifferentiated quality for the processes operative in the individual jurisdictions within the set. Each is analyzed in terms of its total aggregate attributes. How these attributes are translated through multiple planning, bargaining, and decision structures within the policy process are left to inference, often justifying the criticism that contemporary students of comparative policy have treated the decision process as a "black box." (Jacob and Lipsky; Bingham)

Most of the innovation studies have concentrated on practices the adoption of which lies, at least legally and structurally, within the formal capacity of single agents, firms, or organizations. Adoption rests largely within the authority of discrete actors, identifiable or inferable by the researcher. Explanations of adoptions, therefore, can be attained by examining either attributes of the organization and its immediate environment or behaviors, motivations and attitudes of participating actors. The economic variables of cost, profit, etc., however, have no readily comparable analogue in the public sector. The plural nature of immediately affected interests and the

diffusion of requisite participation sites (especially in federations) belies the tidy identification of a decision unit--the analogue of the firm or agency. Similarly, reasoning by analogy from the behavior of organizations--even when they are governmental agencies--to the polycentric situation of the policy process (involving administrative units, legislatures, interest groups, parties, etc.) is necessarily haphazard and risky.

Moving from adoption of finite programs, techniques, or products (the customary focus of innovations research) to enactment/diffusion of public policies requires new conceptualizations of "costs", "gains", and decision processes. It requires much more comprehensive information about the interplay between and the characteristics of relevant participants.

The polycentric nature of the public policy process--beyond the narrow implementing autonomy of single agencies--opens the possibility for multiple decision modes being employed simultaneously. The extra-rational process of "competing units making biased claims for opposing policies" (Dror, 207) pursued in a legislative arena may proceed simultaneously with relatively formalized program planning on the part of administrators and budget officers. And, without progressing to formal hypotheses, it is likely that certain types of policy options progress relatively more rapidly under peculiar combinations of decision modes in different sectors of the policy process. Current theory is sufficient to suggest hypotheses regarding the gross consequences of alternative decision modes for policy change. But the research base and theoretical guidance is insufficient to suggest "optimal" contingent or joint relationships. That is, one can hypothesize greater receptivity to innovations where mechanisms of centralized, professionalized, program planning are in place. But it is not reasonable with present knowledge to suggest optimal mixes of "bargaining" processes in one sphere with "rational" planning in another, the mix of which would be more innovative than any uniform decision mode. Here the best current research strategy is simply to cast a net sufficiently wide and fine to capture suggestions for more refined future explanations.

Prescriptions for research designs breaking out of the monocentric focus of prior research must incorporate the means to trace interaction and communication among multiple action centers. And it must provide methods for scaling the alternative decision making modes within these centers.

#### Policy Levels vs. Policy Changes: Potential for Research Application

The modes of analysis pursued to date fall short of their potential utility in guiding purposeful modification

of the policy process. With the exception of organizational studies of innovation, the independent variables employed in explaining policy levels or innovations have not been studied with an eye to their ease of modification or as "tools" in the policy process. (Hofferbert and Klass, 1976) From a scientific standpoint, one objective in fleshing out a model such as Figure 1, is to obtain the maximum  $R^2$  commensurate with our capacity to explain, theoretically, the model's linkage. From the view of potential application, however, one objective may be to obtain minimal  $R^2$ s from social and political elements to the policy processing sector, and to obtain valid slopes from process to output. This would imply that planning and decision practices are largely unconstrained by socio-political forces, and are of predictable consequence for policy changes.

Most of the inferences drawn both from comparative output and policy innovation research rest upon cross-sectional correlation of attributes of the units under study. The conclusions customarily drawn (whether implicit or explicit) are that changes in the values of independent variables will yield changes in policy outputs or in the rate of adoption of innovations. The comparative output research has concentrated on levels of policy activity (usually expenditures) across jurisdictions. The policy innovation research has concentrated, most frequently, on timing of adoption of programs or techniques. Both--by utilizing cross-sectional correlations--treat the independent variables in a cumulative manner, i. e., the values assigned are those attained by each unit at the moment of measurement.

From the standpoint of causal explanation, as well as potential applications, the relevant questions ought to be addressed to marginal or change variables as well as to cumulative values.

The project which served as a stimulus for the proposed program of research (Financing Education in Federal Systems) has made its major advances in the realm of comparing cross-sectional analysis of policy levels to analyses of change. With a few peripheral exceptions, most of the prior comparative policy research relies upon cross-sectional analyses of multiple jurisdictions at common time points. Dynamic elements have been inferred from known or assumed communality of directions of change leading up to the distribution of traits at the time for which measures are subject to analysis. Yet the correlates of policy indicators across a set of units at a single time point are not necessarily comparable to the correlates of change in the same policy for the same units over a relatively short period of time. (Cameron, Cameron and Hofferbert, 1975)

As the research in the FEIFS project progressed, the distinction between cross-sectional and change analysis emerged as clearly of more than methodological interest. Put most simply, the analysis of changes in the structure of policy determination became the major focus from the standpoint of policy application and utility for policy makers. (Hofferbert and Sande, 1976) The debate over the relative importance of socioeconomic or political variables in determining policy variance has had a certain "academic" quality and sterility so far as practical application is concerned. The picture that emerges from the most common distillations of the research to date is one of a highly determined system. Whether by political forces beyond control by incumbent policy makers, or by socioeconomic forces amenable to little purposeful short-term alteration, the policy maker appears--in the light of the last decade's research--to be quite severely constrained. To the extent that purposeful policy innovation or leadership is accommodated in most (but certainly not all) of the comparative policy research, it is equated with the residual of a socioeconomic--politics--policy regression equation.

Analysis of changes in socioeconomic factors or political development and their individual or joint impact on changes in policy does little to alter the image of incapacity or vagueness of relevance for incumbent policy makers seeking alteration or maintenance of policy products. Depending upon the length of time between points of measurement of changes, however, the actual coefficients are substantially smaller than those customarily encountered in cross-sectional analysis. (S.H. Cameron and Hofferbert, 1977; Cameron, Cameron and Hofferbert, 1975; Hofferbert and Sande, 1975 and 1976) This, in itself, suggests that short-term changes within a relatively fixed range in policy allocation are subject to different or less consequential determinants than the major cumulative changes tapped by cross-sectional analysis. It does not contradict the implications of general determinism suggested by the latter mode of analysis. It does suggest modest ranges for maneuver at the margins by purposeful policy maker actions.

Cross-sectional (i.e., single time) analyses of indicators implicit in the model in Figure 1 identify the boundaries of the options available to incumbent policy makers. Analysis of changes in those same components identify:

- a) the extent to which the boundaries are modifiable, and
- b) the determinants of action within the more or less fixed boundaries.

Focusing upon changes as well as levels of policy activity and its determinants also helps to explain the diffusion of policy "fads" and the impact of "shocks" or short term policy relevant incidents. (Hofferbert, 1974, Ch. 7) For

example, reform or agitation for reform of abortion laws has spread across the policy agendas of many jurisdictions in the past decade, apparently regardless of relative stability of social structures or the political systems of those jurisdictions. Likewise, the racial riots of the U.S. in the 1960's--unpredicted in their location, frequency, or magnitude by most social scientists--were followed by different policy responses in different jurisdictions. Some of the variance in response to appeals for abortion law reform or the situation of American blacks may be explainable by social or decisional structures, measurable at the jurisdictional level. But the record of explanation of short-term policy changes is rather poor in the social sciences. The analysis of short-term policy behavior is similar in its execution (and conceptualization) to the agenda problem (to be discussed below). It requires refined data--available only on site--especially concerned with the norms, attitudes, and interaction patterns of individual participants in the policy process.

### Decision System Capacity

The static biases of prior research will not be solved entirely with new analytical approaches and new modes of data manipulation. New concepts must be incorporated into the model, along with new indicators of those concepts. Particularly when the intention is to identify and weigh the impact of elements of the process which are subject to deliberate manipulation, one must move beyond the prevailing focus upon socioeconomic and political contextual determinants of policy outputs. From the vantage of incumbent policy makers, such contextual resources/constraints are simply given. They determine the conditions of the track on which the race is run.

As already noted, in many comparative policy studies, rather large amounts of policy variance have been statistically explained. This apparent precision may be welcomed from a purely abstract, scientific standpoint. Persons in the "real world" of policy making, assuming they ever consume social science research, are unlikely to be excited about large  $R^2$ s. What good is it to tell policy makers that 65% of the variance in the policies they produce is explained by a set of variables including, for example, urbanization, median education level, industrialization, and per capita income? At best, such a message merely tells the policy makers oriented toward improving the human condition that they can stop blaming themselves for what they cannot help. Policy makers would probably welcome low  $R^2$ s. The social science concern has been more with explaining variance than with identifying policy options. Admittedly, when the

correlation coefficients are low, it provides some minimal assurance to policy makers that there is apparent latitude for innovation, to the extent that the explanatory models are reasonably well specified. But, as often as not, it is in the large, socially consequential areas of public service, such as education, welfare, or transportation, where the correlations have indeed been quite high--regardless of the national setting in which the analyses were conducted.

James Coleman has distinguished "disciplinary" research, with its interest in explained variance, from "policy analysis," which seeks to identify effective options for public action. (Coleman) He contrasts the two variable research customarily pursued by disciplinary science--"independent" and "dependent"--with the three variables needed for policy analysis geared toward action. Policy analysis is concerned with "situational" variables, i.e., those facets of the environment (whether socioeconomic or political) which lie beyond the short-term reach of policy makers to alter. To these, Coleman adds "policy variables," which are tools amenable to alteration by decision makers. The relative impact of these two sets of determinants needs then to be weighed (correlated) with "outputs."

In this case, Coleman is using "output" in a manner slightly unfamiliar to political scientists. He is using the term in the manner that political scientists usually use "impact"--that is, the impact of the situational variables, plus the manipulated phenomena--policy variables--on social conditions. To the extent that the policy variables are of independent consequence for social conditions--controlling for possible spuriousness from the impact of situational variables--they can be employed deliberately to achieve certain anticipated social consequences.

From the standpoint of the analysis of the determinants of policies themselves--what political scientists commonly call "policy outputs"--the same distinction can be made. Socioeconomic and/or political constraints indeed impinge upon policy makers, limiting their range of action. Without bearing down on the relative importance of socioeconomic versus political constraints, the fact is that if there is a high independent association between these situational variables and policy products, there is not much room left for deliberate amendment of policy by the voluntary actions of incumbent policy makers. If, however, there are "throughput" attributes which are malleable by incumbent and which have independent effect on policy outputs--i.e., if there are proximate components of the policy environment which are controllable and changeable by the central figures in that environment--then our analytical attention should turn to these malleable attributes.



The contrast is diagrammatically illustrated in Figures 2 and 3. Both are reductions and simplifications of the larger model presented in Figure 1. Figure 2 is a condensation of the customary mode of comparative policy analysis. Socioeconomic factors are hypothesized to impact on political context. Either or both socioeconomic and political contextual factors impact, in turn, on policy outputs. This is very much like Coleman's characterization of disciplinary research's concern with independent and dependent variables, the prime objective being to "explain variance." Appropriately, therefore, we have labeled this model a "Variance Explanation Model."

The "Decision Making Model," illustrated in Figure 3 directs attention not only to socioeconomic and political contextual constraints (i.e., "situational variables"), but also to the concept of "decision system", i.e., attributes of the policy process which intervene between context and product and may be subject to manipulation by incumbent policy makers and which have demonstrable independent impact upon the products of the actions of those incumbents.

The "Decision System" sector includes much of what has heretofore been left in the "black box" of policy analysis. We are deliberately using the concept "decision system capacity" to capture the entire set of interrelated components that are the counterparts of organizational and actor traits so often found consequential in the field of innovation research. (Aiken and Alford; Bingham; Hage and Aiken; Mansfield; Mohr; Wilson) They need to be operationalized, however, in a manner that focuses clearly on the components of alternative normative or "rational" decision models, especially with regard to planning structure, technical communication, and bureaucratic professionalism. Theoretical reflection on the normative value of alternative decision models abound. (Dror; Bauer and Gergen) Guidance can be taken from these reflections as to how one might operationalize variance in decisional structures as to their degree of "rationality", "incrementalism," "extra-rationality," or "optimality." (Dror's terminology) To be fitted into a more comprehensive systems model of the policy process, however, these theoretical reflections now call for:

- operationalization of key aspects of decisional structures, such that they can be scaled across jurisdictions;
- tests of the extent of their "malleability" (i.e., independence from resource constraints antecedent in the systems model. (See Fig. 1. See also Hofferbert and Sande, 1976; and, Shick, 1975);
- identification of policy consequences flowing from variance or change in decisional structures and practices.

Although empirically and analytically separable, we view both formal organizational attributes (e.g., planning structures, evaluation resources, etc.) and individual actor behavior (leadership, role orientation, etc.) as complimentary. Chronologically and logistically, these are the components of the policy process most proximate to adoption or rejection of innovative programs. They are the human and institutional elements linking formal authoritative action (legislation) and execution (service delivery). Likewise--and of key importance for policy output analysis--they are likely to be the most active channels of policy evaluation, technical expertise, and at least marginal agenda reformulation.

To the extent that policy processes are malleable--i.e., subject to short term, deliberate alteration--it is to the decision system rather than the social structure or the political culture that purposeful attention must be directed. If the balance of the model is adequately specified, the unexplained variance in decision system attributes is a measure of their manipulability. In turn, their effects upon innovation is a measure of the policy results to be expected from such manipulation.

The problem with the "black box" in prior research has been two-fold. First, the reliance on efficiently and inexpensively accessible public record data has meant, by and large, that decision system attributes have been included only through inference based on "input"- "output" correlations. There are some exceptions where researchers have been able to incorporate such items as expenditures on legislative services, research budgets, etc. (Grumm) But the cost of acquiring adequate detail on planning structures, actor orientations, etc. has placed most of these considerations beyond the reach of previous comparative output studies. The extent of detail necessary for measurement of decision system capacities will require direct on-site field interviews with key informants. The general tactics to be tried are discussed in a later section of this paper.

A second problem, however, has to do with the paucity of theoretical guidance contained in either administrative behavior or organization theory. The customary dependent variables, to the extent that such research adopts a propositional, hypothesis-testing stance, are contained well within the institutional boundaries of the administrative units or organizations studied. This trait has been touched upon above in describing the polycentric nature of policy innovation by general government jurisdictions. In a sense, it could be argued that organizational "activities" rather than organizational "products" have been the primary concern

of students of organizations. As a consequence, the theoretical focus of organization theory has not been aimed toward inventorying and classifying organizational or administrative traits in such a way as to yield hypotheses linking variance in such traits to variance in output.

### The Problem of the Policy Agenda

One telling criticism that has been leveled at much policy analysis involves the problem of setting the agenda, or what have been called "nondecisions." (Backrach and Baratz; Merelman) Critics of much policy analysis object to a form of inquiry that studies the agenda of policy deliberation as it is found; they argue that customary decision analysis is unable to identify the rules by which particular issues find their way into the process of deliberation. It is reasonable to argue that the most consequential decision is not how to dispose of a particular alternative, once it has been articulated; the appropriate question in the long run concerns the capacity of and means by which the total political system discovers and filters the needs and desires that are to be considered in the policy process. Analogous to the old American joke, "First, you have to get the mule's attention."

The problem is rather straightforward: Once a set of options is placed on the agenda for policy deliberation, it is theoretically quite easy, as demonstrated by many decision studies (e.g., Dahl; Banfield), to discover the relevant actors and to offer plausible explanations of their manifest actions. But there may well be a "mobilization of bias" in the system that prevents the articulation of particular types of issues and the interests they embody. (Schattschneider) Out of the nearly infinite range of issues in a particular substantive area that could be considered during a period of time, a political system or set of systems actively considers but a tiny portion. Elite theorists sometimes argue that certain self-interested forces suppress, either deliberately or by subconscious omission, particular types of issues. The potential beneficiaries of a policy decision may never see that issue on the schedule for deliberation. (Vidich and Bensman; Hofferbert, 1974, pp. 74-88)

In a sense, the innovation literature--by economists, sociologists, and political scientists--has to wrestle with the agenda-setting problem, much as in the instance of any other case studies of decision processes (however large the N of cases). There is, in the innovation literature, an assumption that the aggregation of units in any given piece of research (cities, provinces, organizations,

firms, agencies) constitutes a set. The immediately relevant attribute that makes them a "set" is their candidacy for adoption of the innovations being studied. Adoptions by one or more members of the set qualifies all other members of the collectivity as potential adopters. Specification of the attributes of adopters and non-adopters then "explains" the differential susceptibility of the agendas of the aggregation of decision structures to the innovation. This approach, however, varies only in degree from prior decision-focused (often community based) research which accepts the range of outputs--i.e., enacted legislation--as the real range of options. Both traditional policy analyses and innovation research, thus are bound to a view provided by the range of options extant on some jurisdictional agendas. Options not considered do not get analyzed.

The agenda-setting dilemma, over-simplified, is not only why some jurisdictions pass certain legislation (adopt innovations) and why others do not, but also why some jurisdictions at any point in time actively consider certain options while others do not. Studies of adoption--non-adoption fail to distinguish this part of the policy process.

One explanation is that there are biases or power structural features that systematically exclude particular interests/issues from active policy deliberation (e.g., Bachrach and Baretz; Vidich and Bensman) To test that assertion against plausible rival hypotheses, it is necessary to subdivide the set of non-adopters into those which a) consider a particular policy actively, but reject it, b) exclude an option on the grounds of complete irrelevance to the unit involved; or, c) exclude a relevant option--either by the structure of decision, the interests of threatened groups, or the incapacity of potential beneficiaries or their allies to articulate the option.

These refinements of the agenda problem require comparative policy analyses in a broad context, with multiple sets of units--such as will be involved in a multi-level research across a set of modern federations. Such analysis gains variance not only in adoption/rejection, but also in the permeability and processes of agenda setting.

## RESEARCH STRATEGY

### Comparing Innovation Goals

All comparative research confronts initially and continuously the problem of indicator validity. Where control over the source of evidence lies within the reach of the investigator, such as with quasi-experimental data obtained through survey research, it is possible to minimize such fluctuations in measurement error. When the phenomena being recorded are real world events, however, occurring autonomously in multiple contexts, the obstacles are more formidable.

Comparative policy analysis must focus on instances which occur across relatively autonomous jurisdictions. The timing, form, and impetus for particular innovations preclude simultaneity. The "same" innovations are not likely to be included on the collective agendas of provinces in three federations at the same time--somehow scheduled for the convenience of the researchers. If such is the case, the very simultaneous timing would be a matter of more than idle curiosity, requiring explanation in itself (as, for example, with the remarkable spread of a policy proposal such as abortion reform.) Even where such apparently "identical" issues emerge, however, we have doubts about the likelihood that they indicate identical policy concepts, at any level of theoretically interesting abstraction beyond their mechanical content.

We are not so unfortunate, however, as to be confronting political systems which differ widely in their broad patterns of public policy. Nor are the constitutional structures and operating political practices from different worlds. Any generic systems model--such as we sketch in Figure 1, has the potential for comparable entries from all jurisdictions within the three federations. The range of policy concerns--and presumably the generative forces and resources undergirding those concerns--has a high degree of common content. It is clear that each of these three political systems confronts socioeconomic situations which have a great deal of comparability. Further, the instruments chosen by public authorities--instruments of service delivery and administration as well as actual policy instruments employed--come from a limited pool. Differences exist which are worthy of explanation. But similarities are sufficient to permit comparison. The social circumstances confronted by policy makers, the processes for identifying what constitutes a "Problem", and the techniques of public action employed across the three systems are sufficiently alike to warrant their inclusion in a common analytical set.

At a more normative level, this is the same as saying that Germany, Switzerland, and the United States have considerable similarity in their publicly defined goals, the institutions through which those goals are sought, and the means adopted for advancement toward those goals. We have deliberately edged up to the term "social goals," through rather arcane social science jargon. To speak of "social goals," is to enter a veritable rats' nest of disputation. What constitutes a "social goal"? Who decides what it is? How is it identified? What are the "goals" of policies in such diverse areas as social security, public transportation, employment policy, or public education? The prescriptive literature in any of these areas is replete with vagueness, abstract moral argumentation, and ideological differences. Despite our anxiety over the concept of "social goals," we nevertheless propose to base our choice of innovations for comparative analysis not primarily on their manifest mechanical identity, but rather upon a tentative determination of the social goals toward which they are mainly directed. This determination, however, will necessarily involve much more than simple legal labels.

The first major federal program for providing direct financial aid to university students in America was entitled the "National Defense Education Act." Is the goal of American higher education to keep out the Russians? The Civil Rights Act of 1964 was introduced by language which fixed its legality in the commerce clause of the U.S. Constitution. Was the provision of equal access for all races to public accommodations aimed principally at improving interstate and foreign commerce? Are adult education programs in Switzerland and Germany, such as the *Zweiter Bildungsweg*, directed toward the goal of economic development through improved labor force mobility, or is their purpose to minimize the social discrimination implicit in the established educational structure?<sup>§</sup>

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<sup>§</sup>The following opening statement in a recent OECD publication illustrates the goal identification problem, from the standpoint of public education: "Two general conclusions emerge from the analysis, as from the country statements, with regard to the emerging role of education in the OECD countries. The first is that education is becoming relevant to a wider range of policy objectives than in the past. In addition to its traditional role of educating young people, the education service is becoming increasingly involved in policies for the care of children, and in particular disadvantaged children, in their very early years of life; in the provision of services to the family in the context of the new social role of women; in the social equity and

Fortunately, the study of policy innovations need not concentrate its attention at so general a level--insofar as specific indicators are concerned--as "the educational system," or the "transportation policy," or "economic development." Our strategy, rather, shall be to focus on specific programmatic innovations--innovations requiring specific legislative action at the provincial level. On the one hand, this approach minimizes the problem of identifying adoption points. On the other hand, it compounds the problem of indicator equivalence across time and space.

An initial task--the formidability of which we do not deny--is to develop a general goal taxonomy for each policy area, and to identify nation specific innovations for each category within the taxonomy. The objective will be to include in the analysis several items from each category. Comparative statements will be directed, in the subsequent analysis, toward comparable "goal categories" rather than toward mechanically "identical" programmatic items. We present below a first pass example from the field of education innovations.

An objective which undergirds the entire research program is to determine the extent to which processes of policy innovation (i.e., the fit of an explanatory model) are comparable across the three federations and across manifestly different major policy goal categories. Our working hypothesis is that there will be more similarity between explanatory models across the three countries for comparable categories of policy than there will be within each country across different categories of policy innovation.

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§ (cont'd) the redistribution of income; in the effective adjustment of young people to working life; in the flexibility of the labour force (including the social adjustment of migrant workers and their families), ...in community action to influence the rapidly changing social and natural environment; and in the adjustment of individuals to new roles as their pattern of life changes." Organization for Economic Cooperation and Development, The Educational Situation in OECD Countries, (Paris: OECD, 1974).

A Tentative Policy Goal Taxonomy:  
The Example of Education

Public education is the most costly domestic service performed in most modern societies. Disputes over the goals served by public education systems are legion (OECD, 1972). The schools are perceived by some as key instruments for socializing persons into the values and established norms of society. They are, as such, conserving instruments. They are seen as training grounds for participants in democratic society (e.g., the assimilation of immigrant populations). Public education programs are consciously devised to provide labor force capacity in times of fluidity in production practices. They are perceived--at the other extreme--as one route to attaining revolutionary value changes and reallocation of social advantage across regional and class lines.

Discussions of societal goals to be approached through public educational systems move in an intellectual space between pure polemics at the one extreme to scientifically verified propositions at the other. Somewhere in between are rationalizations of history which graft upon incrementally developed systems a normative justification for the status quo. Some clarification of alternative or complementary societal goals, at least at the disputation stage, has resulted from efforts to project educational models to fit alternative future social conditions (OECD, 1972). There is sufficient commonality in the results to identify three goal sets which are generally recognized and against which programmatic efforts may be studied: a) Economic or "utilitarian" goals, b) social "integration," and c) individual emancipation. The general categorization of goals, along with the intermediate conceptualizations and sample indicators in concrete policy fields, is illustrated in Table 2. Although the three-category goal taxonomy has been designed primarily to aid the study of education innovations, we anticipate that refinements of this taxonomy will be applicable to other substantive policy areas eventually to be investigated.

Economic/"Utilitarian" Programs.

Reform activity and criticism of existing structures in the three countries have often focused upon the need for increased skill level and flexibility of the labor force. The U.S. Advisory Council on Vocational Education opens its 1968 Report by noting: "Changes in the way we live and how we make our living have caused vocational education to become central to the total process of public education." (Report, xix) The justification for expanded



vocational education programs in the industrial world are by now commonplace and have the appearance of cliches. Their very familiarity, however, may be seen as an index of general goal recognition and acceptance. Governmentally supported programs for occupational training serve two sides of the common goal of labor force flexibility. On the one hand, they serve to remedy or prevent individual occupational incapacity or obsolescence. As such, they seek to maximize an individual sense of worthy production and material security. On the other hand, such programs seek to fit labor force capacities to changing collective needs, thereby maximizing productivity and reducing unused capacity.

Even within nations with a commitment to the goal of maximum labor force flexibility, programmatic response varies considerably internally and comparatively. The extent to which vocational training tracks are routinely incorporated into secondary and post-secondary curricula varies. Programs differ across countries and among provinces (particularly within federations) in the extent of coordination between public school curricula and local private sector job markets. Opportunities for mid-career re-training vary in the structure and coherence of planning and the consequent time-frame within which plans are formulated and needs forecast. There is diversity in the level of public financial commitment to utilitarian programs.

### Social Integration

The basic theory of federalism, operative in each of the three nations, is a constitutional arrangement to accommodate social diversity within the overall structure of the nation-state. The specific nature of the diversity varies, of course, across national contexts and within the regional divisions of each nation. Religion, race, language, and dominant economic structure are all facets of intranational cultural diversity which are accommodated, in varying degrees, by constitutional federalism. Specific procedures, customs, and formulae differ, but the theoretical pattern is comparable.

At the same time, a frequently articulated goal of the education systems of the federations is to reduce the potential for disruptive cleavages or structural disadvantage within the larger society. Policies for social integration seek inclusion of diverse groups within the mainstream of national social life. They seek equalization of opportunities for easy interaction by and between different cultural and class groups.

Once legal barriers based on ascriptive criteria are removed, the schools may be perceived as one key to maximization of opportunities for social mobility. Other, more directly redistributive services such as public welfare or social security may be viewed as direct compensation for relative social disadvantage. Education, in contrast, may be considered as a means for individuals to overcome such relative disadvantage, at least inter-generationally.

Mere availability of educational facilities, however, has appeared from some value standpoints to have produced a disappointingly low level of inter-class and cross-cultural mobility. Achievement standards, pupil learning capacities, etc. still seem to reward the initial and continuing advantages that accrue to children of better-off, higher social class parents, or from non-peripheral cultural or regional settings. And the more distinct the curricular tracks or training streams, the more cumulative the impact of initial advantage. (Heidenheimer, Heclo, and Adams, Ch. 2)

There are other policy considerations which are germane: Class differences are historically more prominent on the policy agendas of Germany and Switzerland than in the U.S. Regional disparities are greater in Switzerland and the U.S. than in Germany (S.H.Cameron and Hofferbert, 1974). Race as a singularly critical basis for segregation is peculiarly relevant in the U.S. Specific programmatic devices employed to accelerate social integration, therefore, while commonly conceived as being part of the education system, will naturally vary across national settings. The generality of the goal, however, warrants comparative analysis of means devised for its attainment. Equivalence, for purposes of comparison, therefore, is in terms of goals rather than programmatic instruments.

#### Individual Emancipation.

Programs for attaining utilitarian goals and for social integration, while of individual importance to the clientele, are conceived here primarily as being societal in their primary purpose. However, educators are agreed that the development of individual creativity and the rewards acquired from broadened perspectives and enhanced analytical skills are intrinsically worthwhile and should be pursued for their individualized benefits.

Under this general goal category are programs whose purposes are to enhance individual self-development, to build abilities for informed choice among life options, and to permit responsible citizen participation. School systems vary, both as a matter of formal policy and informal practice: in the nature of counselling procedures provided; the range of direct experience with simulated career choices; the opportunities for individual rates of progress and self-defined learning situations; and the extent of practice in democratic participation provided in school governance and decision-making.

#### Similarity and Dissimilarity of Education Policy Goals.

We assume there are differences in the formation processes and program contents of innovations in each of the goal arenas. The general expansion of education resources and opportunities, characteristic of the post-war years, has provided opportunities for mutual expansion of programs serving multiple goals--in education, as in other policy areas.

Conceptually, furthermore, there is no necessary conflict between utilitarian, social integration, and emancipatory programs. Access to vocational training is sought by many precisely as a means for upward social and occupational mobility. Preparation for university admission--whether through "usual" secondary school routes or by means of "Zweiter Bildungsweg," affirmative action, adult certification, etc.--is certainly not the sole path followed for individual upward social mobility. The pattern of growth in university applications for the U.S. would suggest a general saturation of demand and an invigoration of the respectability of vocational programs.

The fact that utilitarian programs may also contribute (or be conceived of as contributory) to social integration or individual emancipation does not erode the value of their being separately classified and analyzed.

#### Measurement of Innovation Across Provincial Units

Specific innovations will be analyzed individually, as well as in terms of the general goal taxonomy. We do not expect innovations to correlate in terms of time of adoption exclusively with other members of a goal set or with indicators from other categories. We do hypothesize, however, that innovations within a common goal set will be facilitated or inhibited by comparable processes and that these processes will vary across goal sets.

In a manner comparable to that employed by Gray, the conditions for diffusion of each separate innovation will be investigated across provinces over time. However, consistent with Walker's structural approach, generalized innovation indices also will be constructed, with cumulative totals and rates of increase assigned to each province annually. Thus the overall pattern of diffusion of innovation can be computed for each province on each goal set successively through time. The rate of diffusion of each innovation can be monitored as well. A cumulative scoring tactic will permit investigation of the dynamics of change through time.

An innovation score will be computed on the basis of the adoption for each programmatic item. Previous comparative analyses of state policy innovations have used a simple additive procedure, scoring on the basis of total numbers of years since adoption by a particular state. Where general indices are used, they have been constructed by summing the year-of-adoption scores. There are sound theoretical reasons for objecting to both of these steps. (Hamblin)

To the extent that there is a generalized or "normal" model of the diffusion of innovations, it assumes the shape depicted in Figure 4. The distribution of adoptions over time suggests that the "innovativeness" or level of difficulty in adoption for each marginal adopter

is not a constant. Yet adding years since adoption treats each marginal year as comparable to its predecessor or to its successor. This procedure allows for no band-wagon effect. However, it is clearly more difficult for the first adopter than the  $N/2$ th adopter.

The pattern to be followed here will be to construct, for each of the programs investigated, a score based on a multiplicative function of the years since the initial adoption, modified by the number of members of the set having already adopted. Since the years from initial adoption through the time of measurement will vary across programs, the elements of the scoring procedure will have to be standardized. The procedure to be used will be constructed in such a way as to yield a multiplicative score, based upon the multiplication of lines  $(a_1 o_1)(o_1 b_1)$ , whereas Adopter II would receive  $(a_2 o_2)(o_2 b_2)$ .

For purposes of comparative analysis, it is necessary to standardize the components as well as the final score. The procedure may be expressed in the following formula:

$$I_{i..n} = Z ((T_z + k) (S_z + k))$$

Where:

"I" = Innovation Score for Province N

$T_z$  = Standard score of year of adoption (i.e., years between  $T_1$  and  $T_n$  standardized and each province's time identified on that scale)

$S_z$  = Standard score for sequence of adoption (i.e., N of provinces standardized and each province identified in terms of number of remaining potential adopters)

k = A constant sufficient to yield a distribution of positive numbers.

This procedure provides an issue/province specific score. Previous research on diffusion of state innovations has disputed the assumption of a general dimension of innovation. Summation of multiple program scores assumes not only a general dimension, but it also assigns equal weights to each programmatic indicator. Once specific "I" scores are calculated, various forms of multivariate analysis (e.g., principal component analysis) may be employed to construct item-weighted general indices.

Our operating hypothesis is that multiple indicators may be theoretically classified, more or less a priori into goal sets, indicators for which will be merged by principal component analysis. There is no necessary assumption of orthogonality between goal sets, however. In fact, the specific hypotheses we shall be offering (see Table 1) suggest some elements of common resource dependency for various goal

sets, implying at least some empirical coincidence. The test of the theoretical utility of any particular goal classification, however, does not rest on the emergence of uncorrelated dimensions of specific innovation indicators, but rather upon the differential structure of determinants of program variance among goal sets.

For purposes of pooled, cross-time analysis, once the dimensionality and weighting of specific innovation indicators is determined, individual "I" scores can be entered sequentially for each unit at each time point. That is, for each country, the total N of cases in the general model will be  $N'(T-1)$ , where  $N'$  is the number of provinces and T is the number of time point observations. Although primarily a statistical rather than a substantive benefit, such a strategy allows for more reliable regression analyses in such instances as Germany, where the number of Länder is only 11. With the pooled change analysis, that 11 will be multiplied by the number of time point observations (minus 1, given the focus on change from  $t_1$  to  $t_2$ , etc.). (Hofferbert and Sande, 1976)

### Socioeconomic Structural Conditions for Innovation

The central message of both bodies of research integrated by this program is that the level of provincial policy commitments and the proclivity of organizations to change are highly dependent upon societal/environmental resources. An advantage to be drawn from the innovation research, as contrasted to the comparative policy studies, is that the former has tended to utilize more complex developmental models than the latter. All too often, for example, research reports in comparative policy analysis have focused on the contrast between "economics" and "politics" as determinants of policy performance. Minimal attention has been given to dynamic processes (i.e., cross time changes) by which political and institutional conditions serve to transmit, mediate, and possibly overcome the constraints imposed on innovation by "external" conditions. Much of the innovation research, although often focused on much more narrowly defined decision settings than is our primary concern here, at least has consciously structured the inquiry to reveal the developmental processes between social conditions and organizational change.

It must be borne in mind, therefore, that--although we divide our model into socioeconomic, political, and administrative and decisional sectors--the analysis will be focused on causal, developmental relationships. Technically and statistically, this will be accomplished by means of path analysis and related tools of regression analysis. (See Hofferbert and Sande, 1976)

Levels and rates of change in socioeconomic attributes which measure primary sources of demand, resources, and need for innovation

will be incorporated into the analysis. Not only levels of particular socioeconomic conditions, but also rates of change for the post-war period to the present will be examined. In the interest of maximum cross-time and cross-national validity, initial attention will be paid to the major dimensions of socioeconomic variation than have been found by the FEIFS project to be relevant to provincial changes in education finance. In particular, indicators will be included which capture the two dimensions of Industrial/Agrarian development and Post-Industrial/Parochial differences. (D.R. Cameron and Hofferbert, 1974; Hofferbert and Sande, 1976; Cameron, Hendricks, and Hofferbert, 1972)

With regard to education innovation, Table 1 illustrates the scope of the hypotheses guiding our research. It indicates that we hypothesize differential relevance of each major dimension of socioeconomic change, depending upon the general goal set of innovations being analyzed. Rapid industrialization will be most consequential in encouraging innovation in utilitarian programs (e.g., vocational training). It will be relatively inconsequential for social integration programs and probably--given the priorities of blue-collar workers and their union spokesmen--will be a barrier to innovation directed toward individual "emancipation," especially when cast as a trade-off for utilitarian programs.

Post-Industrialization entails decline in relevance of traditional, parochial features (e.g., language, religion, racial uniqueness) and a rise in the premium placed on non-material values. It is a value system most prominent among mobile, educated populations engaged in tertiary professions. (Cameron, 1976; Inglehart) We hypothesize, therefore, that conditions of post-industrialization (high-level and rates of change) will facilitate innovations both for social integration and for individual emancipation. Post-industrialization, since it is conceived as orthogonal rather than as opposite to industrialization, will be unrelated (although not antagonistic) to utilitarian innovations.

In addition to the indicators included in the major dimensional analyses, specific indicators of particular, potentially relevant aspects of economic activity will be examined for their specific relevance to particular types of innovations (e.g., for education--unemployment, domestic and foreign population migration, birth rates, etc.).

Socioeconomic structure, although hypothesized here as directly linked to policy innovations, clearly is never a direct input into a policy. (Rakoff and Schäfer; Jacob and Lipsky) Social conditions must be mediated through certain human actions and institutional mechanisms to "become" public policy. The extent to which these actions and mechanisms serve as "paths" for the indirect effect of socioeconomic structure is a measure of the success we will have had in specifying how innovation processes proceed. Environmental conditions tell us why the actors and mechanisms respond. We shall not, in this essay, hypothesize all of the combinations and permutations of indirect paths through the model, but it should be clear that it is ultimately these which will be a major focus of data analysis.

## Political Culture

Each of the three countries in the program is a well-established, stable popular democracy with mechanisms firmly in place for regularized, open participation by mass electorates in the selection of officers legally responsible for formulation and execution of public policy. Each country has a relatively stable, although nationally unique, political party system. And each provides--through referenda, interest groups, and other devices--diverse channels for the articulation of mass input into the policy process.

Given the central focus on administrative units of one sort or another, political and cultural forces have rarely figured prominently in past innovations research. One of the theoretical strengths of the comparative policy research, on the other hand, has been the attention given to the policy consequences of such political traits as competitiveness or left/right control. That research, however, because of its nearly exclusive concern for static, cross-sectional analysis of levels of policy, has failed to capture the impact of political change on change in policy. And policy innovations, by their very definition, represent changes.

As hypothesized conditions for education policy innovation, we shall initially examine three aspects of political cultural change across the provinces of each of the three countries--participation, volatility and left/right strength.

A variety of political processes might be hypothesized to mediate the effects of socioeconomic change upon policy innovation. One is the mobilization or demobilization dimension which we prefer to label "participatory/passive." (See Nettle; Deutsch; Cameron, 1974) This process may be defined as the movement of voters into or out of the entire electorate over time. The particular form of such participation may be the level of turnout in regular provincial elections, as the most common indicator to be used in this research. However, the frequent use of direct initiatives and referenda, particularly in the case of Switzerland, and the growth of civic action groups in the U.S. and Germany, will also be incorporated into the analysis as evidence of variation on the participatory/passive dimension.

Examples of the form of hypotheses to be tested may be given with specific reference to the planned initial project on education innovation. The processes of innovation in utilitarian policies, for example, are hypothesized to be unrelated to the range of participation found in these three countries. The factors which mobilize or demobilize large populations in electoral politics are not, as a rule, such social managerial stimuli as long-range labor force planning efforts to prevent mid-career obsolescence, etc.

On the other hand, the much more symbolically rich and excitable issues entailed in social integration innovation programs provide

precisely the kind of objects likely to be affected by short-term changes in mobilization (e.g., racial integration, secular/sectarian conflicts, etc.).

Largely because of their genesis within the domains of academic specialities--especially child psychology and teacher training research--innovations in individual emancipation will be generally unaffected by variations in political participation.

The second facet of political cultural change which figures in our model is political "volatility." (Cameron, 1976) Partisan composition of provincial legislative bodies (and executive offices, where directly elected, as in the U.S.) is subject to change over short periods of time, irrespective of which specific parties are dominant--either as a ruling majority or as major coalition partner. Volatility--or the aggregate level of change in electoral shares for each party in successive elections--may be hypothesized to affect both a provincial capacity for long term planning (negatively) and its proclivity to experiment with modern policy symbols (positively). Thus we anticipate negative relationships between volatility and utilitarian innovations, but positive correlations with social integration programs. Again, the uniquely intra-professional nature of individual emancipation policies--at least in education--is hypothesized to insulate the process of innovation in that domain from political inputs.

The traditional left/right dimension has been found in many comparative policies studies to be surprisingly irrelevant. However, some writers suggest that lack of relevance is confined largely to the diffuse party conditions of the American states. (Alt; Boaden) One recent study of German education innovation argues, from a case analytic base, that the durability of SPD preeminence has been a prime condition for program change in certain Länder. (Heidenheimer, Heclo, and Adams) Certainly the role of labor unions in the left parties suggests a likely positive impact on utilitarian innovations, and probably suggests a social integrative thrust as well. If "new left" parties had emerged as highly salient in any of our three settings--or if the "old left" had evolved along the lines of the Swedish Social Democrats--some impact might be expected in individual emancipatory programs as well. To date, however, such developments have not occurred in Germany, Switzerland, or the U.S. to any extent likely to be consequential in our terms.

The mode of operationalization of political culture, in most cases, measures factors which directly affect or characterize the composition of legislative bodies. Many of the instances of innovation will require authorization, if not formal enactment, by such bodies. Therefore, direct effects from political culture to education policy innovation may be seen as explaining both why and how innovations are determined. That is, direct paths in the model do not, in this case, imply poor specification of linkages or translation mechanisms. Indirect effects of political culture, however, are still possible, having their effect through administrative and decision structures. Again, we shall not hypothesize the combinations and permutations possible, but rather pose the prospect as a matter for data analysis.



## Decision System Capacity

Whereas the impact of socioeconomic and political factors is hypothesized to vary across policy goal sets, the impact of decision system capacity is posited as constant across all categories of innovation. In other words, specific innovations are anticipated to be adopted or rejected according to peculiar social and political dynamics. The general proclivity of provinces to be less or more innovative, however, is expected to depend upon institutional capacities and particular patterns of policy-maker behavior. As presented in Table 2, all of the relationships between innovation and decision system capacity are hypothesized to be positive.

As already noted, we expect a substantial portion of the socioeconomic and political effects on innovation to work "indirectly" through decision system channels. Several studies of innovation have found that to be the major route by which such external forces impinge upon policy. (Bingham; Aiken and Alford) However, the prior research in the FEIFS project, while confirming the relevance of such indirect effects, has also found that there is a remarkably low level of sociopolitical constraint on changes in certain key attributes of the decision process. (Cameron, Cameron and Hofferbert; Hofferbert and Sande, 1976) Such elements as administrative professionalism, fiscal structure (e.g., proportionate reliance on alternative revenue sources), or state/local rations in education funding are relatively free of either socioeconomic or political determination in the short run.

The gain of our approach is to cast decision capacity into a complex model, accounting for both the intervening-mediating-translating effects as well as independent effects on policy innovations. The independent variables in this sector of the model are changes and levels of decision attributes. If attributes of the decision system are changed, what effect--given a determinable lag--does it have on policy innovations? Within a range of decision system variations, what is the conditioning effect upon rates of innovation?

If the model is adequately specified, the unexplained variance in decision system attributes is a measure of their manipulability. In turn, their effects upon innovation is a measure of the policy results to be expected from such manipulation.

The following sections discuss tentative dimensions of decision-system capacity which, given the limited applicability of prior administrative theory, seem to us to constitute an attractive and potentially fruitful set of structural dimensions.

### Administrative-Planning-Fiscal Conditions

Three major dimensions of consequence for innovation are hypothesized for this segment of the model (See Figure 1 and Table 1): a) administrative-planning integration; b) planning structure; and

c) fiscal flexibility. The latter two, in turn, have two subordinate dimensions each.

The first feature to be analyzed is administrative-planning integration (segmentation). What is the formal focus of program planning? Is there a formal planning unit within each subject area bureaucratic unit? Is the planning unit organizationally separate from direct program execution? Integration of planning and administrative structures should enhance receptivity to implementation of innovative results of planning.

What are the resources and responsibilities of planning units? Two subordinate dimensions of variation are hypothesized here to encourage innovation: a) centrality and b) comprehensiveness. By central (ancillary) we connote the resources dedicated to planning unit activities. Included here are funding, staff size, unit age, and physical facilities. Further, the more comprehensive (less specialized) the programmatic responsibilities of the planning unit, the greater the flow of innovative stimuli into the planning process. And, again, with a wider formal scope of attention, the lower the likelihood of organizational conflicts over "threatening" innovations. Included in comprehensiveness, however, are more than purely formal or legal authorizations. How temporally comprehensive--long term versus short term--is the planning process? How geographically broad is the scope of planning? Are technical research and development resources and staff available?

Two aspects of fiscal flexibility have emerged in the FEIFS project as consequential for rates of education resource expansion: a) revenue structure and b) fiscal centralization. (Cameron, Cameron and Hofferbert) Foster has found that the presence of slack revenue resources is a temporarily important determinant of innovations in Minnesota school governance. (Foster) In a cross-time analysis, the tendency of a jurisdiction realistically to entertain new functions will be encouraged by the extent to which funds are more or less easily anticipated. Alteration of the elasticity of the revenue structure (e.g., moving from property to income taxes) will affect that anticipation. Similarly, the extent to which provinces maintain direct funding responsibility, as contrasted to delegation of revenue raising to localities, will affect short term provincial capacity to provide the means of support for innovative activities. (S.H. Cameron and Hofferbert, 1974)

Fiscal data, unlike information on administrative and planning activities are readily available from public record sources.

#### Decision Maker--Bargaining Patterns.

Few reports of innovation or comparative policy research deny the likely impact of decisionmaker orientations and patterns of behavior. When the popular press seeks to explain the emergence of a

particular policy enactment, it is nearly always presented as a narrative of acts, beliefs, bargains, etc. of specific individuals. Theoretical lines, in the more rigorous research, are now generally set forth. (Bingham; Wilson) But few systematic comparisons--across multiple units and policy issues--are available. And rarely is this facet of the decision system incorporated systematically into a design that will identify: a) the specific contributions of decision maker traits to variance in innovation, or b) the extent to which the attributes of decision makers are themselves a function of antecedent socio-political or administrative structural conditions. In path analytic terms, we propose to account for both the mediating and the independent impact of key decision maker features on education innovation.

Due to our particular concern with identifying the administrative components of decision system capacity, we will focus on those attributes of key administrative and planning personnel in each province. The dimensions of initial interest are: a) cosmopolitan (local) role orientation, b) advocacy (management) work style, and c) conflict brokerage (consensus building) decision approaches.

The cosmopolitan/local dimension of role orientation has a long history of concern in social psychology. (Gouldner) In our context it specifies the extent to which the policy maker identifies with a substantive profession (e.g., educators) rather than with the provincial setting in which he/she is specifically located. It connotes the relevant reference groups and communication patterns with which the policy maker is connected. Does the administrator/planner subscribe to professional journals, attend professional meetings, maintain contact with an "invisible college," etc.? (Crane) Is the policy maker a native resident of the province or did he/she move there for professional advancement? Does he/she anticipate future moves for the same reason? What is the time perspective on policy planning? Does he/she monitor the policy experiments of other jurisdictions?

The second dimension of policy maker behavior relates to the work orientation and predominant definition of purpose envisioned by key administrative personnel. We have labeled this the advocacy/management role dimension. Does the administrator conceive of the organization as a mechanism for identifying policy need, assessing policy effectiveness, and, in turn, fitting new options to that evidence and articulating those options to other authoritative bodies? Is the central concern with fabrication of solutions or with the efficient execution of rules and services mandated by higher authorities? Is the job to advocate on behalf of clientele or to manage the organization in such a way as to deliver prescribed policies to the clientele?

The final aspect of behavior concerns the orientation toward policy bargaining and decision making. We have labeled this the conflict/consensus continuum. Other terms are used in various settings. One study of Swiss decision processes, for example, distinguished "amicable agreement" (consensus building) from "majority rule" (conflict brokerage). (Steiner) To the extent that adoption of innovations rests

upon attaining maximum consent from all involved groups and interests, a consensus orientation is dominant and innovation will be minimal. To the extent that administrators think in terms of building alliances, support mobilization, clear-cut proponents and opponents, the conflict-brokerage orientation is dominant and innovation will be maximized. Conflict managers will seek out relationships with legislators and special interest groups. They will plan in terms of pre-set deadlines for decision. Consensus builders will work reactively, receiving communication from diverse interests, but rarely initiating contact. They will be more flexible with decision timing.

Attributes of decision maker orientation will be acquired from personal interviews. In addition, specific narratives of activity associated with particular options for recent innovations will be acquired from the same respondents.

POSTSCRIPT:  
Implementation

In the previous pages, we have surveyed prior research, identified key gaps in that research, and offered a general strategy for improvement. We have also offered some specific conceptual and tactical projections as to how we expect to proceed as a cross-national research team. The context for preparing this paper, however, is inappropriate for elaboration of a specific research design. Such is more fitting in formal research proposals. The Conference on Comparative Social Research is, however, the appropriate forum for consideration of research resources, financial support policies, and infrastructural development.

The specific research program outlined here requires agreed research priorities and strategies, experienced and competent personnel, institutional capacities, information resources (data), and coordinated financial support.

Anyone who has attempted international research coordination surely appreciates the hurdles--in addition to distance, travel costs, language barriers, etc.--that stand in the way of developing agreed research priorities and strategies. In the present case, that task is behind us. Although the four program participants come from rather diverse intellectual backgrounds, they are in accord not only on major priorities, but also on the methods, techniques, and initial substantive targets for the program in policy innovation research. This constitutes a substantial investment which need not be repeated.

In the interest of modesty, the experience and competence which this team brings to the project is best left to the written record. It should be noted, however, that multiple expertise--from innovations research, comparative policy studies, public administration, quantitative methods, and national specific knowledge--has been brought jointly to bear in a manner rarely (and certainly not here) found in a single individual.

Similarly, little need be said here regarding current institutional capacities. Each of the four partners is located in a setting with substantial social research experience, adequate staff and facilities, and a collegial environment rich with the range of expertise which so often proves unforeseeably essential in the execution of complex research.

The information resources specific to the study of policy innovations presents the essential target for future investment. The FEIFS project has yielded a substantial set of machine-readable data files on each of the three countries' major subnational jurisdictions. These files include the necessary social, political, and fiscal data--in most instances for proximate time points between 1950 and 1975. Some supplementing will be required in spots.

The critical gaps, however, lie in the realm of administrative and decision capacity data. It is no accident that prior comparative policy research has almost uniformly failed to include such process attributes. They do not exist in easily available public records. Situationally specific field studies are required. We expect to conduct extensive case studies--streamlined, to be sure, in contrast to the usual pattern of case studies.

In the context of the FEIFS project, a set of techniques for comparative case analysis were developed and tested. Briefly, they require interviewing key informants in each jurisdiction, building a small set on the basis of a reputational or "snowball" technique. Informants, initially identified by formal position are interviewed regarding their participation in a set of innovations (or potential innovations) in a particular substantive area of policy. They are also asked to indicate other central participants. The experience of the FEIFS pilot study indicates that adequate information can be obtained, in a given jurisdiction, by the time 12-15 persons are interviewed. We anticipate normally working with the universe of Swiss cantons (25) and German Länder (11) and at least a 5% sample of American states (25).

Social research costs money. Comparative research faces special funding barriers. For understandable, if not justifiable, reasons, few national research councils are eager to pay for studies of or in other countries. Even in so obvious an area as public policy research--where the practical gains from mutual learning can be fairly readily perceived--the immediacy of domestic priorities usually overshadow the apparently more theoretical benefits of multi-national social research. The time is past, furthermore, when the fiscal base of comparative social research can or should reside in a single national context. The indigenous talent, institutional capacities, and fiscal resources are not nearly so nationally concentrated as may once have been the case. The poor compromise of the travelling scholar trying desperately to match in multiple settings the situational expertise best available from indigenous colleagues is no longer necessary or acceptable.

It is in the interests of specific national funding agencies to support their own scientific communities. They gain not only the fruits of scientific inquiry, but also the enduring experience and institutional capacity flowing from such work. In a political if not scientific sense, this assertion could be turned into an argument against supporting comparative research.

Our argument, rather, is that efforts should be made to coordinate the research support policies of national scientific funding agencies--at least in those cases where resources, talent, and common scientific opportunities are present.

Past projects based on multi-national funding (rare as they are) illustrate the problems encountered by uncoordinated fiscal decisions.

We are not sanguine about the ease with which formal coordination could be institutionalized. Meaningful cooperation at the top levels of the various research councils is likely to be extremely difficult and slow. The degree of formality required, however, would seem to us to be less important than the willingness--at the program or divisional level--to exchange correspondence. Encouraging applicants to submit simultaneously, inter-council exchange of referee evaluations, and a reasonable willingness to accommodate separate priorities--at least on an experimental basis--would not seem to us to be beyond realistic expectation. And it would contribute mightily to the advancement of a few coordinated, cross-national projects.

In our case, we expect to seek simultaneous support for the first phase of the larger program. That phase, focused on education innovations, is in process. Clearly, start-up costs and initial data collection are such that the marginal costs of subsequent expansion to a broader range of substantive policies will drop precipitously. Therefore, we hope to be able to convince our National Research Council of the fiscal as well as scientific advantages of simultaneous, coordinated funding.

We have put forward here a large research agenda. Both the intellectual and institutional requirements for it are beyond the practical means of any single scholar. Yet, the fact of multi-national agreement, institutional and personnel capacity, and the scientific importance of that agenda seems to us to warrant consideration of novel research support policies.

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Figure I.  
A Model for Analysis of Education Innovation

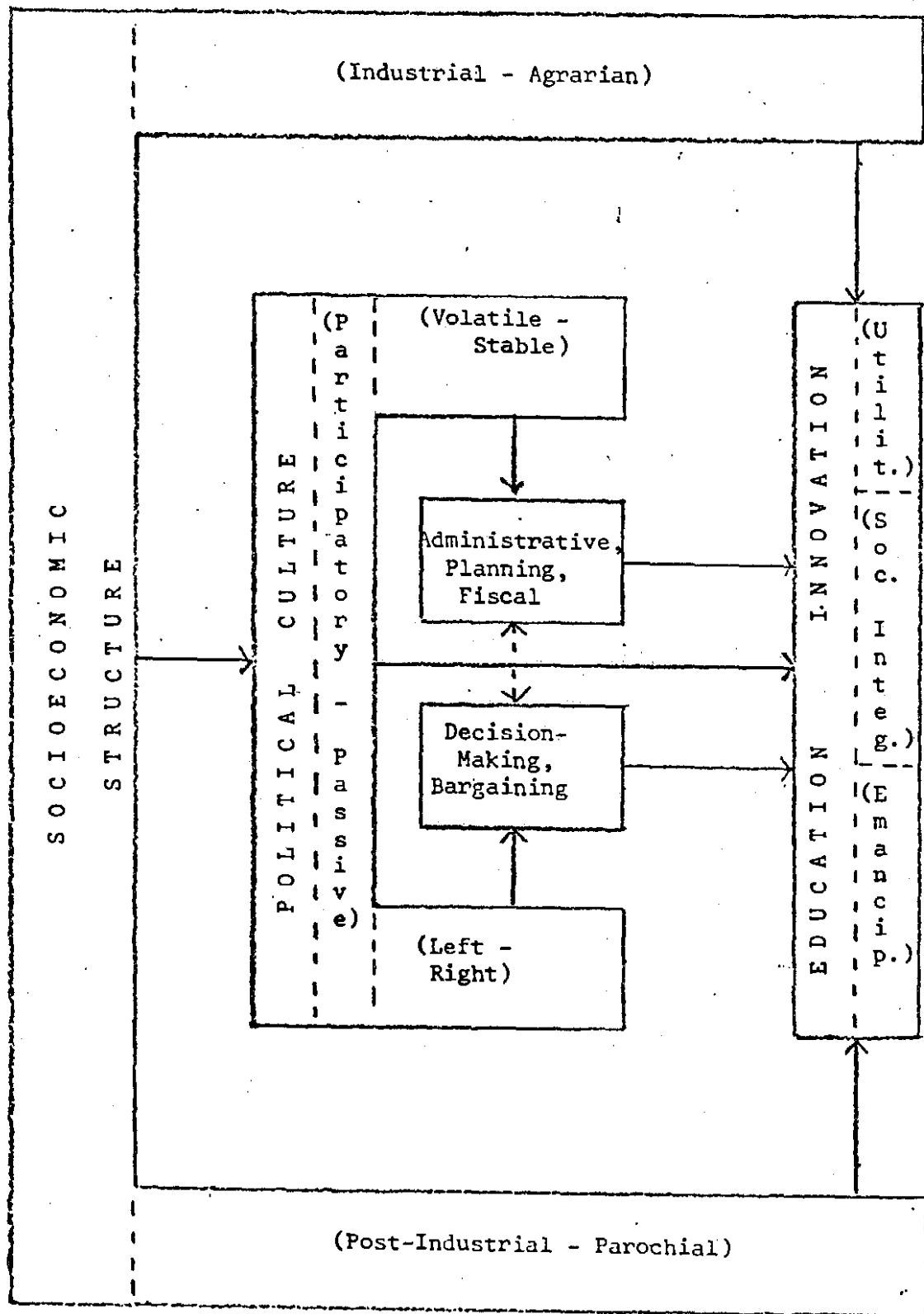


Figure 2.  
Policy Variance Explanation Model

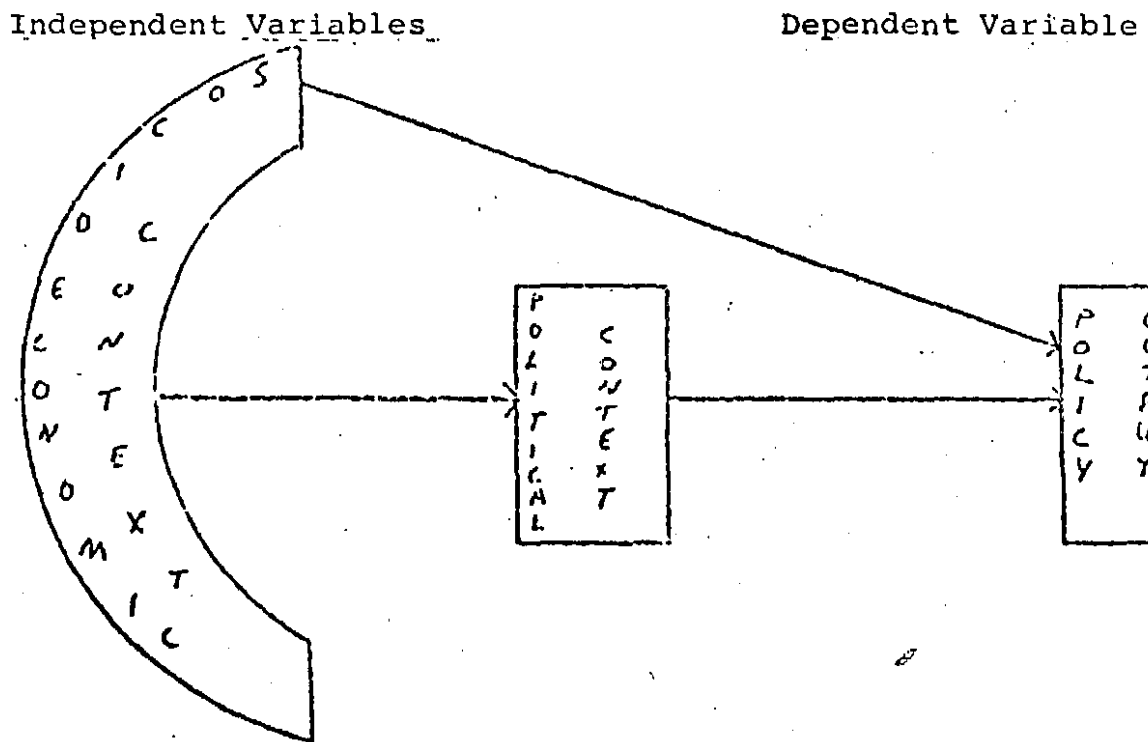


Figure 3.  
Policy Decision Making Model

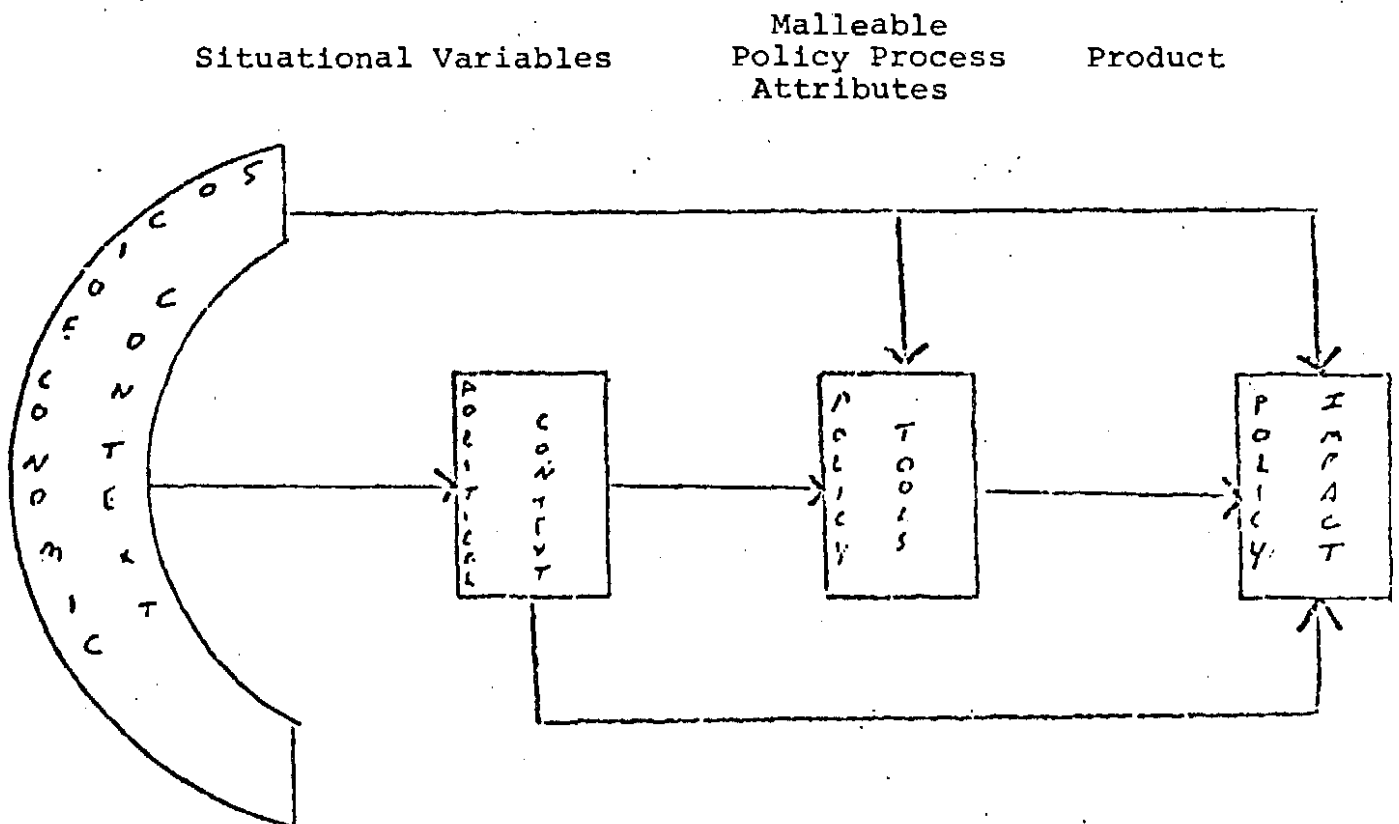


Figure 4.  
A Technique for Computing Innovation Scores

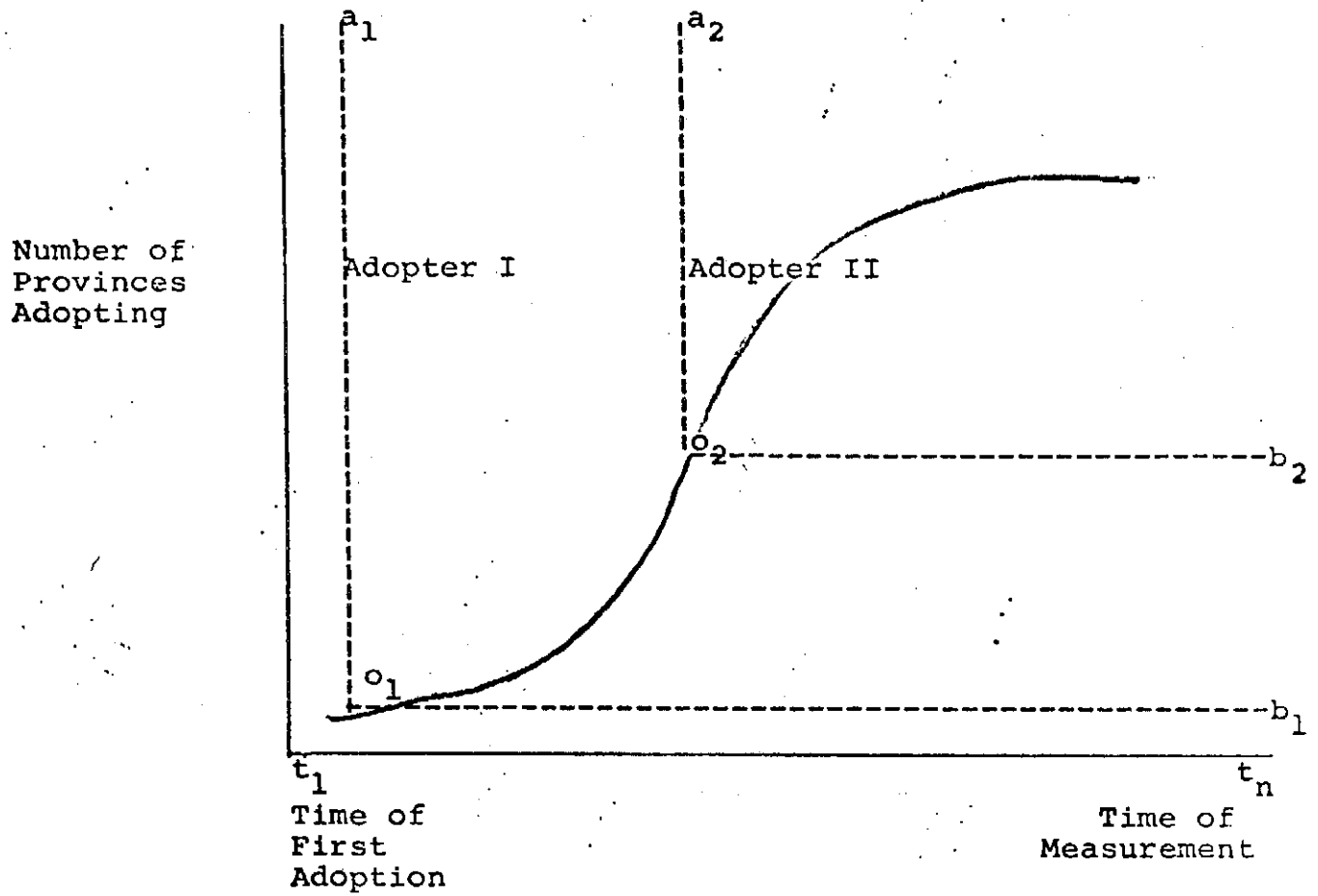


Table I

Hypothesized Conditions for Education Innovations

+ Positive Impact  
 - Negative Impact  
 0 Neutral Impact

<u>Resources Context</u>	<u>Utilitarian</u>	<u>Social Integration</u>	<u>Individual Emancipation</u>
A. Socioeconomic Structure			
1) Industrial (Agrarian)	+	0	-
2) Post-Industrial (Parochial)	0	+	+
B. Political Culture			
1) Participatory (Passive)	0	+	0
2) Volatile (Stable)	-	+	0
3) Left (Right)	+	+	0
<u>Decision System Capacity</u>			
A. Administrative-Planning-Fiscal Conditions			
1) Administrative/Planning Integration (Segmentation)	+	+	+
2) Planning:			
a) Central (Ancillary)	+	+	+
b) Comprehensive (Specialized)	+	+	+
3) Fiscal Flexibility:			
a) Elastic (Inelastic)	+	+	+
b) Centralized (Localized)	+	+	+
B. Decision-Maker - Bargaining Patterns			
1) Cosmopolitan (Local)	+	+	+
2) Advocacy (Management)	+	+	+
3) Conflictual (Concensus)	+	+	+

Table 2

A General Goal System for Education Policy Innovation

<u>Education Policy Goals</u>	<u>Policy Tasks</u> (Tentative Categories)	<u>Concrete Programs</u> (Tentative Indicators)
Economic/ Utilitarian Goals	Training/Reproduction of Labor Force	Vocational Education (CH, FRG, US)*
	Increasing Labor Force Flexibility	Re-cycling Programs; "Manpower Development" (CH,FRG,US)
	Equalization of chances; Reduction of Social Class Bias in Mobility. Access to Higher Education	Zweiter Bildungsweg* (CH,FRG)  Comprehensive Secondary Schools (FRG)
Social Integration	Reducing Linguistic Cleavages	Community Colleges (US)  Second Language Programs (CH,US)
	Racial Desegregation	Bussing (US)
	Opportunities for Discovery of Aptitudes and Vocational Options	Orientierungsstufe* (CH,FRG)  Guidance Counselling (US)
	Enrichment & Diversification of Learning Experiences	"Open" Classroom (US)
Individual Emancipation	Participation in Determination of Curricular Policy and School Activities	Representative and Participation Structures