

Poverty research and the social sciences

by Robert Haveman

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The War on Poverty and related efforts to create a Great Society are usually associated with community action programs, growing income support for low-income Americans, and a variety of direct interventions in the education and training area. In the 1960s and 1970s these policy efforts succeeded in reducing poverty; seldom, however, are they viewed as having a major impact on the academic community in the United States. Yet they did exert such an effect—a major social science research effort grew up beside, and partly because of, the War on Poverty.

Poverty research has made substantive contributions to social science knowledge and to academic practice and methods. In this article I have singled out advances in four areas: the field of policy analysis and evaluation research, social experimentation, econometric methods to deal with selectivity bias, and microdata simulation modeling.

Policy analysis and evaluation research

The notion that social scientists should be concerned with understanding how social policy interventions affect human behavior and well-being has early roots in all of the social sciences. Not all investigators, however, supported the inclusion of this objective for their disciplines, and many feared that close ties to policy concerns would erode basic progress in the disciplines themselves. Acceptance of the policy analysis role of social science was given impetus by the Progressive movement (which had roots in Wisconsin) at the turn of the century, which held that application of the scientific method to political problems could lead to more effective governmental performance.

Until World War II, what little policy research and evaluation existed was in the domain of sociology, psychology, and public health; economists and education researchers made few contributions. In the early postwar period, policy analysis and evaluation research was largely conducted by social psychologists, who studied, among other topics, the effects of antidiscrimination efforts on attitudes toward blacks and of public housing on health and social adjustment.

The War on Poverty played a major role in stimulating the large burst of policy analysis and evaluation research that occurred in the post-1965 period. Many of the early participants in designing and implementing antipoverty policies were social scientists—primarily economists—convinced that their research methods could assist government in analyzing its activities so as to expand the successful and weed out those that did not work. This faith also resulted in the 1965 presidential order establishing the planning-programming-budgeting system in executive agencies, a development which formalized the role of policy analysis and evaluation research within government.

The rapidly growing federal financial support of antipoverty policy analysts and researchers in government during the 1960s and 1970s was not ignored by academia. Its earliest response was to develop courses in applied policy analysis and evaluation research which emphasized the “science” of policy evaluation—experimental design, survey instruments and data collection, statistical analyses, causal modeling, decision models, benefit-cost analysis. Some of these courses already existed, or were established, within departments of economics, sociology, political science, and psychology. More often, however, such courses grew up in special policy analysis or evaluation research programs or in disciplines closely related to direct service provision, such as social work, public administration, urban and regional planning, public health, and education. In several cases, individual courses, programs of study, or training programs were initiated and supported by private foundations and governmental agencies who wished both to increase the analytical capabilities of existing staff and to provide a pool of new policy analysts and evaluation researchers from which to recruit. The funding offered by the government and foundations was readily accepted by universities and the social scientists involved. And, as related in the historical sketch in this issue of *Focus*, the Institute was born of this union of government and academic interest in the application of applied research and evaluation techniques to antipoverty policies.

These developments posed major challenges both to universities in general and to social scientists in particular. Most major universities have been forced to address the issue of whether or not to establish or expand a program of public policy studies. Many responded affirmatively, and public policy schools were established or expanded at a considerable number of institutions—to name but four, the John F. Kennedy School of Government at Harvard, the Graduate School of Public Policy at Berkeley, the Lyndon B. Johnson School of Public Affairs at the Uni-

versity of Texas, and the Institute for Public Policy Studies at the University of Michigan.

Interest in studying the effectiveness of social policy also stimulated development of private policy-oriented research within established nonprofit organizations, such as the Brookings Institution, the Rand Corporation, and the American Enterprise Institute, as well as new ones, such as the Urban Institute. And it led to the creation of a new private, for-profit, research industry specializing in applying social science research techniques to social policy measures.

Within the academic community in the mid-1980s, although it is difficult to document, one senses that the disciplines of economics and political science—and, to a lesser extent, sociology and psychology—are far more oriented to understanding and appraising what it is that government is and “should be” doing than they were in the mid-1960s. This concern has also spread to many disciplines and quasi-professional fields which are derivative from the traditional fields. It is the rare program, school, or department of urban and regional planning, education, public administration, business administration, health services, social work, and law that does not now have courses or concentrations devoted to the subject of policy analysis and program evaluation.

Social experimentation

The social experiments that began in the late 1960s represented both a major new social science research method and an important emphasis in policy analysis and evaluation research. Nearly all of them concerned aspects of antipoverty policy. Without the explicit declaration of a War on Poverty, this advance in methods would, at best, have been long delayed, and would surely not have evolved as it has.

Not long after the initial antipoverty programs began, policy researchers became discouraged regarding their ability to gauge the effects of the new interventions on recipients, to measure the benefits of programs and compare them with the costs, and to make cross-program comparisons of effectiveness.

At about this same time, a growing number of social scientists became interested in a research technique offering great potential for answering questions regarding the behavioral impacts of social interventions. The technique was the application of the experimental method of the natural and physical sciences to human subjects. The basic model was to identify a set of objectives of a social intervention; to design a program judged effective in attaining these objectives; to administer this program to a randomly chosen set of households; to measure the behavioral patterns of those subject to the intervention (the experimental group) relative to the patterns of those not affected (the control group); to adjust for any other factors not taken into account in the experimental design; and to attribute the remaining difference in behavior patterns to the intervention.

Suggesting controlled experimentation as a technique is easy; designing and implementing an experiment is costly and difficult. Among the questions requiring answers were such diverse ones as what interventions to examine, how to design the experiment—how large should be the sample size, how should its members be selected and assigned to treatment and control groups, how long should the treatment be administered—and, ultimately, how to value the results.

Although many problems were recognized, by the late 1960s a number of leading social science researchers enthusiastically supported experimentation, concluding that the gains exceeded the disadvantages, which included the large financial costs. The result was a series of experiments: New Jersey Income Maintenance, 1968–72; Rural Income Maintenance, 1969–72; Performance Contracting, 1970–71; Gary Income Maintenance, 1971–74; Seattle-Denver Income Maintenance, 1971–78; three experiments with housing allowances, 1973–77; National Health Insurance, 1974–81; the National Supported Work Demonstration, 1975–79; and the Employment Opportunity Pilot Project, 1979–81 (terminated before completion). The undertakings grew more complex through time: whereas the early ones involved relatively simple treatments with relatively straightforward hypotheses to be tested, the later ones involved more complex treatments, often with several interventions designed to be mutually supporting (e.g., income support plus counseling plus training). As a result, the findings of the later experiments were more difficult to interpret and, hence, carry less direct relevance to policy making, at least at the legislative level.

While it would be difficult to claim that all of this research, evaluation, and experimentation had a major impact on legislation and public policy, it did affect social researchers and social scientists in important ways. The following is an effort to characterize them.

- The experimental methodology of the physical sciences was carried into the social sciences to evaluate the activities of antipoverty programs and social policy agencies. In principle at least, social science gained access to the experimental technique, the lack of which had always caused it to appear “less scientific” than the natural and physical sciences.
- The procedures for and requirements of scientific experimentation involving human subjects and social policy treatments became a part of curricula in many standard social science departments and the focus of courses in schools of public policy.
- The scholars and researchers involved in the experiments—and their students—gained a form of knowledge, training, and experience of value to both government agencies and university social science departments. They are now scattered throughout government and universities.
- The experimentation movement, which was an important part of the trend within government to “contract out”

research, stimulated the development of numerous profit and nonprofit research firms. These organizations continue to thrive and provide a demand for social science researchers and a supply of services which maintain a focus on rational study and experimentation for social policies.

- Social experimentation encouraged a substantial core of social scientists to retain a commitment to relevant applied research, as an antidote to the highly theoretical-mathematical research-for-its-own-sake emphasis, which has permeated the social sciences—in particular, economics—in the postwar period.

Selectivity bias

The 1970s saw major advances in statistical techniques that enabled social scientists to deal with an endemic problem in the analysis of social behavior—that of selectivity bias. This problem became an issue among econometricians largely because of its pervasive presence in the efforts to evaluate the behavioral effects of the social experiments and federal education and training programs. There was a close tie between poverty research and the development of statistical techniques for correcting selectivity bias.

Bias in estimated relationships is likely to occur when analysis is based on a sample of observations not representative of the larger population for which inferences are desired. This situation will occur when the sample on which estimates are based is composed of subjects who have self-selected themselves into the sample (because, say, they were highly motivated), or who have been selected to be in the sample by some unknown set of criteria, or, in the case of social experimentation, who have been assigned nonrandomly to various treatment categories or have left the experiment through attrition.

The work of econometricians and other applied social researchers in developing techniques to correct for selection bias has had a major impact on empirical economic and sociological research on the determinants of human behavior and on the evaluation of social and antipoverty programs. The techniques developed are at the frontier of econometric analysis, and have contributed to many of the most important evaluation studies and social experiments in the poverty research field. These include the performance contracting in education study; the New Jersey, Gary, and Seattle-Denver income maintenance experiments; federal manpower training programs; the Housing Allowance Demand Experiment; and the estimation of women's labor supply under income maintenance plans.

The sensitivity of researchers to the potential of selection bias in empirical research is now widespread, and the studies which incorporate statistical corrections for the selectivity problem number in the hundreds. These developments have occurred both within quantitative research unrelated to the War on Poverty—for example, in traditional labor economics—and in explicitly poverty-relevant research.

The impression should not be left, however, that these methods yield reliable and easily accessible solutions to the selectivity problems. Most are both difficult and costly to implement. At their core, all of the techniques rely on assumptions about the shape of the distribution of the underlying data. These assumptions, which typically involve normality or symmetry, are both strong and arbitrary; if they do not in fact hold, the estimated results may be at least as biased as making no correction for selectivity.

Although these problems inhibit greater application of the techniques, they nevertheless represent a major methodological advance. As with other such developments, the knowledge frontier for this generation of researchers will be a standard part of the research toolkits of the next generation. These methods exist in large part because of the important role played by antipoverty policy in both highlighting the problem and supporting the research from which this advance in technique emanated.

Microdata simulation models

The War on Poverty and the drive for more rational government policies together provided the stimulus for the development of microdata simulation models which trace the impacts of exogenous factors, including policy implementation, on individuals, taking into account both the characteristics of the individuals and of the policies. It was the demand for more sophisticated, reliable, and detailed estimates of the budgetary and economic effects of proposed social policies that gave rise to microsimulation modeling, aided by the development of computer resources required for the design and construction of this empirical tool.

Microdata simulation involves the creation of computer models designed to simulate the effects of proposed policy changes at very disaggregated levels—individuals, families, firms, industries, and regions. Use of the models enables investigators to examine the full distribution of the effects of particular combinations of policies, instead of working with averages and broad generalizations.

The extensive use made of the models and the estimates which they yielded in policy debates on poverty and social policy reforms both within the executive branch and in the Congress clearly stimulated their development and the interest in and resources devoted to them. The commitment of the academic research community to their development was substantial, in part because of the resources available for this work and because of the interest of policymakers in the results. Individual scholars and research groups at Stanford University, the Institute for Research on Poverty, the University of Michigan, the University of Southern California, Yale University, the Brookings Institution, and the Urban Institute were all actively involved in either developing their own models or in contributing to model development. Acronyms that named the models, some more pronounceable than others, entered the literature, among them DYNASIM (dynamic simulation), MERGE (combining two data files), KGB (Kasten, Green-

berg, and Betson were its designers), and CHRD (Comprehensive Human Resources Data System).

Microsimulation has had a significant impact in the social sciences—particularly economics. First, it represents an advance in the frontier of predictive model building. The reliance on microunits and the need to model their behavior added a dimension not reflected in existing macroeconomic models. Data collection to fuel the new work expanded at a great pace. The challenges that the micro models posed for data handling and computer processing, model execution and solution, and the complex sequencing of simultaneous and recursive socioeconomic relationships stretched the capability of analysts.

Second, the ability of the models to incorporate econometrically estimated relationships—for example, income and net wage on labor supply; socioeconomic characteristics on consumption, migration, marriage, childbearing—increased the importance of reliable estimation of these relationships. Estimation of these determinants of behavior had been a long-standing focus of both quantitative economics and sociology. The greater availability in the 1960s and 1970s of the survey data essential to construction of microdata simulation models also increased the capability of social scientists to model and estimate these relationships. And, with the construction of the large models providing a demand and a home for such estimates, the effort given to such research efforts expanded substantially. The increased quantitative estimation of behavioral determinants in both economics and sociology after the mid-1960s, and the development of microdata simulation modeling during the same period, were complementary phenomena.

Finally, the capability of microdata models to provide detailed estimates of policy impacts on highly disaggregated groups met an important need during the late 1960s and early 1970s. As Robert Lampman has described, it was during these times that all policy initiatives, both those in the anti-poverty social action area and those with more general objectives, were forced to answer the question, “What does it do for the poor?”

With the success of programs and program proposals contingent in part on the answer given to this question, microdata simulation became viewed as the primary research tool capable of providing the desired information. Daniel P. Moynihan has cogently described the forceful effect of model introduction:

By early 1969 a simulation model had been developed which permitted various versions of FAP [the Family Assistance Plan] to be “tested” and costs to be estimated. Most of this work was done by The Urban Institute, which made its information available to all who requested it. Thus, in time the Congress was to have before it the same data as the executive branch had worked from. So did persons outside government, persons for the program and persons against it. This was a

situation probably without precedent in the development of major social legislation; it disciplined and informed the debate for those in any degree disposed to restraint in the discussion of public issues. Once the president had made the proposal, and congressional hearings were beginning, the Administration could in good conscience make statements about the effects it would have which never previously could have been made with any pretense to accuracy.¹

Given the nature of the policy issues to which these modeling efforts were primarily addressed—welfare reform, food stamps, employment subsidies, public employment, income transfer policy, tax reform—it can scarcely be doubted that the War on Poverty and the policy emphases to which it gave rise had an important role in stimulating these developments in the social sciences.

Long-term advances

The events that I have recounted in these four areas cumulatively affected the course of social science, altering the topics on which research was undertaken, the methods of that research, and ultimately the state of our knowledge in these fields. The intense concentration on antipoverty measures that set these events in motion has faded, but there can be no doubt that a substantive contribution to both social science knowledge and method has been made, and that it is on these advances that the next generation of research efforts will build. ■

¹ *The Politics of a Guaranteed Income: The Nixon Administration and the Family Assistance Plan* (New York: Random House, 1973), p. 190.

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