

GOVERNMENT USES OF SURVEY RESEARCH IN THE EIGHTIES

Peter Hicks¹

This paper identifies the stages in the life-cycle of government policies and programs. For each stage, examples are given of how survey research is presently used and likely trends over the next decade are identified.

1. INTRODUCTION

There are several ways of describing the likely role of survey research in the eighties with respect to government policies and programs. One could attempt a typology of government decision-makers and outline the probable needs of different types of decision-makers for survey research over the next decade. However, in the federal government at least, there would be serious problems with such an approach. Long chains of intermediate uses, involving analyses and subsequent dissemination of data compiled from different sources, often separate decision-makers from the survey statistician. The individual whose non-statistical decisions have been shaped by statistics will often not even be aware of the original source of those statistics.

A more promising approach would be to look not at the particular decision-maker but at the type of decision made. We would then examine the kinds of data that will be needed in the eighties under such general headings as: social forecasting, social monitoring, cost-benefit studies, etc. An approach along these lines was used, for example, to good effect in a recent paper by Ivan Fellegi (Ivan P. Fellegi, "Data, Statistics, Information - Some Issues of the Canadian Social Statistics Scene", Survey Methodology, Volume 5,

¹ Senior Policy Advisor, Treasury Board Canada.

Number 2, December 1979, Statistics Canada). Many in this audience will be familiar with the Fellegi article and there would be little point in repeating it here.

Accordingly, I will look at neither the type of decision-maker nor the nature of the decisions made. Rather, I will examine the likely statistical requirements in the eighties that are associated with the different stages in the life-cycle of government policies and programs. Depending on the uses in question, the federal government regularly changes the nomenclature used to describe these life-cycle stages as well as the boundaries of these stages. Activities that were once placed under the general heading of 'programming' are later included under 'prospective evaluation' or 'operational planning'. The following then is not an official classification, it is simply an arbitrary categorization developed to illustrate the different ways in which statistical research is used at different stages in the development of a policy or a program. The stages identified are:

Planning

- identifying a social or economic problem
- describing the problem
- identifying ways of resolving the problem
- developing alternate approaches

Designing

- developing a program
- obtaining public input

Administering

- on-going administration of a program
- personnel, financial and information management
- ensuring full use of a program

Controlling

- monitoring
- periodic evaluation

The symposium organizers asked me to base my talk around concrete examples and to limit my remarks mainly to social statistics, i.e., statistics about individuals or families rather than about businesses. I will use the example of a recent policy exercise with which I was associated - a review of federal and provincial programs which provide loans and grants to financially needy post-secondary students. This is a fairly typical example. Both federal and provincial governments are involved. The program is medium sized (with a combined annual budget of some \$300 million), and involves direct contact with members of the public. Like most government programs, its objectives are complex, involving well-being objectives (i.e. allowing financially-needy students to engage in post-secondary education without undue financial hardship), equity objectives (i.e. encouraging participation from lower socio-economic groups who presently are proportionately underrepresented in the post-secondary system) and economic objectives (i.e. encouraging overall participation in post-secondary education). The review in question used statistics produced from the administrative records of existing programs, from surveys conducted by the academic community, from once-only surveys sponsored by government departments, from ongoing Statistics Canada surveys, from several surveys sponsored by the Task Force conducting the review.

The remainder of this paper will discuss the statistical requirements associated with each stage in policy/program life cycle. Current uses will be illustrated from the student aid example and there will be a brief review of the general requirements for survey research that appear to be needed over the next decade.

2. IDENTIFYING A SOCIAL OR ECONOMIC PROBLEM

At this initial stage, a determination is made about what constitutes desirable and undesirable aspects of our society, what is good the way it is and what ought to be changed. This determination is made by the public, interest groups, academics, politicians and their advisors and critics. We are concerned here with judgements about society that potentially involve government social programs. Statistics sometimes uncover a new problem;

usually, however, statistics indicate whether a problematic area is becoming better or worse. In the case of our example of government aid to post-secondary students, there are many sources of statistics that indicate whether things are getting better or worse. Income data are available that indicate the changes in the financial burden that post-secondary education places on students and their families. Enrolment data and population projections allow forecasts regarding changes in participation in post-secondary education. Labour market data indicate whether those who participate can find jobs. Occasional surveys on social mobility indicate whether there are problems with regard to the participation of different income or demographic groups in post-secondary education. The main problem that, in fact, led the federal government to become involved in student aid in a major way in the sixties was the perception that participation rates in post-secondary education were too low relative to the demands of the economy for highly qualified manpower.

Once-only, highly focussed surveys or surveys designed to answer very specific hypotheses are of little relevance at this stage. Specific surveys of this sort are useful only after the problem has been defined, not before. Ideal statistics are inter-related and current, touching on many important aspects of the social and economic fabric. Data of this sort are often referred to as social indicators. Current data are needed (to avoid identifying yesterday's problems). Time series are most important to identify whether things are getting better or worse. On-going vehicles are therefore needed; current data cannot be obtained if the first step requires the year or so that is needed to develop a new survey vehicle.

For the eighties, the most promising developments in this initial stage of problem identification are likely to be on-going, national surveys that ask comprehensive but conceptually inter-related social questions.

The monthly labour force survey is the only present example of such a survey and much could be done, at relatively little cost, to make it an even more effective problem-identification vehicle in the eighties. The recently cancelled Canada Health Survey would have been a most important survey vehicle of this type. Perhaps the vehicle with most promise, however, would be regularly repeated national time use (time budget) surveys. While the

scale of such surveys is such that government sponsorship and perhaps government survey management may be needed, it is also interesting to note that most of the work to date on time use has been carried out by the academic community and that a commercial organization, acting independently, is apparently having some success with a proposal related to the development of a time use survey.

3. DESCRIBING THE PROBLEM

Once a problem is identified, the next step is to describe its nature and extent; e.g., how many people with which characteristics are affected by the problem and by how much, where do the problems exist geographically, what social structures and trends gave rise to the problem, how is the problem linked to other problems. In the case of student aid policies, there are three basic sources of statistics of this type. First are statistics obtained from questions asked of aid recipients as part of the application process regarding their income, demographic and educational characteristics. Next are large-scale surveys of all post-secondary students asking questions related to how they financed their post-secondary education. Such surveys are taken from time to time at individual post-secondary institutions, and Statistics Canada has conducted several national surveys of this type. From these sources a reasonably good picture can be obtained of both the supply and demand sides of student aid. The third source is surveys that have been conducted on such topics as the role of education in intergenerational social mobility or surveys tracing the factors that lead individuals to make different educational choices. A recent longitudinal survey of Ontario students (reported in P. Anisef et al, Is the Die Cast?, Toronto, 1980), is an excellent example.

Generally, the statistics required at this stage must have a strong distributional aspect. For federal government programs, it is usually essential that the statistics describe the regional aspect of a problem; this is particularly so for programs and policies where responsibilities are shared between the federal and provincial governments. Practically, this means that there is little role for typical marketing surveys with national sample sizes of less than 10,000 individuals; these surveys simply

cannot get down to the provincial level with the depth of cross-classification that is required. Unlike the first stage, ad hoc surveys designed to test particular hypotheses are most useful here, particular surveys that are designed to explain behaviour; longitudinal surveys are most useful and surveys that are replicated from time to time are particularly helpful. Social experiments are potentially powerful, if very costly, ways of obtaining the needed data.

A great deal of attention was placed on statistical research related to this stage of the policy life cycle during the sixties and early seventies. A number of large-scale surveys were conducted, usually by the academic sector with government sponsorship. A start was made using social experiments as a source of statistics and a number of longitudinal surveys were conducted. Surveys of this sort are expensive and the prospects for continued development of this type of survey research in the eighties seem uncertain, for the federal government at least, given the present atmosphere of financial restraint. One promising way, however, of providing some needed data of this type, while keeping costs relatively low, would be to replicate questions from past surveys as add-ons to existing survey vehicles. The Labour Force survey is an obvious vehicle that could be used for this purpose, but there is also a possibility of using those commercial surveys that have larger sample sizes.

4. IDENTIFYING WAYS OF RESOLVING THE PROBLEM

In this stage, a determination is made of what the policy or program is intended to accomplish, e.g., what aspects of the problematic situation are to be rectified, who should gain and who should lose as a result of the policy. The main objectives and principles which guide and constrain the program are set at this stage. The judgements of politicians, interest groups and social critics at this stage are guided by many factors and, increasingly, by statistical data on the views of the individuals who would be affected by the policy or program. In the case of the review of student aid programs, surveys were undertaken to determine the views of the public and of students on key issues related to the principles that should underlie student aid programs. The questions related to views on the respective

responsibilities of governments, of students and of parents for financing the costs of post-secondary education, to views on whether students should be expected to repay aid, and similar topics. A commercial opinion survey with a sample size of about 1,000 was conducted and this was followed by a larger opinion survey of the general public and a separate opinion survey of present and former post-secondary students. In the province of Québec, these latter two surveys were telephone surveys conducted by le Centre de sondage, l'Université de Montréal; in the other nine provinces they were conducted by Statistics Canada using selected panels from the Labour Force Survey.

The type of survey research needed to obtain data at this stage is well understood by most members of this audience and I will not elaborate on it here except to note that our capacity in this area is more developed than in many other stages. Most government work of this sort is conducted by commercial survey organizations where it is usually expertly handled. Improvements are, of course, possible. Government sponsors of this sort of research have often in the past not been sophisticated statistically and have welcomed the simple fill-in-the-blanks kind of textual commentary that is often supplied to them by the survey companies along with the standard tables. For reasons given later, I think one can anticipate more knowledgeable use of opinion data over the next decade and this will give rise to a demand for more sophisticated forms of analysis. It is also likely to lead to demand for some omnibus surveys with sample sizes larger than those currently used. For example, in the case of the student aid policies, it was important to have provincial breakouts (because student aid programs are different in each province) and it was important to distinguish the views of current post-secondary students, former students, parents of students, and the general public. This required a large sample size, one that involved interviews in some 40,000 households. The smaller commercial survey that was originally conducted proved, on this account, to have relatively little analytical value.

5. DEVELOPING ALTERNATIVE APPROACHES

At this stage, program alternatives are developed and, if applicable, existing programs are evaluated. Cost effectiveness studies or models may be used to estimate the least expensive way of producing the most benefit. In data terms, this stage is equivalent to the later stage of in depth evaluation of existing programs, except of course that the administrative data which are built up with the operation of programs may be missing. Statistics are used to help predict how people will react given different program alternatives in order to estimate the direct effects and costs of programs and, equally important, to estimate the external effects of different program alternatives. In the case of student aid programs, data on the income and expenditure of students are collected in student surveys to help assess what would happen if student aid were increased or decreased. Most of the data, however, comes from internal administrative sources, indicating how students with different characteristics have reacted in the past to changes in student aid programs.

Cost models ideally require large, linked micro-data bases related to the particular populations that will be affected by the programs. Except when the program in question involves large segments of the population, surveys are often too expensive to be used to supply the large amounts of data needed by such models. Administrative data are ordinarily much less expensive to produce and most government programs usually concentrate on obtaining statistics from their own internal records for use in evaluating and developing programs. The availability of administrative records is one reason why it is so much easier to modify an existing program than to start an entirely new program. There is a danger, however, in over reliance on administrative data. Such data are often difficult to use in assessing the external effects of program alternatives, i.e., how the alternatives will affect other programs or other facets of life. Social experiments are one way of addressing these external effects, but these are usually much too expensive and uncertain to consider. Surveys which ask about preferences or attitudes or which ask hypothetical questions are also difficult to design and interpret but they can be a much less expensive way of estimating external effects.

For the eighties, perhaps the biggest challenge will be to find better ways of using both survey and administrative data in the same program development applications. This may take the form of developing models that use aggregated data from both surveys and administrative sources. There may be more work in developing general purpose econometric models especially in areas related to economic policy such as manpower forecasting models. Equally valuable will be work that would allow better linkage at the micro level, both actual and synthetic, of administrative and survey data for use in particular program applications. Another paper in this symposium will, I understand, be devoted to the topic of data linkage. In general, we can anticipate much greater use of analysis which is based on micro data, whether administrative or survey in origin, rather than based on tabulated statistics only. This will have obvious repercussions for the kinds of output that will be required of commercial surveys as well as of government and academic surveys.

6. DEVELOPING A PROGRAM

At this stage, a program alternative has been selected, usually with only a general indication of costs and benefits. At the program development stage, a series of practical problems arises such as developing the formula to be used in paying out benefits, deciding on the best location of field offices, predicting loads on programs and the amount of staff needed to handle that workload, etc. Survey applications at this stage are well known and need not be described in any detail here. Census population data, along with statistics from administrative sources, usually provide the small-area demographics needed in setting up regional offices, predicting demand, etc. In the case of student aid programs, there are good data on enrolment in different types of post-secondary education, including enrolment projections, that are most useful in predicting program loads.

During the eighties, there may be more interest in the use of flow data as well as stock data to predict loads on programs. Most surveys present a snapshot of the population surveyed e.g., those in receipt of, or in need of, program benefits at a particular point in time. Another snapshot is taken a month or a year later and changes over time are analyzed. Of even

greater interest for predicting program loads are flow data, i.e., data on the number of individuals who become in need of a program benefit in a particular period of time and the number of people who no longer need that benefit. These gross flow data often present a very different picture than do the net stock data. It is possible to construct flow data from administrative records that follow the same individual over time and from surveys, like the labour force survey, that also follow the same individual over different occasions. Data management problems and the lack of an appropriate conceptual framework for analysis have hindered the development of flow data in the past. Current data base management techniques have largely overcome the first set of obstacles and we may well see the development of the needed analytic tools over the next decade.

7. OBTAINING PUBLIC INPUT

Increasingly, governments are using statistical surveys which indicate the public support of program elements to supplement information gained from more traditional consultation processes. This stage is parallel to the earlier stage of identifying acceptable ways of resolving a problem. At the earlier stage, public input via surveys related to general policy issues; at this stage, it relates to more concrete program issues. In the case of student aid programs, questions were added to the survey of present and former post-secondary students asking whether they agreed or disagreed with certain concrete program options that were open (e.g., the provision of paid part-time work opportunities to needy students instead of loans, the desirability of extending aid to part-time students, whether aid should be provided as a loan or as a grant or some mix of the two, etc.).

Again, this is familiar territory for most persons in this audience and there is no need for elaboration on the role of surveys, particularly commercial surveys, for this type of application. Note again that there are cases where it is critical to address questions not to the general public but to those who have some awareness of, or experience with, the programs in question. This may suggest the need, during the eighties, for at least some commercial survey vehicles with larger sample sizes than are now in place, in order to allow quick screening to locate the particular population groups of interest.

8. ONGOING PROGRAM ADMINISTRATION

The statistical data used in ongoing program administration are usually derived from internal financial accounts and management information systems. In a few cases, survey data have a role, e.g., the use of price statistics in escalation clauses, or formulae that, for example, link the amount of unemployment insurance provided to regional unemployment statistics. A number of program formulae are linked to census population data. In the case of student aid, the way that federal funds are allocated to provinces is related to statistics on the size of 18 to 24 year population in the province.

The statistics required at this stage are mainly limited to those produced by Statistics Canada. The academic and commercial sectors are not likely to be affected by any changes in this area over the next decade.

9. PERSONNEL, FINANCIAL AND INFORMATION MANAGEMENT

Ongoing administration involves certain overhead activities that, from time to time, use statistical research. Personnel departments, for example, occasionally conduct employee surveys for various purposes. Often these are designed inside the personnel department and could be improved by greater use of survey experts elsewhere in the department or in the private sector. The most important trend for survey research in the eighties is, however, not likely to be the use of surveys in these overhead areas, but rather the evolution within many government departments (and I expect, in other large organizations) of a new type of overhead function. This is the information management function which, over time, will increasingly provide advice and services to the whole department on matters relating to information resources (e.g., letters, files, statistical surveys, internal management information systems, books, records, etc.) in the same way that separate personnel and financial staffs now provide advice and service to their departments regarding human and financial resources. This development is evolving gradually along with the spreading use of integrated computer/communications technology and, in government, will likely be escalated by legislation that

gives special prominence to good information management, notably privacy and freedom of information legislation. By the late eighties, a number of federal departments are likely to have directors of information resources who report at or near the top of the organization and who look after functions now handled by departmental libraries, management information divisions, records offices, and statistical groups. This will mean a profound, if gradual, change for the nature of statistical research in the government. The discipline of survey statistics will likely disappear in favour of the broader discipline of information management. There is likely to be ever greater attention paid to such matters as good documentation, security of data collected, and protection of individual privacy. The distinction between surveys and administrative sources of data will tend to disappear; the same information managers will be responsible for both. The government will become a much more sophisticated buyer of statistical services, including surveys, from the commercial sector and much greater use will likely be made of data that are purchased. There is likely to be a trend towards requiring output to be in the form of clean, documented micro-data records rather than standard tables. This will put increasing pressure on commercial survey organizations to give even greater attention to such matters as inclusion in the files of the weighting information needed to estimate population totals. Much greater attention will have to be given to non-sampling error, particularly non-response error.

10. ENSURING FULL USE OF PROGRAMS

This is the familiar marketing function. In the case of the review of student programs, questions about awareness of student aid programs were asked on the different special surveys conducted and the results were separately analyzed for those who were post-secondary students and for those who were prospective post-secondary students, i.e., secondary school students and their parents. This latter audience is particularly important since, if aid programs are to have any effect in encouraging participation from students from lower socio-economic groups, students from these groups and their parents must know that the programs exist well before the time when the actual decision is made to go to a post-secondary institution or to enter the labour market.

Surveys with small sample sizes are usually all that is required. Other techniques like group interviews can be of value. Existing commercial organizations have a strong capacity for such surveys and for other marketing techniques that ensure that government programs are reaching all the people they are intended to help. There is likely to be continued and possibly expanded use of this capacity over the next decade.

11. MONITORING

Monitoring is the control stage that exists concurrently with on-going administration and in which managers review the operation of their programs and make the necessary adjustments to ensure that the programs operate on budget and are meeting their performance targets and objectives. Typically, the data used are derived from the ongoing operation of the program itself. In the case of student aid, the usual financial data are produced, as are data on the characteristics of students who receive aid. Changes over time are monitored and the data play a role in the annual revisions that are made to the criteria used to determine the amount of aid that is provided. Survey data are also used. For example, price indices are used in reviewing the average amount of aid provided. Statistics on enrolment are used to monitor changes in the percent of students who receive aid.

Surveys can provide data that, when used with administrative data, are invaluable in creating the performance measures needed to monitor a program's effectiveness, e.g., in creating indicators that compare the number of persons with different characteristics receiving unemployment insurance benefits with statistics on the number with the same characteristics who are unemployed, indicators comparing welfare recipients in certain areas with the statistics on those who live below the poverty line in those areas, administrative data on hospital or doctor visits can be compared with statistics on sickness, administrative police data can be compared with victimization statistics, etc. In other words, both administrative and survey data are usually needed for monitoring. But, to be used together, both must be in the form of stable time series and both must share comparable concepts and be of acceptable quality. This stability means that survey concepts should not be tied too closely to those used in particular programs

(since these often change) and it means that data collected in the administration of programs should always include a wide range of standard socio-economic and demographic information as well as information needed for the direct operation of the program.

During the next decade, there is likely to be considerable interest in using survey and administrative data together to produce better performance measures. While retrospective data linkage techniques are of value here, much greater payoff will likely result from greater involvement of statisticians in the design of administrative forms and processes. With the steady improvement in data base management technology and with the development, referred to above, of the new discipline of information management, the next decade is likely to see considerable improvement in the statistical usefulness of administrative files. This, in turn, may create pressure to develop corresponding survey data, particularly large continuing sample surveys that provide basic time series in those areas where social programs are concentrated. Ongoing national time use and health surveys are likely to have highest priority.

12. PERIODIC EVALUATION

As a result of periodic assessments, governments decide to terminate, continue, modify or replace programs. This "final" stage in the life cycle of a program corresponds exactly to the earlier stage of developing alternative approaches. The comments made in that section with respect to surveys apply equally here.

13. CONCLUSION

Quite different kinds of survey research are needed at different stages in the life cycle of programs and policies and it is helpful to examine future trends separately for each stage. It must be remembered that the stages outlined in the paper are quite arbitrary and are neither wholly mutually exclusive nor exhaustive (e.g., there is no reference to audit). In terms of a particular survey, the stages may well be collapsed in practice. In the review of student aid programs, which was used as an example throughout the paper, the same survey vehicles were used to collect data that were used in a number of the different stages.

The paper suggests that over the next decade there will be continued and expanded government use of commercial, marketing-oriented surveys. There may well be a demand in the marketing area for a number of general purpose vehicles with sample sizes larger than those now in place. There is also likely to be a stronger demand for the larger and more comprehensive surveys traditionally carried out by the academic community. Longitudinal surveys will be particularly important. The greatest growth may well be in the government sector itself as a result of new statistical uses of administrative files (while these are not surveys, the paper argues that the sharp distinction that now exists between survey statistics and administrative statistics will gradually disappear within the next decade or so) and from the possible establishment, likely late in the decade, of new ongoing national surveys, particularly comprehensive time use and health surveys. If past patterns hold, governments are likely to manage such surveys directly but there is room for outside contracts on particular aspects of the work. In all sectors, there will likely be more replicated questions on surveys, more attention paid to analysis of flows rather than stocks and to the analysis of micro data as well as tabulated data.

Some of the trends mentioned in the paper are familiar and well established; others are based on speculation. Even for well-established trends, however, there are great uncertainties as to the timing of changes. Many factors, particularly changes in the climate of government financial restraint, will determine how much will be accomplished in the eighties. Even continued restraint, however, would not necessarily preclude many of the developments discussed in the paper, since new data base management and telecommunications technologies have the potential to drastically reduce the real costs of many forms of survey research over the next decade.

RESUME

Ce document présente les différentes étapes des politiques et des programmes de l'administration publique. Pour chaque étape, on donne des exemples de l'utilisation actuelle de la recherche d'enquête et l'on indique les tendances qui semblent se dessiner pour la prochaine décennie.