

Denis F. Johnston, Office of Management and Budget

"Designers of statistics are indeed philosophers, however unwilling to claim the name, and are fully aware that different aspects of reality can be lit up if alternative sets of concepts are used."  
--Bertrand de Jouvenel

Social Indicators, 1976 (SI 76) is the second report of its kind to be prepared by the Statistical Policy Division, Office of Management and Budget. It is currently in the final stages of preparation and is scheduled for publication by the Government Printing Office by December, 1976. The general format of this report is similar to that of its predecessor, Social Indicators, 1973 (SI 73) which was issued in February 1974. It again features the graphic presentation, in color, of summary descriptive data on the socio-economic characteristics of the population of the United States, with limited geographic detail but with considerable disaggregation by age, sex, color and other variables.

The contents of SI 76 have been organized into twelve chapters -- an introduction and eleven "social indicator" chapters, as follows:

- Introduction (a new chapter)
- Chapter 1. Population
- Chapter 2. The Family (new)
- Chapter 3. Housing
- Chapter 4. Social Security and Welfare (new)
- Chapter 5. Health and Nutrition
- Chapter 6. Public Safety
- Chapter 7. Education and Training
- Chapter 8. Work
- Chapter 9. Income, Wealth, and Expenditures
- Chapter 10. Cultural activities, Leisure, and Time Use
- Chapter 11. Social Mobility and Participation (new)

The contents of each of the eleven chapters are being presented in three parts: Text and Charts, Statistical Tables, and Technical Notes. The text and charts are further subdivided into sections in accordance with the main topics covered. For example, the population chapter comprises four sections: population growth, population distribution, public perceptions, and international comparisons.<sup>1/</sup>

Several additional features of the forthcoming report may be mentioned. First, the introduction will provide selected socio-economic data relating to a number of ethnic groups, drawn of necessity from the past three decennial censuses. A few color maps of the U.S., showing similar data by county, will also be included here. Finally, the introduction will provide some guidelines on the use of the report, its organization, and a brief discussion of the quality of the data, organized according to the major sources of data rather than with reference to particular data series. Second, we plan to introduce a few "public perceptions" items in the penultimate

Section of each chapter. Nearly all of these items have been selected from the General Social Surveys of the National Opinion Research Center, University of Chicago.<sup>2/</sup> Third, we have included selected international comparisons, where available, in the final section of each chapter. Finally, we shall provide an index at the end of the report which will identify materials of related interest that appear in different chapters.

With these general comments aside, it might be useful to devote the remainder of this paper to a discussion of our attempts to respond to (1) some of the criticisms expressed by reviewers of SI 73 and (2) the many suggestions we have received for improving SI 76. These remarks are organized around twelve "problem-areas."<sup>3/</sup>

(1) Conceptual Organization -- Those who follow social indicator developments are aware of a number of attempts to develop general organizational frameworks for handling the diverse subject-matter to be included in any report of this kind. The organizational structure we have adopted is oriented toward broad areas of "social concern" as these have evolved through the on-going efforts of the OECD Working Party on Social Indicators.<sup>4/</sup> This development effort seeks to specify indicators for nine major concern areas (or "goal areas"): Health, Individual Development through Learning, Employment and Quality of Working Life, Time and Leisure, Personal Economic Situation, Physical Environment, Social Environment, Personal Safety and the Administration of Justice, and Social Opportunity and Participation. Our present organization covers eight of these nine areas in varying degree; only the area of the physical environment is omitted completely.<sup>5/</sup>

It is probably axiomatic that any principle of organization designed to present some comprehensive set of social indicators leads to boundary problems in handling cross-cutting phenomena and to some danger of "reification" of categories. The chapter organization used in SI 76 accords reasonably well with long-established functional components of our society and enjoys the pragmatic advantage that is also corresponds substantially with a number of established agency jurisdictions within the Federal statistical system. But the objections remain: to treat education separately from work or from cultural activity and even leisure requires the arbitrary placement of data relating to such educationally-significant activities as on-the-job training, reading, attendance at plays, and the like. A more important objection is the fact that this familiar compartmentalization makes it difficult to portray a sense of the flow of experience of individuals at different stages in the life cycle, stemming from their simultaneous involvement in all or most of these "areas of concern." Thus our attempt to depict the "well-being" of individuals remains fragmented.

(2) Analysis and Interpretation -- The old adage that 'a good chart saves a thousand words' is certainly one of the major inspirations for the preparation of a report of this kind, but it fails to answer the two critical questions: what constitutes a good chart and how many words are still required after a thousand have been saved? Several reviewers of SI 73 commented critically on the inadequacy of the text. It was pointed out that the data presented were devoid of any interpretation and that necessary caveats and qualifications were either absent or buried in the Technical Notes. Our response may not fully satisfy these critics. A chart book is a chart book; the inclusion of analysis and interpretation would entail the sacrifice of considerable graphic material and would, more importantly, require changing the basic focus of the report.

We are hopeful, however, that this particular weakness will be overcome by virtue of a separate publication, in the Summer or Fall of 1977, of a special issue of The Annals which will be devoted to a number of expository essays relating to the several chapters of SI 76. Dr. Conrad Taeuber, who served as Chairman of the OMB Advisory Committee on Social Indicators, has agreed to serve as Special Editor of this issue and is currently assembling a group of scholars to carry out this task. Completion of this special issue is not yet assured, but current plans call for the incorporation of much of the data presented in SI 76, so that the readers of this issue will receive a reasonably complete account of the report as a whole, plus a number of interpretive essays.

(3) Scope and Coverage -- Given some upper limit on the size (and cost) of any such report, an obvious trade-off problem arises with respect to adequate coverage of a given topic and the need to treat a broad range of subjects. SI 76, like its predecessor report, opts for a wide range of coverage at the sacrifice of depth. But accepting this decision, the problem remains of making an optimal selection of information; we can only claim that we have tried to do so.

(4) Quality of the Data -- Several of the reviewers of SI 73 expressed strong objection to its failure to convey adequate warnings in regard to the highly variable quality of the data presented or even to provide any awareness of the nature and impact of sampling error. Here again, our response may not satisfy our critics. Our knowledge of the errors associated with data sets bears a strong positive correlation with the quality of these data. We thus encounter the dilemma that any discussion of data quality, especially in a report primarily intended for an audience of non-statisticians, is likely to convey the unfortunate impression that our best data are weakest and our weakest data are best. Of course, nobody proposed that future social indicator reports should attempt to provide a detailed treatment of this complex problem-area; such an effort would be far beyond the capacity of our meager resources in any case. But it was argued that the subject should at least be mentioned, and this we intend to do by providing a brief discus-

sion of the types and sources of error associated with each of the principal types of data sources utilized in the report. This discussion, to be included in the introductory chapter, will necessarily be quite general and elementary, but it will introduce the readers to this problem-area.

(5) Data Presentation -- Most of the criticisms falling under this rubric relate to mis-judgments in graphic presentation, failure to employ appropriate standardization in offering comparisons of data, and the limited use of projections and of cohort time series. We have tried to eliminate the mis-judgments that were generally recognized. For example, we have made greater use of semi-log scales in presenting data of different magnitudes on the same chart, and bowing to convention, we have brought our readers from the second to the first Cartesian quadrant by placing the graph labels for the Y-axis on the left side rather than the right. The more difficult issue posed by the non-comparability of unstandardized summary measures remains to be resolved. The resources available for this project have not permitted any extensive re-working of the data submitted to us by the several agencies. We have of course utilized standardized data, such as mortality rates, when they were made available, but the bulk of the summary measures we present (averages, rates, etc.) remain uncontrolled for the possible effects of changes in the distribution of their components.

We have included more projections than in SI 73 -- including projections of population, households and families, housing demand and labor force. But here also, these projections are those which have previously been developed by other agencies; none has been prepared specifically for this report. Similarly, our hopes to present a number of time series in the form of cohort progressions have been realized to a modest degree with decennial census data on marital status and Current Population Survey data on rates of economic activity and income.

Other serious problems remain. Descriptive indicators may invite invidious comparisons between population groups, particularly in regard to data on crime rates, family instability, and the like. Because the reasons for observed differences are seldom fully understood and, even if known, cannot possibly be explained with the necessary brevity, the presentation of such information in chart form is subject to the objection that it may lend support to distorted perceptions or unwarranted conclusions based on prejudice rather than fact. Of course, all social information is subject to the danger of misinterpretation. That danger must be weighed against the dangers arising from the withholding of pertinent information because it is controversial or provocative.

(6) Descriptive versus Explanatory Indicators -- The data presented in SI 76, like those in SI 73, are almost exclusively descriptive in character. The only complex or analytically derived measures which are included are those well established measures, such as estimates of average life expectancy, which are conventionally employed in

similar reports. The cross-tabulations which are shown are mostly two-dimensional. No attempt has been made to relate different sets of data in a statistical sense or to report the findings of the more elaborate multivariate analyses of social phenomena which have been carried out. In short, to employ Richard Stone's terminology, SI 76 is designed to satisfy (or rather to arouse) curiosity but not to provide "understanding" or "prescriptions for action."<sup>6/</sup>

(7) Normative Considerations -- To some of the pioneers in the field, the very term "social indicators" implies a normative element or focus. In fact, it has been argued that it is the normative element which distinguishes indicators from other social statistics.<sup>7/</sup> But current practitioners in the field, particularly those who regard social indicator development as an integral part of normal social science research, recognize a basic confusion in this argument: indicators, they point out, are value-neutral; the normative significance of any datum lies, as does beauty, in the eyes of the beholder. In other words, the determination that a given statistical trend or measure indicates that something has gotten "better" or "worse" is entirely a function of the valuational perspective of the observer. Granting that the producer of social indicators is engaged in a purely technical, value-neutral enterprise, governed by the norms (values?) of objectivity, the fact remains that the producer of a social indicator report cannot claim such neutrality in quite the same sense. His primary task is the judicious selection and presentation of information relating to a number of social concerns.

In practical terms, this means that judgment, reflecting some set of values, must be exercised in carrying out both the selection of data and in devising some mode of presentation. To choose a controversial example, SI 76 will show, in the family chapter, the rise in the divorce rate in the United States. We may presume that some observers will recognize this trend as "bad" while others may counter with the argument that it also reflects some "goods." Such assertions do not necessarily imply confusion between neutral "facts" and valuational interpretations; they are elliptical statements and obviously refer to the underlying phenomenon and its associated social and psychological conditions. Divorce is "bad" because it commonly entails family disruption, psychic strains, legal costs, and the like. It may also be "good" insofar as it reflects individual self-reliance, flexibility and a willingness to seek improved human relationships. Neither interpretation fully contradicts the other, but each one clearly moves us well beyond the basic measure we started with.

Which bring us, finally, to the point: the decision to show the trend in the divorce rate is not value-neutral. It is judgmental and reflects what is presumed to be a widely shared concern with one of the basic values of our society -- family stability. The likelihood that this trend will prompt divergent interpretations is an appraisal that can be made of most, if not all of the data

presented in the report. As a corollary point, one can argue that a basic objective of reports of this kind is to prompt reasoned discussions or consideration of the issues and problems which are apparent in the several areas of concern while seeking to raise the level of factual information on which such consideration may be based.

(8) Disaggregation -- One of the more penetrating comments on SI 73 was Natalie Ramsøy's observations concerning the almost universal and uncritical employment of age-sex-race classifications in disaggregating most of the data presented.<sup>8/</sup> In brief, she argues that the explanatory significance of these variables varies widely among different social phenomena and may in fact be largely irrelevant with respect to some of them. By showing such disaggregations uniformly, we are, in effect, encouraging the notion that these variables are uniformly relevant while at the same time failing to disclose (or masking) other relationships which may be more significant. We have tried to introduce other breakdowns when they were available to us and we share the view that disaggregations by socio-economic status, life cycle stages, occupation, and education should be included more extensively than they have been up to now. However, age, sex, and racial differences should still be included with respect to most of the socio-economic data shown in a report of this kind. As Otis Dudley Duncan has pointed out, normative considerations dictate such disaggregations because of the need to describe the relative status of these groups, quite apart from the explanatory significance of these background characteristics. While this argument does not invalidate Ramsøy's objections, it does indicate why such disaggregations will continue to be widely employed.

A different problem has to do with space limitations. SI 76 has sometimes displayed the top row of a table of data (measures relating to the total population through time) on one chart and the right-hand column (measures relating to subgroups for the latest period of observation) on a second chart. This was done in SI 73 as well and is perhaps the best compromise between showing all the detail available in a table and showing only total values.

(9) Perceptual or Subjective Indicators -- Our original intent was to organize the data in each chapter according to a scheme proposed by Wolfgang Zapf, whereby three basic types of social indicators are recognized: indicators of system performance (primarily institutional resource inputs and programmatic output measures); indicators of well-being (objective measures of effects or outcomes); and indicators of satisfaction (data reflecting popular perceptions or feelings about aspects of their condition or situation, prospects, etc.)<sup>9/</sup> This plan failed; we were unable to force the diverse kinds of data available to us into this format. But the underlying concept remains valid as a delineation of the types of indicators which are called for in providing a basis for a comprehensive assessment of "well-being" in the broadest sense.

Given that objective, the provision of objective measures of different aspects of well-being is clearly necessary and clearly insufficient. The need to supplement such data with subjective measures is supported by W. I. Thomas's dictum that it is not the objective situation that serves to explain human action, but how that situation is perceived by the actor. Of course, Thomas was concerned with research objectives; he sought to deepen our understanding of the determinants of human behavior. But if subjective measures are called for in such a case, they are just as essential in program evaluation, where public perceptions and reactions are bound to affect program outcomes, and in public assessments of the condition of the society, where changing values and aspirations often presage important social changes. Hence our concern to include such data in every chapter, despite their commonly acknowledged limitations and difficulties of interpretation, reflects our conviction that data on public perceptions constitute an essential component of social indicators.<sup>10/</sup>

(10) Distributive versus Collective Well-being -- As stated in the introduction to SI 73, the choice of indicators was based upon two main criteria, the first of which was that the indicators should measure the well-being of individuals (or families) rather than that of institutional entities. Given this intended focus, SI 73 was faulted for omitting data on family status and on social welfare -- two omissions which have been remedied to some extent in SI 76. But a more profound issue was raised in this regard: can we accept the implicit assumption that societal "well-being" is merely the sum of the well-being of its individual members? This form of psychological reductionism does not sit well with many social scientists, especially when we consider the need, in all societies, to restrict individual behavior in many ways in order to optimize the well-being of society as a whole. There is therefore an arguable need to include information on the performance characteristics (not to say "well-being") of major functional sectors of society, expressed in terms of both inputs and outputs. SI 76 has made a modest start in this direction, but at the risk of losing a distinctive focus on individual well-being.

(11) Input versus Output -- The second criterion for the selection of social indicators, as expressed in the introduction to SI 73, was that the measures selected should reflect "outputs" or "results" rather than "inputs." If the preceding argument has merit, the omission of input measures impairs the effectiveness of the report as a tool for public assessment of the condition of the society. Furthermore, the application of the distinction between "input" and "output" in non-economic areas gives rise to serious problems. What is educational achievement (i.e., learning) an output of? What about an individual's health status? Even the familiar statistic relating to "years of school completed" is clearly an output of the educational system and an input to the labor force and to other sectors of the society.

Such questions are quickly resolved once agreed-

upon sub-system boundaries have been established; the distinction is a function of one's perspective and research objectives. But that is the point at issue: the imposition of such a perspective, which is essential to developing a systems-analytic conceptualization of society, exceeds the limited aims of SI 76. By adopting a looser framework, we hope to offer the readers of the report greater degrees of freedom in approaching its contents from a variety of perspectives.

(12) The Quality of Life -- If one of the ultimate objectives of the "social indicators movement" is to enhance our ability to assess the quality of our lives, one of the sobering insights acquired in preparing a national social indicator report is an awareness of the multi-dimensionality of this elusive quality. The effort to develop a single composite index of the quality of life retains its supporters, despite Bertram Gross's earlier warning of the "philistinism" implicit in the imposition of a single metric to such vital components as health status, marital happiness, feelings of efficacy, job satisfaction, adequate housing and, of course, income security. But if the objective of devising a single index of life quality seems far fetched, the aim of providing, in a single report, a selection of descriptive information to assist readers in developing a more adequate assessment on the basis of their own values and priorities is not invalidated.

#### Conclusion

It is OMB's judgment that, on balance, the forthcoming social indicators report is a distinct improvement over its predecessor. If that claim turns out to be warranted, those who prepared the first report will merit a large share of the credit, since they have greatly facilitated the preparation of the second. It must also be admitted that some of the changes and additions may, upon review, be assessed as retrogressive rather than progressive. It is clear that no "great leap forward" has been achieved. Such advances as have been made have instead been by way of what O. D. Duncan might term "pragmatic incrementalism."

Another difficulty remains in preparing reports of this kind -- continuing uncertainty as to its actual users and usage, as distinct from those which were envisioned originally. We know that the report, like its predecessor, will provide a large number of government officials and their staffs with summary information on a variety of topics relating to the country as a whole and presented in a uniform manner. It will, we hope, serve a similar purpose for those "micro decision-makers" among the general public who wish to acquire a similar "macro" perspective. We also know that graphic presentations of this kind (as in the new journal, STATUS) are found useful in providing a "quick fix" on a given topic under circumstances which preclude detailed investigation. Those technical experts who shudder at the thought that major decisions may be arrived at on the basis of a quick glance at a few graphs should perhaps be reassured that a great many other

elements enter into the "fluid drive" between informational inputs and the act of decision. Furthermore, most decision-makers, both public and private, are busy generalists, not busy specialists. For them, a quick fix in the form of summary statistics may often be an important corrective to hunches and intuition. We have also learned, in a spotty manner, that librarians find these reports to be extremely useful in guiding students toward a few general insights on the subjects covered. This may not be cheerful news to those who envision reports of this kind as powerful vehicles for influencing major policy decisions, but the teachers among us may be gratified.

Finally, we can assert that the report is not intended to serve the research needs of statisticians, social scientists and similar experts, except insofar as they, too, may perceive a need for a handy summary of descriptive data, particularly in areas with which they are not deeply familiar. We can also assert, with confidence, that most of the charts in the report raise more questions than they answer, prompt a variety of conflicting interpretations and promote a strong demand for additional information -- characteristics they share with other forms of research reporting.

#### Footnotes

1/ The bulk of the data for this report has been assembled with the assistance of the members of the Interagency Committee on Social Indicators, chaired by the author, and comprising the following persons: Jack Blacksin (Internal Revenue Service), Arnold H. Diamond (Dept. of Housing and Urban Development), Jacob Feldman (National Center for Health Statistics, DHEW), Walton Francis (Dept. of Health, Education, and Welfare), Iris Garfield (National Center for Education Statistics, DHEW), Harold Goldblatt (Dept. of Housing and Urban Development), Max Jordan (Dept. of Agriculture), Sue Lindgren (Law Enforcement Assistance Administration), Alfred Skolnik (Social Security Administration, DHEW), Robert Stein (Bureau of Labor Statistics), Gooloo Wunderlich (Public Health Service, DHEW), Meyer Zitter (Bureau of the Census), and Paul Zolbe (Federal Bureau of Investigation). The report is being prepared in the Statistical Policy Division, OMB, by the author with the assistance of Marian Altman and Tobia Bressler who are on detail from the Bureau of the Census. It is being prepared in final form for printing by GPO by the staff of the Publications Services Division, Bureau of the Census.

2/ The General Social Surveys conducted by NORC began in 1972 and are scheduled for annual repetition (of most items) through 1978. Thus the time series now available (1972 through 1975) are brief, but the data will eventually yield a picture of trends through the 1970's.

3/ This discussion draws heavily upon the reactions of a panel of social scientists and statisticians which was assembled to review SI 73 in late February, 1974. Their comments are presented in Roxann A. Van Dusen (ed.), Social Indicators, 1973: A Review Symposium (Washington, D.C.:

Social Science Research Council, Center for Coordination of Research on Social Indicators, 1974.) It also reflects some of the comments made by individual members of the OMB Advisory Committee on Social Indicators, which included Conrad Taeuber (Chairman), John H. Aiken, Daniel Bell, Albert D. Biderman, Angus Campbell, David Christian, Otis Dudley Duncan, Jack Elinson, David A. Goslin, Abbott L. Ferriss, Lloyd A. Free, Harvey A. Garn, Robert B. Hill, F. Thomas Juster, Ida C. Merriam, Graham T. T. Molitor, Milton Moss, Daniel Patrick Moynihan, Roberto Olivas, Robert Parke, Nestor E. Terleckyj, Daniel B. Tunstall, Ralph R. Widner, Willard W. Wirtz, and Marvin E. Wolfgang.

4/ Organization for Economic Cooperation and Development (OECD), List of Social Concerns Common to Most OECD Countries (Paris: OECD, 1973). The nine areas listed above reflect current modifications of this original list of concerns. The modified listing and related discussion are contained in a progress report on Phase II of the activities of the OECD Working Party on Social Indicators (publication forthcoming.) Most of the member countries of OECD have issued one or more "social indicator" reports, including Canada, France, Japan, the Netherlands, Norway, Spain, Sweden, the United Kingdom, and West Germany.

5/ The eleven chapters of SI 76 also correspond quite closely with the eleven major "sub-systems" currently identified in the United Nations Statistical Office's "System of Social and Demographic Statistics" (SSDS). This system, which was developed under the general direction of Professor Richard Stone of Cambridge University, is most fully described in UNSO, Towards a System of Social and Demographic Statistics (New York: United Nations, ST/ESA/STAT/SER.F/18, 1975).

6/ Professor Stone's fuller statement is as follows: "...Social indicators relate to some area of social concern and they may serve the purposes of curiosity, understanding or action. They may take the form of simple data series or they may be synthetic series obtained by applying a greater or lesser amount of processing to data series... Social indicators form a subset of the data series and constructs actually or potentially available and are thus distinguished from other statistics only by their suitability and relevance for one of the purposes mentioned." Ibid., p.28.

7/ Both the normative and the "program evaluation" concerns are evident in the definitions propounded by the principal authors of two of the more influential efforts in the field. First, Raymond Bauer's statement: "This volume as a whole is devoted to the topic of social indicators -- statistics, statistical series, and all other forms of evidence -- that enable us to assess where we stand and are going with respect to our values and goals, and to evaluate specific programs and determine their impact." Raymond A. Bauer (ed.), Social Indicators (Cambridge, Mass.: The M.I.T. Press, 1966) p.1. Second, Mancur Olson's statement: "A social indicator, as the term is used here, may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the condition of major aspects of

a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things have gotten better, or people are 'better off.' Thus statistics on the number of doctors or policemen could not be social indicators, whereas figures on health or crime rates could be." U.S. Dept. of Health, Education, and Welfare, Toward a Social Report (Washington, D.C.: Government Printing Office, 1969) p. 97.

8/In Van Dusen (ed.), Op. Cit., pp. 46f.

9/In Van Dusen (ed.), Op. Cit., 26.

10/ On this issue, the following comment by John Tukey is apposite: "...It is often much worse to have a good measurement of the wrong thing -- especially when, as is so often the case, the wrong thing will IN FACT be used as an indicator of the right thing -- than to have poor measurements of the right thing." John W. Tukey, "Methodology, and the Statistician's Responsibility for Both Accuracy and Relevance." Presented at the General Methodology Lecture at the 135th Annual Meeting of the American Statistical Association in Atlanta, Georgia, August 1975. Reprinted in the Statistical Reporter, No. 76-13 (July 1976) pp. 253-262.