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Improving the Federal Statistical System: Issues and Options

PREPARED BY
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Preface

This Issues and Options paper was originally distributed November 30, 1978 by the President's Reorganization Project for the Federal Statistical System. It was drafted for circulation in order to elicit critical reviews and comments both from within and out of Government on the Project's definition of the problems of Federal statistics and their tentative evaluation of alternative approaches to solution or amelioration. Publication was not envisioned. However, the paper was well received and publication was suggested by a number of reviewers. During 1979 the Project Staff revised the paper in light of the many reviews received. After a final editing by the Project Director in December, 1980, it was submitted for publication in the *Statistical Reporter*.

A paper such as this is a compendium of ideas selected for review and debate. It does not represent the position of an Administration, nor does it constitute the view or recommendations of the Project. It is a vehicle which the Project used to sharpen and focus its understanding before it began developing its recommendations for improving the Federal statistical system. It attempts to organize existing knowledge and experience. Thus, most of the ideas are not new, even if expressed somewhat differently or given a new focus or context. In complex continuing problems, one always owes a major intellectual debt to those who earlier trod the same paths.

What is different is the way in which these long-discussed statistical issues are approached. It was concluded early that the Project should focus its efforts on the systemwide capability and performance of Federal statistics, not on single agency problems or the many technical problems of statistics. This understandably frustrated some who were concerned about specific problems not central to this focus. The options paper has another rela-

tively unique aspect. Because the problems addressed seemed so frequently to interact, envisioned solutions also often conflict with each other. In such a situation, one may not safely treat problems such as access to statistics separately from privacy and confidentiality issues. This makes the larger problems of the Federal statistical system difficult to bring into focus, define, and resolve. Thus, an effort was made to keep the tensions and trade-offs between problems in focus, not allowing problems to be addressed in isolation.

More than 400 copies of the original version of this paper were distributed; many more than 400 people read it. Despite an unreasonable deadline for comment (over which the Project had little influence), about 200 responses were received. Three quarters were quite positive and supportive and made useful critical comments and suggestions. Others were a mixture of criticisms which expected the Project to do something other than it was designed to do, speeches about pet subjects, emotional reactions to some specifics, plus some extremely useful well-articulated comments which were highly critical.

Since statisticians are known to be a critical lot, I was surprised that the ratio was not reversed. Indeed, from a third to half of the supportive letters were very complimentary. When compliments were expressed personally to the Director, I felt compelled to observe that any virtues the options paper possessed flowed from the high quality of the Project staff, which wrote the paper in 5 weeks, met 2 weeks later with the Project Advisory Committee, and 1 week after that had a revised version out for general review. Only a superb group of professionals could come together from across the statistical community, meeting for the first time in early September, 1978, and produce a good quality book by November 30th! I am proud of them. I learned much from them and from other members of the statistical community.

A preceding 3-month task force operation, composed of 33 people on detail from the various statistical agencies, prepared the groundwork for development of the options paper. Five task forces reviewed analyses of major statistical issues, evaluated alternatives, and made recommendations to the Project Director. Their analysis laid an effective foundation for the Project's intellectual efforts.

The Issues and Options paper published here has been redrafted by Project staff to respond to

the many thoughtful reviews. This was done within the constraint of preserving its basic organization and nature, since its historical integrity would have been lost if we had transformed it completely. The pressure of other responsibilities precluded the writing of new chapters, the development of fundamentally different approaches, or the examination of entirely new ideas. There were several such temptations. We did fill in gaps in logic, eliminated errors, strengthened incomplete or unpersuasive arguments, and generally improved the composition and quality of the document as suggested by reviewers. The final editing and publication was delayed for a little over a year, awaiting the completion of negotiations with Congress. The final edit strengthened the discussion of interactions between issues in different chapters and took account of events such as the Executive Order on paperwork and passage of the Paperwork Reduction Act in December 1980. A few things affected by subsequent events were not modified. For example, the Project's original usage of the generic term Central Statistical Office (CSO) is retained here to describe the Governmentwide statistical policy and coordination unit whose functions and design were the object of much of the Project's effort. It was used throughout most of the life of the Project. By the time of the Final Report of the Project (See *Statistical Reporter*, May 1980), the title of Office of Statistical Policy (OSP) had been selected in its place.

The final Report of the Project details a chronology of events up to President Carter's decision in January 1980 to transmit legislation establishing an independent Office of Statistical Policy in the Executive Office of the President and a Governmentwide statute on statistical confidentiality. At the end of chapter 10 of this paper, there is a discussion of some of the dynamics leading to that Presidential decision.

By the fall of 1979, the Congress had developed considerable momentum behind a complete revision and expansion of the Federal Reports Act of 1942. This had its origins in the Commission on Federal Paperwork (1977) and culminated in December 1980 with passage of the Paperwork Reduction Act of 1980 (See the *Statistical Reporter* of January 1981 for a section-by-section analysis). Negotiations with the Congress through the fall of 1979 were aimed at joining in a common legislative effort. Since this was prior to both the OMB Director's and the President's decisions on statistical improvement and since OMB was trying to get

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several changes in the congressional version of paperwork legislation, we were in an extremely awkward position to try to negotiate a joint legislative effort. The House Government Operations Committee was having internal difficulties over different views on some aspects of paperwork, as well as on several new functions which they proposed to, and eventually did, add to the Federal Reports Act. Our draft of statistical legislation added much complexity to the proposed paperwork statute, and we were unable to assure anyone of what the President's decision would be. As a result, negotiations fell apart by Christmas 1979, and the Committee leadership proceeded on its own. Following the President's decision in mid-January 1980, further attempts again to negotiate either a common or separate legislative track for statistics were rebuffed, as the Committee refused to be deterred from its focus on paperwork legislation and as its members faced the end of session crunch and their own reelection campaigns. Legislation to establish an independent Office of Statistical Policy in the Executive Office of the President was sent to Congress on May 30, 1980, after all informal negotiations had failed. It was hoped at that point to get hearings held on statistical improvement legislation before the Congress adjourned, but it was not to be. Paperwork legislation dragged along in the track ahead of statistics, looked as if it were fatally stalled several times, and barely made it to the President's desk for signature during the last week of the 96th Congress. The legislation has significant implications for statistics.

Since the Paperwork Reduction Act of 1980 is summarized in the January issue of the *Statistical Reporter*, comments here are limited to those aspects that impinge on statistics. This legislation returns the Office of Federal Statistical Policy and Standards from the Department of Commerce to OMB, placing it in an Office of Information and Regulatory Affairs. It also returns to OMB all final authority over forms clearance, an authority that had been progressively fragmented since 1973. It combines statistical policy and standards in OMB, not only with burden reduction policy but with five other functions: policy and oversight for (1) records management, (2) privacy of records, (3) interagency sharing of records, (4) acquisition and use of automatic data processing and telecommunications, and (5) regulatory policy. Most of these functions have been an OMB responsibility for some time. However, before Reorganization Plan No. 1 of 1977, which transferred statistical

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policy and standards to Commerce, only burden reduction and statistical policy were managed together. Now all seven will be combined in one OMB unit. The primary assumption of the Paperwork Reduction Act of 1980 is that all of these are information policy activities which share a common nature and should be managed together. This is a large, completely untested assumption which, in my judgment, will lead to many difficulties. While systems for information processing do have many things in common at a conceptual level, operationally there are great differences. This is examined in the Final Report of the Statistical Reorganization Project and more briefly in chapter 7 of this paper. I believe there is a high probability that left in this organizational format, statistical policy will see its already slim resources drained away again and its integrity as a function eroded, not because anyone necessarily sets out to do this, but because statistics will again be seen as relatively unimportant in such a context in OMB. Its importance will be perceived only when unnecessary policy "fire-fights" and disasters occur, long after some failure of statistical policy or coordination.

If this sounds exaggerated, consider three points, two of which were only beginning to be understood in the Project at the time the original options paper was circulated. The first is the widely appreciated, nearly continuous erosion of the personnel base of statistical policy from the first year of its establishment as an OMB function in 1947, to 1977, when 15 positions were transferred to the Department of Commerce with the statistical policy functions. It will now come back to OMB with 25 positions. If the scope and complexity of statistical activity had declined, this would be unremarkable, but, as the Final Report of the Project points out, Federal statistical budgets have grown tenfold in real terms since 1947 and personnel have grown fivefold. Clearly we have a major backlog of needs for statistical policy, and especially standards, implicit in the undigested crescendo of new policy initiatives of the last two decades. The problems have overrun our capacity to coordinate statistical activity.

In developing its recommendations, the Project had to specify the functions of a central coordinating unit or, as we termed it, a Central Statistical Office (CSO). The Project also had finally to estimate the number of personnel it would take to operate those functions. The result of this exercise was not published in the Final Report because it remained an open issue, a bullet no one was quite

willing to bite. The final executive branch position was to propose all the functions, but to establish an independent agency of 40 persons in the Executive Office of the President (EOP). The notion was that if it proved its usefulness it would grow to full capacity. This was not politically unreasonable since most other Executive Office units, including the Domestic Policy Staff, were smaller than this, and there has long been a reluctance to solve problems by adding agencies or personnel to the EOP.

The functions of the CSO are described in Appendix A of the Project's Final Report. A graphic summary can be seen on page 137. The Project estimated that the CSO would need 215 positions when fully staffed if it were established as an independent agency in the EOP, and 195 positions if it were established within another organization which handled the support services for the CSO. This envisioned the clearance function in the CSO. With that function reduced to delegated responsibilities for technical (statistical) review of all collections and clearance decision responsibility for statistical agencies and programs, the total personnel requirements might be reduced to around 200 and 185 respectively for full operation of these functions. These are rough estimates based on experience in the statistical system with these functions.

Two other serious problems are not well understood today. This options paper recognizes and struggles with both, but their full import was not appreciated in the Project until about the time the Final Report was written. One is that, as the Report puts it, "Statistical policy [has become] a critical and fragile part of the larger policy process . . ." This is an embrace the intimacy and the immediacy of which is a recent phenomenon. It was briefly explained in the Final Report of the Project.

As society's problems have grown more complex, statistics have become more important to effective decisionmaking. Not only do policymakers face increasingly complex issues, but many problems now interact with one another. Policy decisions more frequently involve choices which cut across present Departments and policy decision structures and their data bases. Growing numbers of these crosscutting issues involve so many diverse participants that more and more executive branch decisions are being forced to the White House for resolution. Resolution of

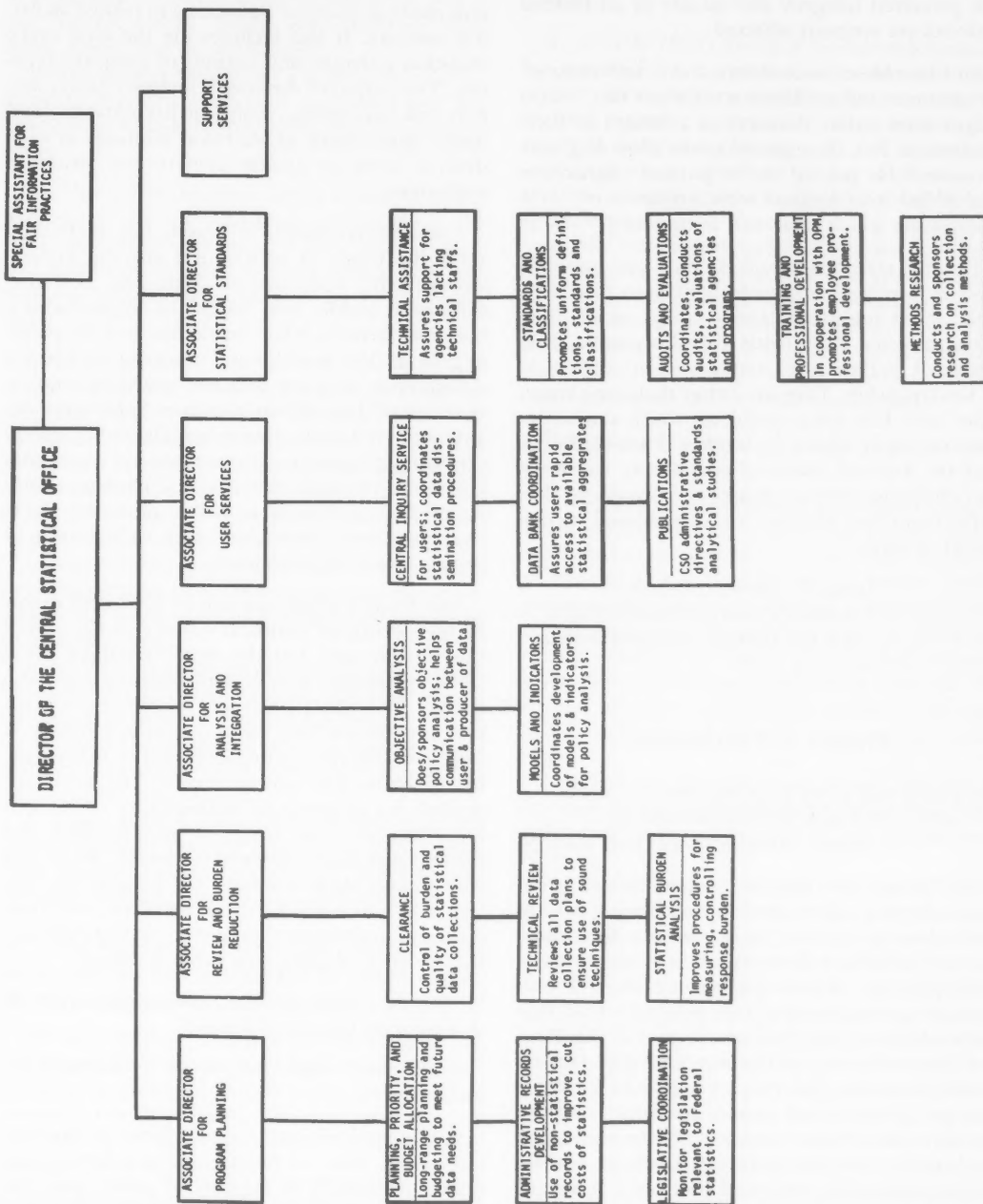
these broader policy questions often creates the need for new statistical data or require complex new combinations of older data. These data requirements are difficult, and sometimes impossible to meet under present statistical policy institutional arrangements. Yet they are essential if national policy decisions are to be based on a firm factual foundation.

Federal statistics have a greater impact on society today. Statistics are now used in a higher proportion of economically and politically significant decisions in policy and the addition of Federal resources. In addition, with the growth of the Federal Government's role since World War II, the number of such decisions and their impact on society have sharply increased. As a consequence, national policy and resource allocation decisions are increasingly interactive with those of statistical policy. There is a greater need to anticipate national policy information needs through integrated planning of statistical products. The failure to coordinate the larger aspects of statistical policy with national policymaking is increasingly disruptive of that policy decision process when data are missing, misinterpreted, inaccurate, or are inappropriate for the decisions being made.

Project recommendations attempted to develop institutional "safeguards" in order to balance carefully the growing tension which this problem creates between policy relevance and integrity.

The final problem is an old one, the threat to the integrity and quality of data from improper political influence over statistical decisions. What is different today is the rapidly growing use of statistics to index expenditures to keep pace with inflation and in formulas to allocate Federal funds to various beneficiaries. Twenty percent of the budget is now allocated through statistical formulas alone (Emery, 1980). "A very substantial part of our most important statistics is already held hostage to political ends by their visible and direct use in politically important decisions which allocate Federal resources" (*Statistical Reporter*, May 1980). When the consequences are perceived as politically undesirable, interest groups and others acting through the courts or Congress attempt redress which often has the effect of removing technical statistical decisions from the hands of the statistician. The current court interventions in the 1980 Population Census

ORGANIZATIONAL CHART OF THE CENTRAL STATISTICAL OFFICE (CSO)



process are an example. There are others. We must face this growing problem now before we have so many statistical vehicles "held hostage" that the perceived integrity and quality of all Federal statistics are seriously affected.

Sir Claus Moser once observed at a conference of government and academic statisticians that "statisticians must suffer disasters as a hazard of their profession. But, they should never allow disgraces to occur." He paused at the puzzled expressions and added "you do know what a disgrace is? . . . It is a disaster which is allowed to continue."

Federal statistical professionals are battered daily by problems few professions must face. The intellectual toughness and courage which they carry into that daily battle I find awesome. It is testimony to their professional integrity and pride of workmanship. They are better than they know. They now face great problems which cannot be fully managed agency by agency. I am confident that the Federal statistical community will meet that challenge: that no matter the "disasters" that befall them they can say "we have allowed no disgraces to occur."

James T. Bonnen, Director
President's Reorganization Project
for the Federal Statistical System

Chapter 1. Introduction

*The trouble with people is not that they don't know
but that they know so much that ain't so.*

Henry Wheeler Shaw (Josh Billings)

An "Issues and Options" paper defines problems, identifies alternative approaches for dealing with those problems, and analyzes the consequences which are likely to follow from pursuing any approach. Where appropriate, these consequences are expressed as the "pros and cons" that help achieve or detract from the goal of this Project, improving the performance of the Federal statistical system. This chapter examines the major changes in society and government which over the last three decades have impacted the Federal statistical system. Anticipated future dimensions of the environment of the statistical system are also identified. Further, the Federal Statistical System Project's activities and approach are briefly described and this "Issues and Options" paper is introduced.

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I. What is the Federal statistical system and why do we have one?

The Federal statistical system is composed of various multiple-purpose statistical and related analytical agencies. It also includes the statistical units, statistical activities, and outputs of program agencies. The output of the system includes data collection and processing, analytical presentation, and major applications of statistical methods in such diverse areas as quality control and program evaluation.

The Federal statistical system has evolved to serve the needs of society, not just the Federal Government. Users include State and local governments, public and nonprofit organizations, business, farmers, labor, academia, and the public in general. The need for and nature of the Federal system arise from the data and analytical requirements of all these different entities. Substantive objectives served by the system include: public policy; operating programs; enforcement activities; analytical and research activities; and tracking attainment of national goals, as well as providing objective and timely information to a wide variety of private sector organizations.

The United States has one of the world's most highly developed statistical systems. It has served the Nation well, but the world changes. As it changes, national goals and information needs also change. This paper is devoted to assessing the current problems of the Federal statistical system. It will inevitably have a negative ring to many ears, for which we can only apologize. This is not intended, for whatever its inadequacies, the United States has one of the strongest, most complex, and capable statistical systems in the world. We do not wish to take these strengths for granted, but our task here is to assess the major problems which our statistical institutions face and to evaluate alternative means of dealing with those problems.

II. Has the Federal statistical system adapted well to the changes of the last several decades?

A. In many respects it has, as is illustrated below:

1. National accounts, employment, production, trade, and other economic statistics have developed substantially in support of policy goals for national economic growth and stability.

2. Demographic statistics have provided an increasingly detailed description of the population,

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its geographic and other distributions, its vital events.

3. The system has pioneered the development of important aspects of social statistics: for example, unemployment, health, education, and personal income and its distribution.

4. The system has played a leading role in improving modern statistical methodology: for example, sampling, census taking, measurement of error.

B. The system, however, seems to lack an effective way of tracking changes in society and in the policy environment in order to anticipate information needs. *In any case, it is not keeping pace with changing national needs and goals* in the following ways:

1. In recent years, even the well-developed economic information base appears to provide inadequate support for policy decisions. Where information is available, it is perceived as being not sufficiently supportive of complex analysis or policy decisions for a variety of reasons: failing concepts, differences in concepts, inadequate accuracy, lack of timeliness, and difficulties of access.

2. Many social policy initiatives are evolving much faster than their information base whose development is slowed by such factors as the inability to integrate data.

3. New policy goals, involving such problems as the trade-offs between jobs and a safe working environment or between industrial development and air or water pollution, still have an inadequate information base for policy formation or measurement of goal achievement.

4. Many difficult data collection and statistical policy problems have persisted so long that some have become political issues: for example, respondent burden, privacy and confidentiality.

III. *What have been the major changes of the last several decades and how have they impacted the Federal statistical system and its operating environment?*

The decentralized institutions of the system were formed in the 19th and early 20th centuries in response to a variety of distinct social needs and associated Federal programs. A large percentage of Federal data collection even then was for multiple-purpose statistics.

The first expression of the need for central coordination arose during the late New Deal period and resulted in the creation of the Central
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Statistical Board and efforts which led to the enactment of the Federal Reports Act of 1942 and later the Budget and Accounting Procedures Act of 1950.

A. *Since the 1950's the role of the Federal Government has expanded* from guardian of stable economic growth and limited responsibilities in the social policy area to major responsibility for responding to sectional dislocations in regional and local areas (energy shortages, disasters), and in economic subsectors or industries (foreign imports, trade agreements).

Its role has also expanded to include a growing responsibility for social actions that affect human welfare and the economy, especially through grant and transfer programs and regulations in the following areas: welfare, education, equal employment opportunity, health, criminal justice, occupational safety, energy, and the environment.

This expansion has had many diverse consequences:

1. The impact of Federal programs and Federal decisionmaking on the society has greatly intensified. As a result, not only Federal, State and local governments, but also the private sector, make greater demands on the Federal statistical system as they face complex problems some of which inevitably involve them with a growing Federal presence. Interdependence, conflicting demands on Federal resources, and decision needs for the specifically relevant information have grown markedly.

2. There has been an even greater increase in the need for data and analysis by Federal decisionmakers relative to other users of Federal data and analysis;

3. Despite the great increase in the use of statistics, the *proportion* of all Federal data collection that is administrative and regulatory in nature has increased relative to statistical data collection;

4. Even so, the use of statistics has expanded rapidly, most prominently in allocating Federal payments and in "indexing" programs for inflation. Among the "indexed" programs are social security, Aid to Families with Dependent Children, and Government pensions. In the private sector, wages in many major industries are also "indexed." Outlays for Federal grant and transfer payment programs, which rely heavily on statistical data for allocation or indexing purposes, have increased more than twice as fast as all other outlays over the past 30 years.

Statistical data were instrumental in allocating \$122 billion under 150 domestic assistance programs in fiscal year 1979. Fifteen of these programs each had obligations in excess of \$1 billion and significant impact on State and local economies.¹

5. With this greatly expanded Federal activity, individual citizens, private sector enterprises, and public organizations have had increasing difficulty identifying and understanding Federal programs, coping with conflicting regulations, dealing with paperwork burden, and with problems of privacy and confidentiality.

B. *Crosscutting issues now dominate the national policy agenda.* The growing, complex specialization and interdependence of the society and economy have resulted in an expansion of the role of Government. With a major Federal policy presence in many more, increasingly interdependent economic and social sectors, Federal policies intersect more frequently. As a consequence, the very nature of the policy process has changed. It is no longer possible to resolve most major policy issues within the present structure of policy jurisdictions. A growing number of policy decisions involve choices which cut across present departmental and policy decision structures and their data bases. These decisions involve significant trade-offs, such as between energy development policies and the environment, or between inflation control and unemployment; such issues have come to dominate the national policy agenda. Few can be satisfactorily resolved without some quantitative measurement of the trade-offs.

As a result:

1. Such quantitative measurements require more capacity to combine diverse data bases and analytical activities than we now have.

2. There is a sharp increase in the number of vitally interested parties (Departments, Executive Office agencies, congressional committees and constituent groups) that participate in each decision process. This leads to an accompanying increase in conflicting pressures.

3. The greater number of conflicts generate intense political pressures and force an ever larger proportion of policy decisions to the White House for final resolution.

4. At lower levels, similar conflicts and pressures have tended to push more decisions from the agency level to the Cabinet Secretary's office.

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C. *Since World War II, the growth of knowledge has fueled an information explosion.* Simultaneously, new technologies have increased the capacity to manage enormous amounts of data, prepare complex analyses, and transmit and disseminate large amounts of information. This new capacity is based on improved statistical theory and its applications, the development of economic and mathematical models, and the advances in computerized data processing, electronics, and communication technologies.

This in turn has raised decisionmakers' expectations for timeliness and availability of statistical data and analyses, without full appreciation of data collection problems, quality issues, and costs. It has also made statistics an increasingly useful quantitative tool with which to analyze crosscutting and complex policy issues and new economic and social programs.

D. *The institutions of information and knowledge generation are themselves more complex and interdependent.* Basic and applied research and development were once dominated by private sector activities. The Federal role in funding R&D inside and out of Government has grown so that this is now a more mixed and interrelated set of institutions. For example,

1. There is a growing set of private sector firms which contract with the Government to provide almost any research, data collection, analysis, program evaluation, or developmental activity for which the Federal Government cares to pay.

2. The Federal statistical system not only produces data and analysis for use in the private sector, universities, and State and local governments, but is dependent on the same groups for the production and analysis of much of the data in the Federal system.

3. Space age technologies, especially satellite imagery, are beginning to result in the creation of public and private sector institutions that will have unknown or only vaguely perceived major potential impacts on the institutions of information and knowledge.

¹Danuta Emery, Valencia Campbell, and Stanley Freedman, "Distributing Federal Funds: The Use of Statistical Data (Preliminary Report)," *Statistical Reporter*, No. 81-3 (December, 1980) pp. 73-90.

E. *With the role of Government expanding, the private sector has grown more intertwined with Government with a resulting need for more information from the Federal statistical system.*

F. *Not only have statistics become more useful in decisionmaking, but in some cases they have become the primary mechanism for conflict resolution. Where conflict is intense, the stakes high, or the political climate clouded by distrust, objective data and analysis are used more frequently to provide visible objectivity for decisions, and to avoid poor decisions.*

Under these newer conditions, the mechanism for conflict resolution often takes the form of single statistics or "objective formulas" based on statistics. This subjects those statistics to great political pressures which endanger their integrity, objectivity and accuracy—the very reasons for their original selection.

G. *Both the governmental sector—State and local as well as Federal—and the private sector have begun to adjust their institutional frameworks in response to the many changes of the last four decades. Among the most notable post-World War II adjustments in Federal executive branch institutions have been:*

1. The following new Cabinet Departments have been established since 1953: Health, Education and Welfare; Housing and Urban Development; Transportation; and most recently Energy. The National Aeronautics and Space Administration, an independent agency, was also created.²

2. Major new regulatory agencies have been established including: Environmental Protection Agency, Occupational Safety and Health Administration, Equal Employment Opportunity Commission, Commodity Futures Trading Commission, Nuclear Regulatory Commission, and Consumer Product Safety Commission.

3. The growing emphasis on improving the organization and management of the executive branch has led to the greater use of tools, such as impact analysis statements, which generally require policy specific data and statistics.

4. The forces driving these institutional changes have created major new demands for data and analyses.

H. *Major institutional adjustments in the White House and the Executive Office of the President have also taken place as a higher proportion of all policy*
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decisions have been pushed to the Presidential level for final resolution. The effect is:

1. The White House staff has grown in complexity of organization and in size. In the last four decades it has increased from approximately 35 to more than 300 today.

2. The Executive Office of the President has, in the same four decades, grown from a few intimate advisers and one organization to about 1,400 staff and nine specialized organizations.

1. *Major institutional adjustments have also occurred in the Congress* as a result of many of the same, as well as additional, forces.

1. Complex political changes evolving out of the Vietnam and Watergate have led to rapid turnover in Congress since 1972. By the 1978 election this was so complete as to constitute an intergenerational transfer of power and a consequent shift in outlook and values.

2. Congressional reforms beginning with major changes in 1972 have led to a democratization of rules and a decline in authority vested in leadership roles.

3. The number of committees and subcommittees in Congress has increased in four decades from 95 to 350. This is in addition to the separate offices of 535 Senators and Representatives.

4. The increase in number of committees, congressional efforts to become more independent of executive branch staff work, and greater demands from constituents have caused congressional staff to increase from a few thousand in the late 1930's to over 18,000 today. Most of the growth has come since 1972.

5. The consequences include: (1) growing bureaucratization of Congress; (2) decreased control by Congress over its decision processes; (3) increased volume of legislation; (4) increased specificity and detail in much legislation; of particular interest to this Project, (5) increased congressional managerial direction of statistical and program agencies relative to executive branch direction; and (6) further expansion of demand for data and analysis.

²In 1980 the Department of Education was created and HEW renamed Health and Human Services. Since it was HEW during most of the Project, we shall refer to HEW in this Issues and Options paper.

IV. *What have been the major impacts on the Federal statistical system of more than 30 years of change? What problems do these changes leave behind? What does the future hold?*

A. As noted, more policy decisions are being pushed to higher levels, but *the Federal Government has not been managing well the highly decentralized Federal data and analysis resources* to reflect Presidential or national decision priorities, or even the priorities at the Cabinet Secretaries' level. The need for improving "system" capability can only grow.

B. *The demands for data and analysis have multiplied.* The needs for more sophisticated data have expanded with the growth in complexity of decision and related analysis. Much of this growth has been generated by grant and transfer programs and regulatory programs. With the growth in the quantity and complexity of data collected, more problems in maintaining overall quality and timeliness of data arise, protection of privacy and confidentiality has become more complex and urgent, and problems of respondent burden and control of paperwork have become increasingly serious.

It is becoming more and more difficult to resolve the conflict between the continuing rapid growth in data and analytical needs, and these other inter-related problems. This puts a premium on maximum exploitation of existing data sources, including administrative and regulatory data, for producing statistics. The observance of appropriate statistical standards and practices by all data collection activities will therefore be necessary for efficient use of these resources. The use of sampling will increasingly replace full count collections.

C. As statistics have come to play a more important role in analysis and decisionmaking and as statistically based formulas have increasingly been used to allocate resources, *political pressures on statistics have grown.*

The pressures tend to:

1. Make it difficult for statistical agencies to improve concepts or measurement of data in order to maintain the quality and objectivity of data;
2. Erode the reputation if not the reality of the statistical system's integrity and impartiality, and
3. Lead statistical agencies, not only to resist the inappropriate political and policy pressures, but also legitimate demands of policymakers.

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The result is a "Catch 22" situation. The Federal statistical agencies are perceived by many policymakers to be producing data with inadequate quality, poor timeliness, and a heavy response burden. At the same time, they are frequently viewed as failing to be responsive to providing decision-makers with a wide enough variety of policy-relevant data of high objectivity.

Despite this tension, the system does not have any institutional mechanism for persuading the users of statistics that the objectivity of data and the integrity of the system are absolutely essential to their own decision uses.

Twenty and 30 years ago these problems were managed fairly well through the informal relationships among people in the decision process. The potential for those informal arrangements has been reduced by growth in the size, specialization, and accompanying formal organization of Government, including statistical agencies themselves. With few exceptions statistical activities are several layers further down in the formal structure of Government than they were 30 years ago.

D. *The decentralized Federal statistical system has grown in size and complexity* along with the rest of Government. This has led to a growing incidence of overlap, duplication, mismatch and gaps in data and analysis, and increasingly complex problems of access by users and statistical agencies to various Federal data.

The result is an inefficient use of resources and an underutilization of data which reduces the return on the taxpayers' investment in the Federal statistical system and in Federal data collection generally.

The pressures on limited Federal resources will likely grow and Congress will insist on accountability in performance and resource management in Government, including the Federal statistical system. This is likely despite Congress' limited organizational capacity to focus its concerns on the whole of the Federal statistical system.

E. *The Federal statistical system lacks an effective means for tracking changes* in society and in the policy environment in order to anticipate information needs. Given the many changes that are still taking place and the disequilibrium of these forces, it is likely that the pace of change will remain high, if not increase. Thus, the Federal statistical system must have a greater capacity to anticipate and ad-

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just to change. Much of this capability should be associated with departmental missions, but it also must be a function of the coordinating institutions of the system.

F. Even with an improved capacity to track societal change and to anticipate information needs, *there will continue to be sudden, unexpected policy and political shifts that will demand greater flexibility and responsiveness from the Federal statistical system.* This flexibility will involve the need not only to reallocate priorities within, but between agencies; the capability must exist to create needed data and to retrieve it fast; the retrieved data must be useable without time-consuming adjustments, thus shifting important quality standards to the micro-data level. Data retrieved from a variety of sources will be used in complex and often unanticipated models and analysis, thus the stresses of "fit" will put a premium on the use of standard concepts and well-documented sources.

G. *The lack of capacity to integrate data files and analyses is currently a major deficiency of the system.* Many problems including quality of data, policy relevance, difficulties generated by crosscutting issues, respondent burden, as well as the lack of flexibility and adaptability of the system in anticipating change, stem partly from the inability to integrate different data bases and analytical modes across the system. This integrative capability requires careful planning and coordination, and the need for it will grow.

H. *The past three decades of growth in the role of the Federal Government have led to an increase in the organizations and resources devoted to statistics and to governmental data collection and analysis.*

1. The Federal statistical system is now scattered through more than 90 Federal agencies, 38 of which are statistical agencies, units, or programs producing statistical data and information. In addition, the number of administrative and regulatory agencies has increased. They collect data for decision purposes and their administrative records have become a major source for statistics.

2. The budget of the 38 statistical agencies, units, or programs grew from about \$31 million in 1948 to \$945 million in 1979. Personnel numbers are estimated to have grown from around 6 to 30 thousand in the same period.

3. This rapid growth in the scope of statistical activity and thus in the number of agencies and personnel is one of the factors leading to an in-

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creased need for systemwide coordination, planning and management.

4. However, during the period since World War II, the agency responsible for Governmentwide coordination and planning, the Statistical Policy Division (SPD) of the Office of Management and Budget (OMB), experienced a 58 percent decline in full-time personnel from 69 in 1947 to 29 in 1977.

Further, a fragmentation of its functions occurred in 1973 when Congress transferred from OMB to the General Accounting Office all coordinating authority over the data collection activity of the independent regulatory agencies.

The 1977 Reorganization of the Executive Office of the President transferred to the Commerce Department 15 full-time positions and all statistical policy coordination functions (establishing the Office of Federal Statistical Policy and Standards—OFSPS—in Commerce), leaving in OMB 14 positions and the responsibility for coordination of administrative data collection and management of paperwork burden.

The Education Amendments of 1978 further fragmented the function by transferring all responsibility for Governmentwide coordination of data collected from educational institutions from OMB and OFSPS to HEW.³

5. A very significant investment in coordination of the system has long been made by the larger multiple-purpose statistical agencies. However, it is clear that despite often heroic and effective responses to coordination problems by many statistical agencies and despite strenuous and sometimes successful efforts by the Statistical Policy Division (in the face of eroding resources), *statistical agency management and the coordination and planning of the statistical system has been losing a difficult race not only with growth, but with complexity and fragmentation as well.* Thus,

a. Changes in society and in the operating environment of the Federal statistical system have

³The Paperwork Reduction Act of 1980, which Congress enacted in December, 1980, revises the Federal Reports Act of 1942 in its entirety. It returns authority for education data coordination, the statistical policy coordination functions and, in a weakened form, data coordination for the independent regulatory agencies to OMB. It does not address the problems which statistical policy and coordination faced in 1977, when these functions were transferred from OMB to the Department of Commerce.

begun to overwhelm many of the capacities of the existing decentralized and fragmented system.

b. By and large, data collected by the older multiple-purpose statistical agencies (e.g., Census in Commerce, BLS in Labor and ESCS in Agriculture) now come from probability sample surveys.⁴ Response to these surveys is generally voluntary. Even where there are laws requiring a mandatory response, enforcement is rare. It is the statistical agency sector that has been the focus of most of the historical investment in statistical coordination and planning.

c. The most rapid growth in Federal data collection has occurred outside of major statistical agencies, and in administrative and regulatory program data and analysis, where:

- (1) data are frequently collected under legal coercion and there has been little or no previous history of central coordination and planning,
- (2) administrative understanding of statistical and data collection methods and needs is often lacking,
- (3) necessary statistical and analytical skills are often missing,
- (4) the incentive for coordination of data collection and analysis is usually low, and
- (5) the central statistical coordinating unit's effectiveness in coordinating and planning is limited.

Examination of these problems and their history indicates that effective action and solution will continue to evade us, unless a stronger systemwide institutional capacity to manage, coordinate, and plan the data collection and analyses needed by the Nation and its policymakers is established.

V. *What can be done? Why this Project?*

While we and others often use the term "Federal statistical system," in reality there is little effective system capability. The term is an expression of hope driven by need. Until there is a substantial capacity to manage, coordinate and plan national data and analysis needs, we will lack "a place to stand" in facing the issues which now persist and grow in their threat to our ability to make intelligent policy decisions from good analysis founded on accurate, objective and relevant data bases. The purpose of this project is to design and build that "place to stand." This is a prerequisite to effective resolution of the many problems we face.

VI. *The approach taken by the Project*

A. The President's Statistical System Project cannot hope, within the constraints of time and resources, to recommend solutions to the variety of specific problems facing the statistical system. At any rate, the specific data problems of today may well be different from those of tomorrow. Thus, the Project set itself the goal of designing the institutional framework which will help resolve and cope with these problems in an ongoing manner. Success in this institution building effort should lead to improvement in the performance of the Federal statistical system and in the data collection and analysis serving national goals and decision-makers, both public and private.

B. The strategy selected for achieving that goal is one of concentrating on the required institutional framework and its mandate which can most equitably and efficiently provide the necessary Governmentwide planning, management and coordination for Federal and cooperative State data collection, processing and analysis. In short, the approach is to provide the needed "place to stand."

C. Thus, the first task of the Project has been to identify the authorities, functions, and activities which are essential to the additional planning, management and coordination capability, especially those which will be needed to solve the persistent problems identified. Then the selected functions and activities must be staffed, funded, and housed in organizational settings which can utilize them effectively and assure their continuance.

D. This means that all organizational and functional change will flow from the answer to the question "Given the goal of improving the statistical system, what specific capacities are needed to resolve the persistent problems that are now serious obstacles to achieving that desired goal."

E. It is not possible to accomplish all aspects of coordination and management of a large decentralized system from any one place. Thus, the greater coordination, planning, and management

⁴The Economics, Statistics, and Cooperatives Service (ESCS) became the Economics and Statistics Service (ESS) in October 1980. Subsequent reference will be to ESS except in quotations from sources published prior to the change.

capacity must eventually be designed into each major level of decisionmaking.

VII. Project activities

A. The Project began operations in mid-1978 with a series of task forces on (1) coordination and planning functions; (2) respondent burden and clearance; (3) access, privacy, and confidentiality; (4) policy relevance, integrity and quality; and (5) Federal/State/local data systems. (See below for membership of task forces.)

The task forces, working from June 25, 1978 through September 27, 1978, were asked to review the many previous studies, analyses, and recommendations, make any additional recommendations they thought should be considered for

solutions to the problems, evaluate all recommendations in terms of the objective of this Project, and spell out any organizational implications involved.

B. The Project staff worked with the task forces during September, helping to finish the task force reports and beginning to synthesize and to incorporate the task force ideas into the options paper. (See page 133 for a list of the project staff.)

C. An advisory committee of outstanding persons drawn from major user interests outside Government and knowledgeable about Federal data and analysis problems was established to advise the staff and to sharpen the user perspective of the Project. (See page 146 for membership of the committee.)

FEDERAL STATISTICAL SYSTEM PROJECT TASK FORCES

(As of their time of service with the Project)

1. Planning and Coordination

Joseph R. Antos, *Bureau of Labor Statistics*
Donald H. Barrowman, *Economics, Statistics, and Cooperatives Service*
Conrad Fritsch, *Economics, Statistics, and Cooperatives Service*
Paul E. Grayson, *Internal Revenue Service*
Max Shor, *Bureau of the Census*
Robert Tap, *Transportation Systems Center*
*Jack E. Triplett, *Bureau of Labor Statistics*
Charles A. Waite, *Bureau of Economic Analysis*

2. Clearance and Respondent Burden

Peter M. Cavas, *Bureau of the Census*
*William L. Copeland, *National Institutes of Health*
Richard J. Schrimper, *Economics, Statistics, and Cooperatives Service*

3. Access to Data, Privacy and Confidentiality

Lois A. Alexander, *Social Security Administration*
William Smith, Jr., *Internal Revenue Service*
Peter B. Yates, *Bureau of Labor Statistics*
*Paul T. Zeisset, *Bureau of the Census*

4. Policy Relevance, Integrity and Quality of the Statistical System

Yoshio Akiyama, *Federal Bureau of Investigation*

Charles Ardolini, *Bureau of Labor Statistics*
Norman Frumkin, *Bureau of Economic Analysis*
*W. Richard Johnsen, *Energy Information Administration*
Charles E. Johnson, Jr., *Bureau of the Census*
Don Luria, *Bureau of the Census*
Wes Mellow, *Bureau of Labor Statistics*

5. Federal/State/Local Data Systems

Paul A. Armknecht, *Bureau of Labor Statistics*
*Thomas R. Daugherty, *Energy Information Administration*
Dayton P. Jorgenson, *Bureau of the Census*
Lloyd E. Lyons, *Department of Housing and Urban Development*

Other Supporting Personnel

**W. Lorn Harvey, *Energy Information Administration*
Henrietta Hyatt, *Department of Health, Education, and Welfare*
Bette Mahoney, *Department of Health, Education, and Welfare*
Gary Shapiro, *Bureau of the Census*
Randy Spoeri, *Bureau of the Census*
Eleanor Stockwell, *Federal Reserve Board*
Lewis Williams, *Bureau of the Census*

*Indicates Chairperson

**Assistant to Project Director for Organizational Analysis

FEDERAL STATISTICAL SYSTEM PROJECT
ADVISORY COMMITTEE

(As of their time of service with the Project)

- Graham T. Allison, Jr.
*Dean, Kennedy School of Government
Harvard University
Cambridge, Massachusetts*
- Vincent P. Barabba
*Director of Marketing Research
Xerox Corporation
Rochester, New York*
- Patrick Caddell
*President, Cambridge Survey Research
Washington, D.C.*
- William H. Kruskal
*Dean, Division of the Social Sciences
The University of Chicago
Chicago, Illinois*
- Richard Ruggles
*Professor
Department of Economics
Yale University
New Haven, Connecticut*
- William H. Shaw
*Consultant
Silver Spring, Maryland*
- Eleanor B. Sheldon
*President, Social Science Research Council
New York, New York*
- Phyllis A. Wallace
*Professor
Department of Economics
Massachusetts Institute of Technology
Cambridge, Massachusetts*

VIII. *The issues and options paper*

This issues and options paper presents a statement of the problems and key issues, identifies the different actions and approaches to solutions or improvements and evaluates the consequences of choosing an action or approach.

A. Following this introduction, eight chapters directly address selected key issues whose resolu-

tion is essential to the improved performance of the Federal statistical system. These are:

- Chapter 2. Establishing priorities and allocating resources (p. 147)
- Chapter 3. Quality (p. 160)
- Chapter 4. Integration (p. 171)
- Chapter 5. Integrity (p. 178)
- Chapter 6. Policy relevance (p. 185)
- Chapter 7. Response burden (p. 192)
- Chapter 8. Privacy and confidentiality (p. 199)
- Chapter 9. Access and dissemination (p. 206)

Several other key issues were analyzed independently but found to be too intertwined with those above to be presented separately. Thus, "personnel development" is treated primarily under quality. Issues related to "Federal/State/local data systems" permeate many of the other issues such as respondent burden and clearance, access, privacy and confidentiality, and quality. Due to this pervasive overlap, plus the inchoate state of the problem definition in this area, the ideas developed on Federal/State/local data system coordination are treated in the context of the other issues.

There are many other issues that might have been directly addressed. Some are treated within the chapters as subsets of the key issue addressed. Others are not.

B. Each issue chapter introduces and defines the issue, describes the current scene and problems, lays out the recommendations and options, and examines the relationship of those options and recommendations to the broad organizing principles developed in chapter 2.

When one turns to an evaluation of the recommendations, options, and organizing principles, the issues tend to become the goals or criteria against which the pros and cons of a recommendation or option are judged.

It should be pointed out that the issues or goals addressed in the different chapters are not separate matters, but interact in different ways with each other. The resolutions for many major issues conflict directly so that all the problems involved cannot be resolved, but many only managed. Attempts to solve one major problem make another worse and what is left is a search for the least worst combination. This tends to be true, for example, in

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the case of: policy relevance versus integrity; access versus privacy and confidentiality; and quality versus respondent burden.

It is the interconnection of issues that makes the larger problems of the entire Federal statistical system difficult to bring into focus, define and resolve. The Project approached its task aware of this inherent difficulty.

C. Chapter 10, "Organizational Issues," addresses the question of the location of the central statistical office.

D. The use of some terms need clarification or definition.

1. *Recommendation* is a suggestion worthy of serious consideration which may be accepted or rejected in whole or in part.

2. *Option* is a choice among alternatives in order to achieve some goal or accepted recommendation for action. In many cases options are not mutually exclusive but involve alternatives which are progressive or layered.

3. *Pros and cons* are from the viewpoint of the Project mandate of improving the performance of Federal data collection and analysis and the Federal statistical system.

4. *Central Statistical Office (CSO)* is a general term used throughout this paper to identify the office at the highest level in the Federal statistical system to which various coordination, planning and management functions would be assigned. The particular configuration of CSO authority and responsibility depends on the choices made among the various recommendations and options presented in the paper.

5. *Scope of the Federal statistical system* is a question that will arise repeatedly and which can have no unique answer. The scope of activity for the system varies with the specific function being considered. Ultimately, the scope of the Federal statistical system will be determined issue by issue and program by program.

The following list of agencies and activities is illustrative of the possible dimensions which, depending on the function or issue in question, might or might not be within scope:

a. Principal statistical agencies such as the Census Bureau, Bureau of Labor Statistics, Energy Information Administration, Bureau of Economic Analysis, Economics and Statistics Service, Na-

tional Center for Health Statistics, and the National Center for Education Statistics.

b. Statistical centers as they emerge in the Departments.

c. Statistical activities of program agencies, whether or not they are separate units such as in the Internal Revenue Service or Social Security Administration.

d. Statistical activities of regulatory agencies.

e. Data collection or statistical methods encompassed in research, program evaluation or program experimentation performed directly by the Federal Government or under contract.

Chapter 2. Establishing Priorities and Allocating Resources

Finagle's Laws of Information:

- (1) *The information you have is not what you want.*
- (2) *The information you want is not what you need.*
- (3) *The information you need is not what you can obtain.*
- (4) *The information you can obtain costs more than you want to pay.*

I. Introduction

Planning is perhaps the most complex function within the statistical system: subjects about which statistical information is or should be collected or existing information improved are practically limitless. Establishing statistical priorities is, conceptually, not much simpler than setting priorities for all Government programs.

It involves judgments about:

1. The relative importance of information needs and the likely persistence of those needs in relation to the time required to develop the appropriate statistics;
2. The information needs of the Federal Government and other users;
3. The needs for new statistical series and improvements in or changes in existing ones;
4. The production of statistics and their dissemination in the most timely and effective form;
5. Individual statistical series, and their relationship to one another—including their compatibility in the same or related uses;
6. The relationship between statistical series and their analysis;
7. What can be done with current knowledge and technology, and what requires new invest-

ments in research to develop the techniques, models, and methodologies necessary for the production of needed new statistics, and the improvement of efficiency, timeliness, or analytical tools.

In a large and diversified statistical system, such as exists in the United States, planning is inevitably a highly complex process. It must be rooted in a deep understanding of the variety of user needs to be served, the strengths and weaknesses of the current product mix, the state of methodological and technological development, the capacity of the total statistical system and of its components, the extent to which, and the time horizon within which, skills can be transferred from one program to another even within the same agency (let alone from one agency to another), the lead time required to develop programs, etc.

Thus, meaningful planning can be neither completely "top-down" nor "bottom-up" in nature. No central unit can develop, much less impose, a comprehensive plan without regard for and the cooperation of the various segments of the statistical system. On the other hand, no aggregation of uncoordinated individual plans is likely to reflect a thoughtfully developed set of priorities, including the necessary concentration of resources in selected key areas. A pure "bottom-up" set of plans is likely to attempt to satisfy too many requirements of varying importance, with too few resources, leading to fragmentation and a tendency to preserve the status quo, or at least to developments which are too slow and spread over too wide a front.

It is necessary to combine "top-down" and "bottom-up" planning in an interactive fashion. This involves: (a) developing overall planning guidelines; (b) identifying priorities (both high and low) based on a thorough understanding of the issues involved; (c) passing them "top-down," (d) inviting the development of detailed plans corresponding to the planning guidelines; (e) reviewing them both against the planning guidelines and the more detailed knowledge of factors (user needs, capacity and other constraints) brought to bear on the plan at the lower levels; (f) resolving differences; (g) costing of the resulting plan; (h) securing and allocating budgets; and (i) readjusting the plans to budgets.

The model of planning and budgeting outlined above is valid within any large organization with a diversified product mix: it should apply *within* a

large statistical agency or at the level of the whole U.S. statistical system, no matter how it is defined or organized. The central planning activity might be attached to the office of the head of the organization (in a single agency or in a consolidated statistical system), or it might be vested in a central coordinating agency with no major operational responsibilities. Either way, it has the main characteristic of a *staff function*: no operational responsibility to develop easily identifiable end products. It is not implied that the result of this activity is not extremely important (for better or worse!), only that it is not very tangible in the short run.

Despite its formal authority, the success or failure of a staff activity in a large organization is more fundamentally determined by its professional competence, the respect with which it is held within the organization (or the broader system), the contribution it makes and is *perceived* to make to the organization by all levels within it and outside of it. This is not to say that formal authority is not important, only that visible competence and usefulness based on substantive activities are more important. For the activities of the planning staff to be relevant, an understanding is needed of user needs, problems, priorities, as well as internal constraints. For the staff to become and remain knowledgeable, it is necessary that it have both an appropriate set of tangible missions (tools of coordination and integration) and an appropriate critical mass of resources *reflecting, at a very high level of professional competence, the variety of skills involved in the production, analysis and dissemination of statistics* (though clearly not with the full range of *detailed* specialization). Without it, any amount of formal authority would, at best, be ineffective and at worst disastrously disruptive; with such respect and competence, rooted in substantive mandates and tangible missions, rather less formal authority might still succeed.

II. *The current scene and problems*

A. Priorities and resource allocation at the departmental level

Much of the present decentralized statistical system grew up in simpler days when the statistical needs of a particular Department could largely be met by statistics related to the specific subject matter of that Department. With the increasing role of Government and the growing complexity of linkages in a shrinking world, the options policymakers

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face involve ever broader alternatives. Consequently, there is a need to develop and/or analyze a wider range of diverse statistics in understanding the problems and assessing the implications of the alternative policies. Thus, statistics developed to meet specific program needs were increasingly used in analyses for which they were not designed. When the needed statistics did not exist, the necessary new series were developed at the initiative of the Department feeling the greatest need without necessarily taking into account the related needs of other Departments.

Paralleling the increased role of Government, a rich variety of data sources have become available in the past several decades as a by-product of administrative and regulatory programs. While rich in statistical potential, these data sources were clearly not designed for that purpose. Understandably, their statistical standards are uneven with respect to accessibility for statistical purposes, their coverage of statistically meaningful subgroups of the population, their reliability, and coordination with concepts and classification conventions used in related statistical series. One of the major institutional design problems is to provide a mechanism for both technical and substantive influence over these data sources without unduly interfering with the fulfillment of their primary administrative or regulatory objectives.

Currently, the departmental statistical planning and budgeting functions affect the overall planning of statistical programs in the following specific ways:

1. Departments involved in new major policy priorities have easier access to funds—and this typically extends to the statistical agencies housed in these Departments, whether or not the overall priorities of the national *statistical* system are in the particular subject areas. As Malkiel (1978) notes,

under the present system, funding seems always to be available to gather special purpose statistics that seem responsive to urgent national priorities. Thus, in recent years, funds have been forthcoming for the collection of minutely detailed statistics on energy prices and usage, many of which are duplicated. The Federal Trade Commission in its quarterly financial reports asks for data which are available in quarterly filings with the Securities and Exchange Commission. Currently there are three duplicate mortgage interest surveys.

2. The first step of budget examination occurs at the departmental level, where statistical programs have to compete with "substantive" departmental programs. As Shiskin put it, "when the Secretary of Labor has to choose in his budget between a program for long-run data improvement and funds for black-lung disease, you can be sure that the statistical program will come out second" (cited in Malkiel, 1978). Statistical initiatives which are stopped at the departmental level, typically without expert statistical input, seldom have a chance for a second review. The lack of involvement at the highest level of an appropriate spokesman for the statistical needs of the entire Government leaves statistical needs particularly vulnerable—even to politically motivated interference.

3. Statistical programs located in different Departments have no forum within which to compete with one another. Again, as Malkiel noted,

it may well be that black-lung disease should have a prior claim on funds for a long-run data improvement program. But perhaps projects such as a consumer test panel ought to take priority over programs for collecting detailed mining statistics. . . . These kinds of trade-offs are very difficult to make under the current decentralized system. Thus, in a real sense, the organization of the statistical system may have interfered with an optimal allocation of funds for data improvement and the establishment of a rational system of setting priorities.

In other words, statistical programs which survive one Department's review may well have a lower overall priority than those which did not survive in another Department.

4. With all the statistical agencies located in Departments having their own substantive mandates, there is no place organizationally to initiate and ensure the carrying out of broad, strategically important initiatives affecting all, or a large part, of the statistical system. As the Joint Ad Hoc Committee on Government Statistics (1978) put it:

In many cases, the statistical programs are connected with the administration of particular programs, and decisions bearing on statistical matters tend to be highly influenced by the groups most closely affected by the operating programs. . . . To the extent that statistical decisions are influenced by particular groups, there may be a tendency for general needs to go unmet.

Some general needs are partly met by the multiple-purpose statistical agencies; for example, the Bureau of Census publishes the *Statistical Abstract*. However, they have no mandate or resources to develop, even less to ensure, the systemwide implementation of such programs as the standardization of data files and their documentation to improve access, or the planning of interrelationships between a mid-decade census and sample household surveys.

5. The existing mechanism of coordinating Federal statistical activities grew up prior to the emergence of administrative and regulatory data as a potentially important systematic source of statistics. As a consequence, the Governmentwide statistical coordination function was initially designed and subsequently concerned with the programs of the statistical agencies—leaving the potential impact of statistical coordination on these latter data sources relatively undeveloped. We should note a paradox, however. At the departmental level, many of today's mature statistical services did in fact evolve from the administrative records of early programs.

Notwithstanding its shortcomings (more clearly identifiable in hindsight), this decentralized development has, on the whole, served the United States very well: it led to an unusually rich statistical base. It also resulted in the development of several statistical centers of expertise, thereby insulating the Federal statistical system against the potential problem of "placing all eggs in one basket." As long as major policy decisions and the information needed to make them could largely be confined within the boundary of individual departments, it ensured a high degree of policy relevance of the statistical output. It also resulted in some instances of series which tended to (though seldom exactly) duplicate one another, which provided dissimilar signals of presumably similar underlying phenomena, which were difficult to fit into the comprehensive models designed to simulate the interrelated complexity of the economy and society. Also, some statistics of general utility were left underdeveloped because they did not rank high enough on the agenda of any single Department's policies.

In summary, and at the risk of overgeneralization, it can be said that *the nature of the demand placed on the statistical system has changed*. There always will be a need for new statistical series corresponding to new substantive areas of concern. *The primary need*

now is for improving the extent to which different statistical series can be used in conjunction with one another (improving the quality of some series, ensuring the compatibility of concepts and standards between related series, improving methods of access, timeliness), exploiting the new data sources provided by administrative and regulatory programs (including, where necessary, influencing them to make some changes so as to increase their statistical utility), and marshalling resources to achieve some interdepartmental strategic goals (e.g., to coordinate the household survey programs of all Departments with a new mid-decade census, control and distribute response burden equitably, provide more useful analytical outputs of crosscutting issues, etc.).

B. The existing central statistical coordinating organization

Prior to 1977, the Statistical Policy Division in OMB (and its predecessors) was the major Federal statistical planning and coordinating organization. The Federal Reports Act (FRA) vested broad powers of statistical planning and coordination in OMB which, in turn, was largely delegated to the head of SPD: to "investigate the needs of various Federal agencies for information," "investigate the methods used by agencies in obtaining information," "coordinate as rapidly as possible the information-collecting services of all agencies with a view to reducing cost to the government of obtaining information and minimizing the (response) burden." The Act further decreed that "a Federal agency may not conduct or sponsor the collection of information, upon identical items, from ten or more persons . . . , unless . . . the Director (of OMB) has stated that he does not disapprove the proposed collection of information" (the so-called clearance function). The SPD also had a legal mandate to "develop programs and to issue regulations and orders for the improved gathering, compiling, analyzing, publishing and disseminating of statistical information for any purpose by the various agencies in the executive branch of the Government."

While the legislative mandate of SPD for planning and coordination has been broad, its resources to accomplish this mandate have been *modest* to begin with (69 persons as of 1947), and *declining* ever since (29 positions as of 1977). The only way even minimum capacity for coordination has been achieved is with personnel on detail and task groups staffed from the statistical agencies which

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made an investment to assure that the coordinating system continued to work.

As pointed out by the Commission on Federal Paperwork in its report on *Statistics*, during this period

The Federal statistical system as a whole has expanded greatly. As an example, the expenditures of the two principal multiple-purpose statistical agencies—the Bureau of the Census and the Bureau of Labor Statistics—went from \$17.1 million in 1947 to an estimated \$177.6 million in 1977.

More importantly, the growth of the Federal statistical system, as measured in quantitative terms, fails to reflect the increased complexity of the current statistical agenda: the prominence of crosscutting issues; the resulting need for interagency and Presidential-level utilization of most statistical information and the premium this places on interagency (as opposed to purely departmental) priorities, on data integration, and on good interagency (and public) access to nonconfidential statistical measures; the explosive growth of administrative and regulatory activities of Government and the data sources they generate; the great public and political concern about response burden, privacy and confidentiality; and the opportunities as well as complexities generated by modern technology for improving the collection, processing, storage and access of data—opportunities which can only be exploited through considerably improved planning.

In the face of its increasingly larger and more complex task and its declining resources, SPD tried its best to coordinate the statistical system. Notwithstanding some major initiatives to contribute in some fundamental ways to the improvement of the statistical system (the development and promulgation of some standard classification systems, improvements in labor and housing statistics, the national economic accounts, and several other areas), it has been handicapped by the "hand-to-mouth" nature of its existence, largely imposed on it by its meager resources. The "Statistics" report of the Commission on Federal Paperwork paints a vivid picture of how thinly the resources of SPD are stretched. Perhaps as a result of the fact that it has been visibly and increasingly overwhelmed by its day-to-day activities and hence unable to cope with its broad mandate, the Division has been unable to maintain the level of professional standing it had earlier—as measured (albeit inadequately)

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by the number of Ph.D.'s or American Statistical Association fellows on its staff.

In 1977, SPD was split into two parts, with the statistical policy and coordination functions going to the Department of Commerce, leaving coordination of administrative data collection and management of paperwork burden (clearance) in OMB. About half of the staff (15 out of 29) moved from OMB to the Department of Commerce under the name of Office of Federal Statistical Policy and Standards (OFSPS). It is encouraging that Commerce has assigned a high priority to trying to restore at least the numerical strength that the division had in OMB. However, it is too early to evaluate the impact of this organizational move on the office's ability to accomplish its substantive mandate. The memorandum of understanding between the Secretary of Commerce and the Director of OMB (Triplett, 1978) seems to provide for a rather narrow interpretation of the breadth of the statistical system to be coordinated by OFSPS. In fact, the document states that the:

Secretary of Commerce will conduct an independent review of the statistical budgets submitted by the Executive Branch agencies . . . This will be accomplished by having the budget requests of the Bureau of the Census; the Bureau of Labor Statistics; the Economics, Statistics, and Cooperatives Service of USDA; the Energy Information Administration of DOE; the National Center for Health Statistics; the National Center for Education Statistics; the Bureau of Economic Analysis; and any future statistical agency forwarded by OMB for review by OFSPS.

These agencies account for only between 50 and 60 percent of the total statistical budget of the Federal Government in fiscal year 1978. Notably absent are most activities related to the statistical development and exploitation of administrative and regulatory data sources.

The Joint Ad Hoc Committee on Government Statistics (1978), representing five professional associations, has concluded that

a review of the past record of SPD has made us question the ability to plan and coordinate adequately the statistical functions of the Federal Government with its current level of resources.

It appears that, in addition to the allocation of more resources for planning and coordination, a more fundamental rethinking of the *mechanisms, procedures, roles, and responsibilities* is also needed.

The need to rethink the systemwide statistical planning function is well illustrated by the status of the most significant and comprehensive planning overview of the statistical scene developed to date: *A Framework for Planning U.S. Federal Statistics for the 1980's*, prepared by OFSPS and issued in 1978. The *Framework* puts forward a comprehensive overview of the current status and priority needs of the U.S. statistical system. As an overview, it is invaluable. It covers a wide variety of substantive areas and crosscutting issues. It is not a plan, however, nor does OFSPS claim that it is. In fact, its role is ambiguous: it is far too detailed to serve the function of "top-down" planning guidelines, yet the "bottom-up" contribution of agencies was voluntary and highly uneven. Agencies are not aware that their budget submissions might be assessed in terms of compliance with the development needs identified in the *Framework*. Budget implications and implementation issues are not addressed. All of these observations concerning the *Framework* are well-known. What may not be known is that OFSPS has no authority to develop a plan and could only work on and publish the *Framework* with the understanding that it would not be regarded as a plan.

Clearly, the procedures, tools, and mechanisms for the assessment of priorities and for follow-through, including some authority to allocate, or influence in a major way the allocation of resources, are needed to transform the *Framework* into real plans for implementation.

III. Recommendations and options

The options presented below attempt to address the question of institutionalizing the planning and resource allocation process of the Federal statistical system. Since priorities and budgets directly affect all other issues considered in the subsequent chapters, the impact of the options presented here will be evaluated in each of those chapters. The three options below will be referred to as "organizing principles." They are not all actual organizational options, but rather each approaches the question of central influence over the planning and resource allocation process from a different point of view. The source of this influence in the first option derives primarily from the substantive activities of the CSO; the second option involves, in addition, a control over budgets; and the third option involves organizational changes as well.

A description of each option is presented below, together with a discussion of the pros and cons of

each. The comparison of each option is presented with reference to the preceding option. Maintaining the *status quo* is clearly a fourth option. It does not require a description. As for its pros and cons, they are implicit in the discussion of Option 1, since the latter is compared with the *status quo*.

A. Option 1

General description:

This option involves the CSO in the planning process in a strong central staff function mode. Through a variety of substantive activities the CSO develops a strong presence on the statistical scene, both in relation to users and producers of statistics. The particular substantive activities in which the CSO would be involved depend on the choices made among the options presented in other chapters of this report. However, since the "clout" of the CSO derives, under this option, from its substantive activities, these would have to be broad, important, fundamental, and crosscutting. Examples of such activities might involve the following: coordination of macro- and micro-economic models; development of social indicators; objective in-depth analyses of crosscutting issues; management of a Federal Data Users Inquiry Service; longer term analytical developments leading to better integration of data; development of improved statistical utilization of administrative and regulatory data sources; coordination of an on-line data bank of aggregate time series with a wide range and having broad subject coverage; initiation of audits; methodological work; and technical assistance to smaller agencies, and so forth.

As a result of knowledge acquired in using the output of the statistical system, particularly in conducting crosscutting analyses and a program of audits, and in preparing aggregate analytical constructs, the CSO would become aware of the strengths, as well as the inherent weaknesses and inconsistencies within the system: data gaps, inconsistent series, quality problems, access problems. In addition to issues identified by the CSO directly, strong use would be made of a high-level interdepartmental committee, the President's Council on Statistical Policy (PCSP) chaired by the head of the CSO (the Chief Statistician). The work of the PCSP would be conducted at quarterly and semi-annual meetings attended by appropriate senior personnel from the Executive Office of the President and Assistant Secretaries from the main user Departments. Issues in specific subject-matter and

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technical areas would be addressed by subcommittees reporting to the PCSP. *Substantive* leadership and staff support for the PCSP would be provided by the CSO; staff support of the subcommittees could be delegated to the most appropriate statistical agencies. The needs of outside users would be channeled into the process partly through the consultative mechanism already established by the statistical agencies and partly through a newly created External Advisory Committee to the CSO.

Based on its own experience, the work of the PCSP and its subcommittees, and the External Advisory Committee, the CSO would once a year prepare planning guidelines identifying the proposed *interdepartmental* priority areas for statistical development. This would be discussed by the PCSP and, after appropriate modification, sent to *all* Departments involved in data collection (statistical or administrative) and statistical analysis. They would be required, by executive order or by the legislative mandate of the CSO, to prepare and submit to the CSO a data collection report and plan covering a 3-year period. Departments having a major statistical agency might well have the preparation of these plans coordinated by those agencies.

The CSO, with the assistance of the staff of the appropriate subject matter subcommittees, would prepare a consolidated analysis of these plans for PCSP discussion, noting the extent to which departmental plans reflect the broad interdepartmental and other national priorities identified in the guidelines, and highlighting additional major departmental initiatives and priorities. The CSO, with the active participation of PCSP and the advice of the External Advisory Committee, would identify priorities among the departmental proposals, calling attention to instances where Departments failed to address overall priority developments. OMB would also provide special consideration to the priority projects identified by the CSO and PCSP and to invite CSO participation in the budget examination by OMB of all such projects.

It is important to note that the description of the planning process represents a careful balancing of central leadership and coordination with strong inputs by both users and producers. It would be unrealistic to expect the CSO to be thoroughly familiar with *all* the technical or subject-matter data problems which might need attention in a given planning period. It must, however, become

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familiar with the pervasive data problems affecting broad national policies: gaps, redundancies, inconsistencies, and lack of sufficient attention to long-term developmental needs. Furthermore, it will be in a position to ensure their appropriate priority within the overall statistical agenda.

The CSO would also have *full authority to approve or reject departmental or agency data collection plans from a technical point of view*. The technical review in all likelihood would be carried out on a selective basis; some of it would probably be delegated to designated agencies. It would concern itself with the issues of data collection methodology as well as with questions of measurability of concepts, proposed validation, and adherence to standards. The CSO would carry out these reviews either directly or through delegation to appropriate statistical agencies. It will also ensure that the opportunity provided by the technical review would be exploited to influence the administrative or regulatory agencies to make whatever adjustments might be necessary to render these data sources more useful for statistical purposes. OMB would undertake to withhold funding of projects not approved by CSO (on technical grounds) or provide funds conditional on meeting CSO reservations.

Thus, the CSO would have *authority* to approve or reject data collection plans of all Departments and agencies (including administrative and regulatory ones) on *technical* grounds. It would have an *influence* over administrative and regulatory data sources beyond the purely technical issues. And it would have a *strong influence* in ensuring that the resource allocation process is taking statistical priorities into account and that these priorities, in turn, represent a careful blending of needs of the President, the Departments, State and local governments, and private users.

Pro (compared to present and recent status quo):

1. Establishes a clear Presidential level planning and priority-setting mechanism for statistical programs, consistent with present budgetary practices and procedures.
2. PCSP provides a formal mechanism within which all Federal statistical policy and priority issues can be discussed widely. Its high level representation provides a broad authority for CSO and enhances the policy responsiveness of the whole system.
3. It clearly establishes a technical review authority covering *all* data collection activities (statistical)

tical, administrative and regulatory) with a feedback to proposing Departments. While the authority for technical review is broad, the resources available to carry out such reviews will, of necessity, restrict its implementation to selected collection activities.

4. The arrangement addresses some of the fundamental problems of clearance—in effect it creates a review process prior to formal clearance (clearance at present generally occurs too late for substantive contributions). It also broadens the *substantive* review part of a revised clearance process, to include all statistical, administrative, and regulatory data, *irrespective of where final clearance authority is lodged*. The transformation of the present forms clearance into a process paralleling the development of the proposed data collection vehicle would, in most cases, render the actual final forms clearance into a speedy formality—thereby removing a major current bottleneck.

5. This option can largely be implemented without legislative changes, or without major organizational or procedural upheavals. The technical review of some administrative and regulatory collections may not be accomplished without legislative changes.

6. The preparation of an annual report and plan would become a tool of intradepartmental coordination and planning.

7. The arrangement would enable the CSO to assume an advocacy role for or against major collection activities.

Con (compared to present or recent status quo):

1. The preparation of an annual report and plan would place some extra burden on Departments.

2. If this option were adopted without assigning to the CSO an appropriately substantive mandate and set of activities, as well as the corresponding resources, it could not acquire a professional staff of high standing. In that case the formal activities involved in filing and reviewing the annual reports and plans would be a wasted effort at best, a positive hindrance to agencies at worst.

B. Option 2

General description:

Option 2 gives the CSO all of the substantive coordination tools of Option 1, *plus* direct responsibility for the statistical planning and budget allocation function.

The mechanisms of option 1 (annual report and plan, high level PCSP) would be retained, but with an important difference: within an overall budget guideline negotiated with OMB, the final decision with respect to the program and budget of all statistical agencies and units in the executive branch would be made by the CSO. Thus the CSO would gain considerable *authority* over the *statistical units* of the executive branch. This level of authority, since it involves budgeting, cannot easily be exercised over *programs*; it must relate to organizationally separate entities. The authority would thus be extended to all *statistical organizational units*. These units would include not only statistical agencies, but also separately organized units below the agency level.

Under this option, heads of statistical agencies and units would have a dual reporting relationship to their Cabinet Secretaries (for general and day-to-day management issues) and to the head of the CSO (for functional control of their program and annual budget allocation). The head of CSO would have to accompany each of the affected Secretaries to the congressional budget and oversight hearings to explain and defend programs and budgets of all statistical agencies, wherever located administratively.

A first cut at listing the agencies and units to be covered by the CSO budget authority would start with the 38 "major agencies in the Federal statistical system" which are listed and described in Section II of the OFSPS *Framework*. In some cases, for example, the Bureau of the Census, the entire agency's budget would be included. In other cases, the budget of a clearly defined statistical unit within the agency, for example, the Statistics Division of the Internal Revenue Service, would be included. There are a few cases where it might be difficult to identify a clear-cut statistical organizational unit within the agency, one example being the Energy Information Administration, which has both statistical and regulatory data collection functions. If option 2 (or 3) is adopted, further review of individual agency structure and functions will be necessary to determine the precise coverage of the CSO budget authority.

Defined in this way, the CSO budget authority would cover virtually all of the following: (1) major censuses and surveys; (2) major multipurpose statistical data systems based on extracts from administrative and regulatory records; and (3) social program experiments and evaluation studies.

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Thus, the statistical budget process would make possible a rational allocation of resources among these often competing methods of obtaining information for policy analysis. The inclusion of social program experiments and evaluation studies within the scope of the statistical budget is predicated on the final determination of the particular agencies and units whose budget would be subject to CSO allocation.

Departments might be tempted to place major statistical activities outside the CSO budget jurisdiction by assigning them to agencies or units not covered. Therefore, it might be necessary to establish special provisions for automatic coverage of all statistical projects exceeding a specified size, say \$500,000 in a single year.

It is not intended that the statistical *budget* process extend to all research activities in the physical sciences, such as medical research and experimentation. Thus, only those units of NIH which focus on primarily statistical activities, such as epidemiological studies, would be included.

Basic budget process:

The CSO statistical budget process would operate essentially as though the statistical units included comprised a separate "Department of Statistics."

The initial budget would be prepared through an interactive combination of "top-down" and "bottom-up" planning (see p. 148). The CSO staff, because of their substantive responsibilities in areas such as technical review, clearance, burden reduction, standards, technical assistance, analysis, and user services would be well informed about current and expected future data needs, and about the strengths and weaknesses of existing statistical programs. The President's Statistical Policy Council would play an important role in establishing broad priorities.

The CSO, accompanied by departmental representatives, would present the statistical budget to OMB. Any decreases resulting from OMB review would be allocated by CSO in consultation with the statistical organizational units involved. Whenever particular statistical data needs having a high departmental priority cannot be met within the consolidated statistical budget, it would be possible for the Departments concerned to transfer the necessary funds to the statistical budget.

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Assuming the continued existence of an overall "burden budget," it would be logical to combine the development of that budget with the process described above.

Budget appeals:

The CSO should have the right to appeal OMB decisions to the President. Any Department or independent agency not satisfied with the final CSO allocation to one or more of its constituent statistical organizational units would have the right to appeal to the President.

Presentation to Congress:

As described earlier, the head of CSO or his delegate would have to accompany each of the affected Secretaries to congressional budget and oversight hearings to explain and defend programs and budgets of statistical agencies (or units), wherever located administratively.

In addition, if it could be arranged, it would be desirable to have a summary presentation of the entire statistical budget to the Joint Economic Committee, the Senate Committee on Governmental Affairs, and the House Committee on Government Operations, and specialized presentations as needed to other committees and subcommittees, for example, the Subcommittee on Census and Population of the House Committee on Post Office and Civil Service, and Senate and House Committees and subcommittees dealing with substantive areas such as agriculture, health, and labor.

Precedents:

An arrangement similar although not identical to that proposed for statistics has been in operation for several years in the area of national foreign intelligence. The Director of the Central Intelligence Agency also serves as head of the intelligence community. In the latter capacity he plans and sets priorities for the information to be collected by all agencies participating in the National Foreign Intelligence Program (NSA, DIA, FBI, INR, etc.), and he prepares and presents the budget for that program. The following excerpt from Executive Order No. 12036 describes the procedures for the budget:

"1-602. *National Foreign Intelligence Program budget.* The Director of Central Intelligence shall, to the extent consistent with applicable law, have full and exclusive authority for approval of

the National Foreign Intelligence Program budget submitted to the President. Pursuant to this authority:

"(a) The Director of Central Intelligence shall provide guidance for program and budget development to program managers and heads of component activities and to department and agency heads;

"(b) The heads of departments and agencies involved in the National Foreign Intelligence Program shall ensure timely development and submission to the Director of Central Intelligence of proposed national programs and budgets in the format designated by the Director of Central Intelligence, by the program managers and heads of component activities, and shall also ensure that the Director of Central Intelligence is provided, in a timely and responsive manner, all information necessary to perform the Director's program and budget responsibilities;

"(c) The Director of Central Intelligence shall review and evaluate the national program and budget submissions and, with the advice of the NFIB and the departments and agencies concerned, develop the consolidated National Foreign Intelligence Program budget and present it to the President through the Office of Management and Budget;

"(d) The Director of Central Intelligence shall present and justify the National Foreign Intelligence Program budget to the Congress;

"(e) The heads of the departments and agencies shall, in consultation with the Director of Central Intelligence, establish rates of obligation for appropriated funds;

"(f) The Director of Central Intelligence shall have full and exclusive authority for reprogramming National Foreign Intelligence program funds, in accord with guidelines established by the Office of Management and Budget, but shall do so only after consultation with the head of the department affected and appropriate consultation with the Congress;

"(g) The departments and agencies may appeal to the President decisions by the Director of Central Intelligence on budget or reprogramming matters of the National Foreign Intelligence Program.

"(h) The Director of Central Intelligence shall monitor National Foreign Intelligence Program implementation and may conduct program and performance audits and evaluations."

One important difference lies in the arrangements for presenting the National Foreign Intelligence Program Budget to Congress: the Director of Central Intelligence takes full responsibility and his points of contact in Congress are fewer and give undivided attention to his program.

Pro (over and above those listed in option 1):

1. The strong central authority to determine the statistical program mix would improve the policy responsiveness of the statistical system to ensure that programs having the highest national priority are effectively launched. The significance of this authority might be particularly strong with respect to crosscutting issues whose priority might not be high enough in any single department, or where some developments should be undertaken on behalf of the entire statistical system. Thus, this option would particularly improve the national (presidential/congressional) level policy responsiveness of the statistical system.

2. The CSO could move programs among the agencies, exploiting their relative strengths and weaknesses. This would contribute to the accumulation of "critical mass" centers of expertise where these do not exist, result in economies of scale, and lead to the gradual development of a network of statistical service centers. It is to be noted that the Federal Reports Act currently permits the designation of a central collection agency, after investigation and hearings, if it is determined that the needs of two or more agencies will be met by a single collection effort. This authority has seldom been used, presumably because of the practical difficulties.

3. The strong budgetary authority of the head of the CSO would facilitate obtaining a higher classification of the position, as well as a larger number of high level positions below him. Both of these are necessary to have a strong, influential CSO which will attract top professionals in the field.

4. The budgetary authority would likely create a beneficial "halo effect" with respect to other coordination functions not directly related to planning, priorities and budget, increasing the general authority of the head of the CSO as a spokesperson for the statistical system.

5. General awareness of the budget authority of CSO would likely result in its becoming a focus for those inside and outside the Federal Government who have important unmet statistical needs and/or who are advocates of certain changes. This would put the CSO into close contact with important end

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users of statistics, thus giving it a more balanced view of user needs.

6. The broad exposure of the head of CSO to a variety of Congressional committees would result in better awareness of the needs and concerns of Congress and, further, might ideally develop him as a spokesman in Congress for the statistical system. The stage might gradually be reached where congressmen would seek his advice concerning the statistical implication of legislation *before* it is introduced in the House or Senate. The creation of a single authority over a large statistical budget might even result in the establishment of a corresponding congressional oversight committee—a highly desirable event if a system performance in statistics is expected.

7. To the extent that the totality of activities which are identified as appropriately belonging (at least in part) in the CSO adds up to an office of significant size, the likelihood of obtaining the necessary resources for it would be enhanced: it is easier to convince "the powers that be" that the office with budget authority needs a significant infusion of resources—compared to an office which "only coordinates."

Con (over and above those listed in option 1):

1. There is a danger that its responsibility for statistical programs would drive the CSO to pay primary attention to them and that its image of neutrality with respect to administrative and regulatory data collection would be diminished.

2. Whereas the policy responsiveness of the statistical system would improve with respect to Presidential level concerns, it might diminish with respect to departmental concerns.

3. Heads of statistical agencies might have considerable difficulty with the dual reporting. How effectively can they say no to programs demanded by their Secretaries?

4. Strong objections will likely be made by the Departments which would be affected, by special interest groups associated with the Departments and by related congressional committees.

5. Compared to the considerable authority of the position, and depending upon organizational arrangements, the head of the CSO would have little accountability. Particularly in the case of a Presidential-level term appointment, and without suitable checks and balances yet to be designed, the system would be vulnerable to arbitrary action. Also, with budget responsibility in the CSO but no line responsibility, the head of CSO and agency

heads can, in the case of program failures, end up with mutual recrimination and no clear accountability.

6. There might be a temptation within Departments to "bury" statistical programs among the nonstatistical ones (i.e., to assign them to those units of the Department free from the CSO budget control), in which case they might be designed and carried out with less expertise and be subject to diminished coordination. Moreover, where options exist between statistical surveys and, say, program experiments, the temptation might be to opt for the latter, even though that may not be the most cost-effective approach to the problem.

Other considerations (neither pro nor con):

1. This option would make it difficult to locate the CSO outside the Executive Office of the President (EOP). Indeed, it would be hard to imagine how an officer in one Department or agency could determine the programs and budgets of agencies in other Departments. Its "neutrality" particularly would be questioned if some of the statistical agencies competing for a share of a common budget were located in the same Department as the CSO. Should the CSO be located outside the EOP, this option would appear to necessitate the creation of a small office under the Chief Statistician in the EOP to carry out the allocation of the budget. In this case, in effect, the Chief Statistician would be in charge of two offices (one inside the EOP, the other outside it), which would have to be strongly interlinked.

2. This system would necessitate, for better or worse, a rather sharp delineation in each Department of the statistical agencies and units.

3. Particularly in periods of budgetary restraint, a large consolidated statistical budget, with a single authority over it, might be a more tempting target for overall reductions. Depending on one's point of view, this can be considered either a pro or con.

4. Whenever particular statistical data needs of specific Departments cannot be met within the consolidated statistical budget, it should still be possible for the Departments concerned to transfer the necessary funds to the statistical budget.

C. Option 3

General description:

Option 3 calls for consolidation of the CSO with at least some of the major multiple-purpose statistical agencies. This option, in at least one version, is

explicitly raised by Eckler and Mills (1978) in their article on "Planning and Coordination of the Federal Statistics System." The substantive coordination functions of option 1 with respect to the entire Federal statistical system would be retained. The statistical budget function of option 2 would also be retained.

Agencies and programs to be included in the consolidation:

Agencies vs. programs.—Reorganization under option 3 would be least disruptive if entire agencies were either included or excluded from the consolidation. However, there are some cases in which this criterion might conflict with another objective, namely, to make the consolidated unit primarily a vehicle for large multiple-statistical programs and data systems. Also it would be virtually essential to exclude from the consolidation any nonstatistical activities. For these reasons, some splitting off of programs may be desirable.

There is clearly a continuum of possibilities with respect to the agencies to be included in the consolidation. However, for purposes of facilitating discussion, three concrete alternatives are identified below.

Minimum consolidation.—Notwithstanding the Eckler-Mills report, it would appear that the smallest consolidation should include: (1) CSO, (2) Census Bureau, (3) Bureau of Economic Analysis, and (4) Bureau of Labor Statistics.

The inclusion of BLS is considered to be essential. If BLS were not included, the "outside" agencies might have the perception, whether or not true, that the coordination functions had been turned over to the Census Bureau.

In a larger consolidation.—In addition to those in the minimum group, the following might be added: (1) the Statistics Unit of the Economics and Statistics Service, Department of Agriculture (USDA); and (2) selected surveys in the Department of Health, Education, and Welfare.

The addition of the USDA component would make possible the effective integration of the agriculture censuses and current agriculture surveys, at considerable savings in cost and burden. The prime candidate for inclusion from HEW is the Survey of Income and Program Participation (SIPP) which is now in the developmental stage

and which will serve a wide range of users in several Departments.

Additional candidates for an even larger consolidation would include the following agencies: (1) National Center for Health Statistics (NCHS), (2) National Center for Education Statistics (NCES), (3) Energy Information Administration (EIA) (selected programs), and (4) selected multipurpose statistical data systems which combine administrative records of more than one agency.

Although their main users are in the Department of Health, Education, and Welfare, the NCHS and NCES serve a variety of users and are designated in the *Framework* as "subject-matter multipurpose collection agencies." The EIA presents a problem because it has regulatory data collection functions, and because its statistical records are subject to use for nonstatistical purposes by other components of the Department of Energy.

The last category refers to statistical data systems now under development by various agencies which depend on sample matching of administrative records from sources, such as the Internal Revenue Service, the Social Security Administration, NCHS (vital records), and others. Such systems may provide important alternatives, with lower cost and burden, to some of the present statistical systems based on direct collection of data from individuals.

A major reorganization such as that involved under option 3, has far-reaching implications. Therefore, the assessment of this option is not restricted to the subject matter of this chapter, that is, the establishment of statistical priorities and the allocation of resources.

Pro (over and above those listed in option 2):

1. The arrangement internalizes the statistical coordination problem *within the segment of the statistical system which is included in the consolidated agency.* The head of the agency, presumably the Chief Statistician of the United States, would have direct line authority to implement his program of coordination and other priorities.

2. Problems of data exchange and confidentiality *within the consolidated agency* would be resolved.

3. The head of the agency would have clear responsibility over and accountability for the program of the agency. As opposed to option 2, this would involve being responsible for implementing

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at least a large part of CSO plans, that is, those relating to the consolidated agency.

4. Economies of scale could be expected which might be significant in the case of the following functions: administration, field operations, and some ADP functions.

5. The Chief Statistician would be a fully authoritative spokesman for a large segment of the statistical system.

6. Within a large consolidated agency the initial marshalling and subsequent protection of resources for the functions to be performed by the CSO would be easier.

7. It would be easier to arrange for the exchange of specialized experience within the large new agency than between different existing agencies.

8. Within a larger agency there would be greater leverage obtained from scarce specialized resources. In fact, some functions could be implemented which many of the present agencies can simply not afford (development of certain software, stronger marketing, and data dissemination, etc).

9. There would be greater public recognition and awareness of the large agency, the important role it plays in society (thus the "legitimacy" of its requests for data), the confidentiality protection it provides for identifiable records.

10. For the statistical products provided by the consolidated agency (a partial "product line"!) there could be a single mechanism of dissemination—at least a common point of entry for the uninitiated user.

11. The Chief Statistician would have clear-cut authority to implement a broad personnel management program, including rotation of personnel between programs for purposes of either personnel development or program priorities. The beneficial impact of this activity, however, would not extend directly to statistical activities outside of the consolidated agency.

12. In options 1 and 2, when programs are carried out by one agency as a service to another, there might be a tendency to give (perhaps implicitly) lower priority to the activity undertaken on behalf of another agency. This problem would disappear with option 3, except for those agencies which are outside of the consolidated agency.

13. The Chief Statistician and the staff involved in coordination would get closer to substantive statistical activities—they would have a better opportunity (in fact would be driven to) getting a

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closer personal experience of statistical design, development and production problems. Furthermore, by being fully exposed to the *variety* of end users, they would acquire a better feel for a large part of the total demand for and the utility of the statistical output of the central agency.

Con (over and above those listed in option 2):

1. This option would result in the largest reorganizational upheaval and the greatest potential resistance by Departments which would lose their statistical agencies, as well as objections from special interest groups which might believe that they would lose some of their special influence.

2. Legislative changes would be needed to harmonize the very different legal mandates under which the constituent agencies operate at the present time.

3. Irrespective of internal organization and the existence of appropriate deputies, the head of the consolidated agency would likely be drawn into day-to-day operational crises of data production, with the consequent danger that longer-term planning and coordination would receive diminished attention.

4. Whatever authority the Chief Statistician might have to coordinate statistical programs *outside* of the consolidated agency, primary attention would likely be reserved for the consolidated agency. The data sources particularly affected would be those from administrative and regulatory programs, and statistical programs of the excluded small agencies or units. Should this option be adopted, explicit countervailing instruments and influences would have to be designed to prevent this from happening.

5. The Chief Statistician, having more direct exposure to the statistical output and clientele of his own agency, but less contact with the clientele of the rest of the statistical system, might acquire an unbalanced view of priorities.

6. As an advocate with respect to programs under him, the Chief Statistician might be less likely to cancel low priority programs (in fact would be less likely to recognize them as having lower priority).

7. The danger would be real that production priorities would squeeze out the resources which ought to be allocated to analytical activities and to evaluation. At any rate, a large statistical production agency could, without strong countervailing efforts, find it hard to keep aware of current and emerging public policy concerns. Consequently,

the needed analytical activities might not receive the attention they would require.

8. Under options 1 and 2 the CSO would have a major role in initiating a planned program of audits and independent evaluations. Under option 3, with the CSO embedded in a consolidated agency, audits initiated internally would lack the appearance of neutrality and at the same time it might be difficult for the Chief Statistician to initiate audits of programs outside of his line control (the head of one operating agency auditing the program of another).

9. The large consolidated agency would be conspicuous in its total effect on response burden.

10. Some Departments which would lose their statistical agencies might attempt to create new units which would be more responsive to their specific data needs.

D. Recommendation

Planning is a process, designed to serve objectives: to improve the relevance of the content of the statistical base for public policy purposes (policy relevance is treated in chapter 6), for private study and decisionmaking, for fundamental academic research; to improve the quality and consistency of the data and access to it; to take system-wide measures to ensure public cooperation with the process of providing data—that is, to control response burden and to protect the confidentiality of data and the integrity of the system.

If planning is to serve its objectives, it must be carried out by the most knowledgeable people with broad and continuing contact with a wide variety of users. Contact must also be maintained with the academic community where, judging from past experience, much of the conceptual work is taking place. Thus, irrespective of the choice of options above, enough substantive activity should be located in the CSO to provide a base activity for a group of outstanding professionals who can maintain the necessary dialogues on equal professional footing. Detailed recommendations and options in this regard are contained in the other sections of this report.

Chapter 3. Quality

The Governments are very keen on amassing statistics. They collect them, add them, raise them to the Nth power, take a cube root, and prepare wonderful diagrams. But you must never forget that every one of those figures comes

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in the first instance from the Village Watchman, who just puts down what he damn pleases.

Sir Josiah Stamp
Inland Revenue Department
England

A primary task confronts those who use and those who produce Federal statistics: To improve the quality of these statistics in the decade ahead. This is the single most urgent need facing the Federal statistical system.

President's Commission on
Federal Statistics, 1971

Fifteen of the 26 Federal surveys did not meet their objectives, four because of poor design, four more because of failure to implement probability sampling, and the remaining seven because of a combination of serious technical flaws.

Bailer and Lamphier

I. Introduction

The quality of data and analyses produced by the Federal statistical system is a classic and continuing concern of sophisticated users and statistical professionals. Few others understand or care until they are betrayed by poor quality data or analysis.

For this discussion, the Federal statistical system is defined broadly. In addition to the statistical agencies, we will consider the significant statistical activities of nonstatistical agencies. The latter include, in particular, applications of experimental design, survey research, and statistical analysis techniques in evaluation studies and program experiments. In some respects, these activities outside of the core statistical agencies need more attention, because their outputs are more often produced with inadequate technical support for design and execution, and the statistical procedures used are audited or evaluated less often. Also included in the scope of this discussion are statistical activities carried out by State and local governments and by private organizations under contract to Federal agencies.

The quality of both primary and derived data is measured by the amount of error in the data. This includes sampling error when the data are based on a sample; however, nonsampling or measurement errors often have an equal or greater impact on overall quality. The design of data systems and of analytical techniques must aim at minimizing total error from all sources. Resources used to increase samples can often be used more effectively

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to apply more accurate measurement procedures to existing samples. In some cases it may even pay to *reduce* sample size for this purpose.

To assess quality it is necessary to answer two questions. The first is—do we have adequate information about the sources of error in the data? Very often, such information is either incomplete or nonexistent. Often there is some information about sampling errors but none about other kinds of errors. If the answer to the first question is “no”, the situation is clearly not acceptable. Thus, whenever data are collected or analyses undertaken for purposes of any importance, some resources should be set aside for the measurement and evaluation of errors.

If adequate information on error is available, we must then ask the second question—is the level of error acceptable? It may be too high, in which case more resources may be needed, or it may actually be lower than required, in which case we may be spending more than necessary.

Determining what level of error is acceptable is difficult. In theory, cost-benefit analysis should tell us how much to spend to improve the quality of a particular data system. In practice, it is usually impossible to agree on objective measures of the benefits (losses) associated with a given level of quality, especially for large multipurpose data systems. As a result, most decisions of this kind are made on a more or less intuitive basis.

Nevertheless, knowledge of the error structure of data should and does affect decisions on how to collect data and how much to spend. The Census of Population and Housing is a good example. Studies that measured enumerator contributions to error led to increased use of self-enumeration (the mail census) in 1960 and thereafter. Measures of under-coverage have led to the allocation of very substantial resources to the improvement of coverage. Accurate population counts are clearly important because of their use in apportionment, redistricting, and allocation of Federal and State funds.

Closely related to quality of data is their utility, or relevance to the uses for which the data are intended. Besides depending on the amount of error, utility is a function of the populations to which data refer, the appropriateness of concepts and operational definitions used in collecting, compiling and analyzing data, the adequacy of docu-

mentation, and the timeliness of the information finally provided the decisionmaker. Issues of timeliness and utility are addressed in chapter 6 (policy relevance) and should be included in any broad consideration of the sources of error arising from the use of data in decisions.

The quality of data produced by the Federal statistical system depends largely on the training, experience, and knowledge of the individuals working in the system. Sir Claus Moser (1971), former Director of the Central Statistical Office of Great Britain, said that “. . . end-results depend more on the quality of the staff than on features of organization.” Therefore, a discussion of the selection, training and career development of staff is an important part of this chapter.

II. *The current scene and problems*

A. *Are adequate measures of quality available?*

The President's Commission on Federal Statistics, which conducted a broad review of Federal statistical activities in 1970 and 1971, considered quality of data to be an issue of major importance. In its final report, issued in 1971, the Commission said “. . . it is quite feasible to provide measures of error, although it is now done only by a few of the very best statistical agencies, and then for only a few of their series.”

The situation has improved considerably during the 1970's. The Bureau of the Census and the Office of Federal Statistical Policy and Standards (OFSPS) have taken leadership roles in the development and dissemination of standards for the description and presentation of errors in data. Several agencies have issued technical publications describing the methods and limitations of primary Federal data systems. Presentations of both Federal and non-Federal data by the media are more frequently accompanied now by information about data collection procedures and sampling error.

In spite of these developments, there are still large gaps in the availability of information on errors. There are still many federally sponsored surveys for which not even sampling errors are estimated. Except for information on nonresponse rates (which is often hard to interpret because of lack of standard definitions), information about nonsampling errors in surveys is seldom available. When information on sampling and nonsampling errors is available, it often appears in final reports

and technical publications, but not in press releases. Even rarer are cases where inconsistencies between two or more related data series are highlighted, calling the attention of users to errors in at least one of the series compared. As a result, many users (often including those who use the data for important decisions) are not sufficiently aware of the limitations of the data they use. The development of facilities providing on-line access to large aggregate data bases, especially those with graphic displays, has created new challenges to those responsible for disseminating information on methodology and error structure along with the data.

For compiled or synthesized data series, such as the BEA State personal income estimates and the BLS small-area unemployment estimates, the situation is even less satisfactory. It is the exception rather than the rule that any attempt is made to provide users with information on the possible range of error in the estimates. The same is true for statistics compiled from data collected for administrative and regulatory purposes and for quantitative analyses such as those which attempt to forecast the impact of new programs on target populations and on the Federal budget. Clearly, the improvements cited earlier in this section do not justify complacency about the present state of affairs.

B. *Where measured, is quality acceptable?*

Ideally, to answer this question we would have a formula for deciding what level of error is tolerable for any data series or analysis. Unfortunately, there is no such formula. Most data series or systems are used in many different ways, not all of which require the same level of accuracy. Statistical activities do not lend themselves easily to traditional cost-benefit analysis, because the consequences of errors in the data are not readily apparent.

Nevertheless, one can get a feel for the present situation by looking at some recent evaluations of quality. We can again use the report by the President's Commission on Federal Statistics (1971) as a benchmark. As quoted at the beginning of this chapter, the Commission said that the single most urgent need facing the Federal statistical system was to improve the quality of Federal statistics in the coming decade.

A similar evaluation, at least with respect to data resulting from federally sponsored surveys, would

probably be made by the authors of the recent report, *Development of Survey Methods to Assess Survey Practices* (Bailar and Lamphier, 1978). The authors of this report, both highly qualified in survey research methods, reviewed a purposively selected sample of 36 sample surveys conducted or funded in 1975. The project was sponsored by the American Statistical Association and funded by the National Science Foundation. Perhaps the most striking finding of this review was that quoted at the start of this chapter, that is, that due to serious technical flaws, 15 of the 26 Federal surveys examined did not meet their objectives.

All but 2 of the 26 federally sponsored surveys were conducted under contract by universities or other private survey research organizations. It is significant that the 2 conducted by a Federal agency were not included among the 15 that failed to meet their objectives.

A recent study of federally sponsored attitude and opinion surveys by the General Accounting Office (1978b) found serious technical flaws which limited the usefulness of the results in all 5 surveys which were reviewed in detail. GAO reached the conclusion that "Better guidance and controls are needed to improve Federal surveys of attitudes and opinions."

One data system for which considerable information on errors from all sources is available is the decennial censuses of population and housing. Since the 1950 census, the planning budget for the census has set aside funds for evaluation studies to measure components of error such as undercoverage, enumerator (interviewer) variance, and response bias. As a result of these studies, the error structure of the decennial census is well understood, and it has been possible for the Census Bureau to make significant design improvements and for users to take into account the limitations of the data. Undercoverage, especially for selected population groups, such as young adult black males continues to be a problem, and the Census Bureau plans to use a substantial part of its 1980 census budget for coverage improvement activities.

Dissatisfaction with the quality of data currently available sometimes leads to investment of significant resources in the development of better data systems. A current example concerns data about individual and family income distributions and participation in welfare programs, an area in which

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good data are essential for planning welfare reform and for evaluation of present and proposed taxes and benefits.

For a long time, the principal and nearly the only source of these kinds of data was the annual income supplement to the Current Population Survey (CPS). However, comparisons with aggregate data from the national economic accounts consistently showed that income, especially that derived from welfare sources, was being underreported in CPS. This known source of error, along with the need for more detailed information about income, assets and program participation, was an important determinant of HEW's decision to spend significant amounts for the development of a survey vehicle to provide high-quality data on a continuing basis. This project, the Survey of Income and Program Participation, is scheduled to become operational following the 1980 census, after several years of research and experimentation to develop suitable data collection methods for these kinds of information.

Many other examples could be given to show that knowledge of error structure often leads to data system design changes to improve quality. At the same time, the uses of data, especially for the allocation of Federal and State funds and for evaluating the impact of national programs, demand data of increasingly higher quality.

Some of the current social and economic issues facing the Nation require data on topics for which the collection of accurate data presents unusual difficulties, for example, crime, drug use, productivity, and fossil fuel reserves.

C. *Quality of personnel*

Quality statistics are produced by qualified statisticians, working with qualified economists, social scientists, systems designers, programmers and other specialists. What can be said about the quality of personnel responsible for the quality of Federal statistics?

Answers to this question are of necessity almost entirely subjective and must be taken as such. There are no Scholastic Aptitude Test scores or National Assessment of Educational Progress to provide objective data for any point in time, let alone changes over time. Given this severe limitation, the following observations are offered:

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1. There are many more Federal statisticians with undergraduate and advanced degrees in statistics than there were 30, 20, or even 10 years ago. However, this is not an unmixed blessing because the academic training of statisticians rarely equips them adequately with the skills needed for the production of data and for evaluating the quality of data.

2. Top management positions in statistical agencies are difficult to fill because there is a scarcity of persons who combine appropriate technical training with managerial ability and a broad knowledge of the Federal statistical system.

3. Some agencies have provided good in-service training and career development programs for statisticians and other professional employees. However, such programs are mostly limited to the multiple-purpose statistical agencies, and even in those agencies, they do not always take root as continuing activities.

4. Quality of statistical personnel is a serious problem in some of the nonstatistical agencies which have important statistical activities, largely because managers in these agencies underestimate the professional skills needed to develop program statistics, contract for and monitor statistical surveys, install and operate quality control systems, design and conduct program experiments, and engage in other statistical activities. Statisticians in these agencies tend to be isolated from their professional colleagues, to lack authority within their agencies, and to lack incentives and opportunities for professional development.

D. *Technology for the production of high-quality statistical outputs*

Techniques available for good statistical data production and analysis have multiplied enormously over the past three or four decades. Starting with fundamentals, there has been the development of probability sampling techniques, the elaboration and application of a theory of response errors, and the availability of computers for complex data edits, tabulations, and analyses.⁵ More recently, important new data collection techniques such as randomized response, computer-assisted telephone interviewing and random-digit dialing have appeared. Powerful analytic tools, such as

⁵The Bureau of the Census played a major role in all of these developments.

input-output analysis, modelling, program simulation, and techniques for analysis of data from complex sample surveys have expanded and refined the ability to make better use of census and survey data.

How effectively is the Federal statistical system using modern statistical technology? Certainly not as much as it should be. There are some encouraging developments. The Survey Methodology Information System developed by the Census Bureau provides a convenient means of access to useful information on survey methods that was formerly widely dispersed in a variety of journals and reports. The system is extensively used by Government agencies and private survey research organizations. Professionals in Federal statistical agencies play an active part in the activities of relevant professional societies. The Federal Committee on Statistical Methodology, under the leadership of OFSPS, has had considerable success in the past 2 or 3 years in bringing together interagency groups to share knowledge and jointly attack existing problems in areas such as the use of statistics for the allocation of funds, statistical disclosure avoidance, contracting for surveys and the use of administrative records for statistical purposes.

On the debit side, while Federal agencies were pioneers in the development of the three basic technologies listed above, it is generally agreed that in several of these areas the private sector is now ahead and that outmoded data collection, processing, and analysis techniques are being used in many important activities of the Federal statistical system. This is true especially for data processing. Even where statistical services are procured from the private sector, lack of adequate technical background in the sponsoring agency often results in failure to select a well-qualified contractor.

E. Summary of the current scene

During the 1970's there have been improvements in the quality of the staff and output of the Federal statistical system, especially in the major statistical agencies. Nevertheless, for many programs quality is far from what it could and should be. Additional resources and institutional changes are needed to meet the ever more complex demands on the statistical system.

The Project concluded that the findings of the President's Commission on Federal Statistics are still valid today, that is, that more information is

needed about the error structure of data, and that improvement of quality is still a major problem facing the Federal statistical system.

F. Problems

It is not enough to say that the quality of statistical data and analyses is not good enough. Before proposing ways to improve quality, a good understanding is needed of the factors that influence, and especially those that inhibit, the quality of the Federal statistical system's work. These factors are listed in this section under three main headings—demand (user requirements), supply (resources of the system), and structural or environmental factors.

1. *User requirements.*—Quality can be affected in both positive and negative ways by the demands of users. The complexity and urgency of issues facing policymakers often leads them to demand more data and more timely data, with little regard for quality. Exceptions occur only after the policymaker has been "burned" by using poor data or the results of faulty analyses.

Policy analysts are becoming more and more sophisticated and adept at the construction of models and the simulation of policy alternatives, but with notable exceptions they do not consider whether any relevant data are available until they have developed an analytical framework, and then they tend to be uncritical about the quality of the data they use.

In the past decade there has been a great increase in requirements for data for States and smaller units for use in the allocation of Federal and State funds, based on formulas established by statute or regulation. These requirements have led to greater concern about the quality of the data used, because real dollars are at stake. On the other hand, this need for small-area data diverts resources that might otherwise be available for improving the quality of data at the national and regional levels.

Some users have a naive view of the sample survey as an instant answer to all data needs, no matter how complex or sensitive the subject matter. When an agency administrator or policymaker takes this view there is likely to be one of two outcomes. If the administrator insists on instant results, he will get a poor quality product. If the judgment of staff responsible for producing the

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data prevails, the administrator may become impatient and eventually rely on less objective and less relevant information to reach decisions. The preferred alternative, of course, would be better intermediate and long-range planning to meet anticipated data needs.

Some users do care about the quality of data. In recent years, the Congress has shown more concern with quality. For example, the Educational Amendments of 1974, which called for a survey to estimate the number of school-age children in poor families in each State for use in allocating funds, also required that a formal evaluation of the quality of these estimates be made and presented to the Congress before the estimates could be used in the allocation process. In another area, the legislation which established the Office of Energy Information and Analysis (later the Energy Information Administration) requires the Director to establish the internal technical capability to "... verify the accuracy of items of energy information submitted to the Director," and also provides for an annual audit of procedures and methodology by an outside group of qualified professionals.

2. *Resources for maintenance and improvement of quality.*—Starting with personnel, especially those in relevant professional and managerial categories, there are several factors which help to explain existing deficiencies:

a. There has been no thorough Government-wide review of classification standards for statisticians for about 30 years (Duncan and Shelton, 1978, Chapter 5). It is currently possible to qualify as a mathematical statistician at the entry level (GS-5) with no more than 6 semester-hours in statistics (plus 18 in mathematics), and advancement to higher levels generally does not require additional formal training.

b. Professionals today enter the system with more and better formal training in statistics (or economics, etc.). However, their early experience tends to be more specialized and compartmentalized. As a result, the system is not producing people with a broad knowledge of how the statistical system operates, what it produces, and how its products are used.

c. Advancement beyond the "journeyman" level in professional classifications usually depends largely on assumption of supervisory and managerial responsibilities. There are few opportunities

for advancement beyond this level based solely on outstanding technical achievements.

d. There is inadequate interaction between academic and government statisticians. Many government statisticians feel that much academic preparation is not relevant to statistical activities of the Government. Academic statisticians feel that Government statisticians are not sufficiently informed of new technical developments to use them in relevant ways.

e. In comparison with other coordination functions, OFSPS and predecessors have done very little in the area of professional career development for statisticians and associated professionals (Eckler and Mills, 1978).

f. Statisticians responsible for important statistical activities in nonstatistical agencies are at a particular disadvantage for several reasons: they tend to be isolated from professional colleagues; they lack authority and stature in their agencies; management tends to underestimate the complexity of tasks assigned to them; and their work is less subject to outside technical review.

Other resource factors which have a negative effect on quality are as follows:

a. With some exceptions, mostly in major statistical agencies, budgets for statistical programs and projects do not include resources for internal and/or external measurement of quality. For continuing programs, funds for methodological research to improve quality are seldom provided except where there are clear indications of serious deficiencies.

b. Resources for internal and external technical review and clearance of statistical activities are quite limited, and are heavily concentrated on questionnaires, with emphasis on the reduction of response burden. Little attention is given to the basic designs of surveys, evaluation studies, program experiments and data bases developed for policy analysis and simulations. RFP's⁶ for statistical services seldom receive adequate technical review, and selection panels often lack the technical skills to make an informed selection.

c. There are many external audits and evaluations of statistical programs; however, they usually do not occur on a planned basis, taking into account the size and importance of the various pro-

⁶The RFP (request for proposals) is used to announce a competitive procurement.

grams. Statistical programs in nonstatistical agencies tend to be neglected, or to be evaluated by persons who are not technically qualified. Most audits and evaluations are of data collection programs; large-scale analytical efforts are less likely to receive the same kind of scrutiny.

3. *Structural factors affecting quality.*—There are several structural features of the Federal statistical system and the way it operates that have important implications for quality.

a. There has been a great increase in outside procurement of statistical services. Probably more than half of the statistical surveys sponsored by the Federal Government are done by contractors. Sponsoring agencies often lack the combination of statistical skills and understanding of Federal procurement regulations and procedures that are essential to give proper weight to quality in preparing specifications and selecting a contractor.

b. Many important data systems are operated under Federal-State cooperative arrangements, with the States often having direct responsibility for data collection and some processing activities. Such operations are much more difficult to standardize and monitor than those under direct Federal control, and quality is likely to suffer. There are often good reasons for operating a data system in the cooperative mode, but the potential adverse effects on quality are sometimes not given sufficient attention.

c. More and more activities which rely heavily on statistical techniques take place outside the core agencies of the Federal statistical system, with consequences which have already been discussed.

d. There is not enough interaction between data producers and data users, including policy analysts and policymakers, largely because they are in different agencies. As a result, producers are insufficiently informed about the utility of the data they provide, and analysts are often unaware of important limitations of the data.

e. Restrictions on interagency sharing of data for statistical purposes result in lack of comparability in data produced by different agencies and sometimes result in failure to exploit fully data bases developed at substantial cost.

f. Although accurate and convincing data on response rates are hard to find, there appears to be increasing respondent resistance to statistical inquiries. While good survey methods can usually produce an acceptably high response rate, extension of this trend could lead to serious bias in im-

portant statistical series. As documented in the American Statistical Association study (Bailar and Lanphier, 1978), many federally sponsored surveys have had unacceptably low response rates.

III. *Recommendations and options*

The Federal statistical system and, in particular, whatever body or bodies have responsibility for direction and/or coordination of the system, should adopt the following general principles aimed at maintaining and improving the quality of its products:

1. *Measurement of error.* For all statistical programs, resources should be allotted, on a continuing basis, for the measurement of sampling and nonsampling errors, and other limitations of the data products and analyses produced.

2. *Presentation of information about methodology and error structure of data products and analyses.* All information of this kind should be made freely available, in convenient form, to users. Basic information, with references to sources for further detail, should be presented with all releases of data and results of analyses.

3. *Quality sufficient to meet objectives.* Data collection and analysis activities should receive sufficient review, starting at the design stage, and continuing through to evaluation of how results are used, to ensure quality adequate to meet major objectives. Where quality is not adequate, activities should be discontinued, or additional resources made available.

4. *Personnel development.* A continuing effort is necessary to ensure the selection of people with skills necessary to meet the increasingly complex demands of the system, and to provide facilities and incentives for their professional and technical development within the system.

To achieve these goals, the following actions are recommended. Recommendations are divided into two groups. The first group includes actions that require little or no additional resources. Some of them could actually result in savings. The second group includes actions that carry at least a potential need for additional resources.

Options for scale and location of activities are included where appropriate. All recommendations carry the implied options to accept or not accept. Ability to implement many of these recommendations effectively will clearly depend to a

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great extent on the resources and authority of the Central Statistical Office (CSO).

A. Recommendations with little or no cost

1. Personnel development

a. The CSO should undertake, in conjunction with the Office of Personnel Management (OPM), and using outside advisory groups or contractors as deemed appropriate, a comprehensive review and revision of classification standards for statisticians and for other professional and technical personnel who play an important role in the Federal statistical system. Particular emphasis should be given to:

- (1) Academic requirements for entry-level positions.
- (2) Relative weights to be given to academic qualifications and experience in determining advancement to higher grades.
- (3) Mix of professional and technical skills required for different kinds of statistical activities.
- (4) Possibility of expanding the use of the research grade evaluation guide for classification of mathematical statisticians, and of developing similar standards for some economists and other social scientists. (This would permit a few professionals who perform outstanding individual research to advance in grade without necessarily taking on administrative functions.)
- (5) The extent to which systems and computer-related skills should enter classification standards for statisticians and social scientists.

b. As soon as possible, the CSO should establish formal contact with officials responsible for implementation of the Civil Service Reform Act of 1978 to ascertain and take an active role in shaping its impact on the Federal statistical system. Particular attention should be given to:

- (1) The specific positions in the system that are to be filled from the Senior Executive Service, and the criteria and procedures for filling them. The head of the CSO should participate in identifying individuals to fill these positions, and in rotation of assignments.
- (2) The criteria and procedures for awarding nonautomatic within-grade increases at the GS 13-15 levels.

c. At intermediate and higher grade levels, take steps to broaden knowledge and experience of

Federal statistical personnel by increasing mobility within the system, and arranging temporary assignments for training purposes. More specifically, this should include:

- Interagency transfers
- Transfers between agencies and CSO
- Temporary assignments of personnel from data-producing components to analysis groups. Some assignments in the reverse direction might also be useful.

Implementation options:

Option 1.—CSO encourages transfers, and facilitates them by maintaining a register of personnel who are working in the system.

Option 2.—Transfers managed by CSO. The register is also needed for this option.

d. Establish a small number of prestigious awards for recognition of high-level managerial and professional achievements within the system, to be administered by the CSO, or possibly by appropriate professional societies.

2. Coordinate and optimize the allocation of existing resources for external audits, evaluations, and reviews

Substantial resources are being used for audits, evaluations and advisory committee reviews of programs and activities of the Federal statistical system. Some of these are generated by the agencies in the system and conducted by outside groups; others originate outside the agencies, for example, from GAO or departmental audit groups. Some activities receive far more attention than others; and the quality and effectiveness of the reviews vary. In many cases there is no systematic follow-up to see if appropriate action has been taken with respect to recommendations. Significant improvements are possible from reallocation and more effective use of existing resources.

Implementation options:

Option 1.—CSO would keep a record of all audits, evaluations and other reviews of statistical activities, and would make recommendations both to the agencies being reviewed and to the reviewing agencies and other bodies for scheduling of reviews to ensure full and effective coverage.

Option 2.—CSO would have authority for scheduling all reviews originating in the executive branch (this would exclude GAO audits and

legislatively mandated review activities; however, these could be taken into account in scheduling) and would monitor responses to recommendations. This option would, of course, also require that CSO keep records of all review activities.

Option 3.—Same as option 2, except that CSO would have resources for and conduct some reviews.

3. Standards

a. *Procurement of statistical services.*—The CSO should establish guidelines for procurement of statistical services, with special attention to sample surveys. These guidelines should emphasize:⁷

- (1) Specifications needed in RFP's to help ensure results of good quality.
- (2) Procedures for technical evaluation of proposals, including evaluation criteria and qualifications of persons serving on evaluation panels.

b. *Federal-State-local cooperative programs.*—The CSO should review any proposed new statistical activity for which a Federal-State-local cooperative mode is proposed, in order to determine whether the pros and cons of that mode, as opposed to a Federal-only approach, have been fully considered, giving special weight to potential effects of the cooperative approach on the quality of the data to be obtained. Where the cooperative approach is adopted, contract (as opposed to grant) funding will be preferred, and adequate resources should be allocated to Federal monitoring of State adherence to standards.

Option 1.—CSO prepares recommendations in an advisory capacity only.

Option 2.—CSO has full authority to approve or disapprove use of the cooperative mode for new programs and to change the mode of operation for existing programs.

c. Presentation of information on errors. The CSO should develop standards for the presentation of information on error structure when data are transmitted to users via on-line access facilities, with displays in tabular or graphic form.

4. Access to directories and sampling frames

The quality of surveys can potentially be improved by making full use of the best available sampling frames. This will insure the best possible

coverage of target populations, and where classifiers are included in the frames, will ensure more accurate classification of units and greater comparability of data from different surveys. Examples of such frames include the Standard Statistical Establishment List developed by the Census Bureau, the decennial censuses of population, and selected IRS and SSA program records.

Recommendations pertinent to this subject appear in chapter 8 (privacy and confidentiality).

B. Recommendations with cost implications

Implementation of the recommendations in this section will require additional resources. These can be obtained either by adding resources to the system or by reallocation of existing resources. In most cases, it can be strongly argued that even if the latter approach is taken, the net result will be an improvement in the quality of outputs of the system.

1. Closer ties between data producers and analysts

Closer ties between data producers and analysts will result in data that are more relevant to policy issues. Such ties will also improve the quality of both data and analyses. Producers of data will have more direct feedback on quality from major users of the data. Errors in the data that may have escaped normal edits and other quality control procedures will be identified by analysts from their in-depth knowledge of the subject matter. Users will come to have a better understanding of the operational problems of collecting and processing data, and will design and perform their analyses with a better understanding of the limitations of the data.

Options for achieving closer ties between data producers and analysts appear in chapter 6 (policy relevance).

2. Technical assistance

There is a very substantial need for technical assistance to statistical activities of all kinds, especially those located outside of the major statistical agencies. The needs cover a wide variety of activities, including preparation of RFP's for surveys and

⁷An interagency group under OFSPS is already working on topic. This recommendation is intended to encourage timely completion of the effort.

other statistical services, statistical modelling, design of program experiments, design of quality control systems, the use of sampling for accounting purposes, and many others. Often, agencies carrying out these activities do not recognize that they need assistance. As noted earlier, lack of sufficient technical inputs to statistical activities, especially at the planning stage, leads to many failures. From a cost-benefit point of view, a substantial increase in resources for technical assistance is clearly warranted.

It is recommended that substantial new resources be assigned to technical assistance activities.

Placement options:

Option 1.—In departmental statistical centers.

Option 2.—Contract for technical assistance staff, with assignments by CSO.

Option 3.—In CSO.

Option 4.—Combinations of options 1 to 3.

Use options:

Option 1.—Use of technical assistance services is voluntary on request of agency needing assistance, or on recommendation from CSO.

Option 3.—Use is mandatory when required by CSO. CSO identifies needs as the result of expanded planning and clearance functions.

3. Investigation of error structure and other methodological research

a. Making resources available

In the judgment of the Project staff, sufficient resources for methodological research are now being applied to measurement of errors and development of improved data collection methods in household surveys and in demographic censuses. This is *not* the case for economic censuses and surveys, and for many other important statistical activities, such as statistical modelling and simulation, forecasting, and creation of synthetic microdata by statistical matching. It is recommended that increased resources be made available for methodological research in these areas.

Option 1.—Funding through a tax or set aside in budgets for such activities.

Option 2.—Provide additional funds for this purpose.

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Implementation will depend largely on how much authority CSO has to enforce (and support) these requirements.

b. Making results available

The requirement for making information on error structure available to users was described under general principle number 2. It is also essential that the results of methodological research be widely disseminated so that they can be used wherever applicable. For the latter purpose, two options are presented:

Option 1.—Leave it to individual agencies to disseminate methodological research findings through published reports, articles in professional journals and other appropriate media.

Option 2.—Establish and operate an information retrieval system in the CSO covering all relevant methodological research documents. One way to start such a system would be to transfer the Census Bureau's Survey Methodology Information System and Methodological Research Documentation series to the CSO.

4. Clearance

An expanded technical clearance and review of statistical activities, with emphasis on design at the initial stage, offers the potential for substantial improvements in quality, *provided* that the function is carried out by a competent, experienced staff, with adequate authority. In particular, it is strongly recommended that all RFP's for statistical services be submitted to technical review, prior to issuance, by someone outside the sponsoring unit.

Options relating to the procedures for and placement of the clearance function are included in chapter 7 (response burden).

5. A Federal statistical training program

Many of the important functions of persons working in the Federal statistical system are outside of or peripheral to any academic discipline and are learned only by on-the-job experience. This applies to both technical aspects of the job, such as questionnaire design, estimation of sampling errors, response error theory, statistical disclosure control techniques and data dissemination technology. It also applies to administrative aspects, such as procurement of statistical services, survey management in the Federal setting, and management of research activities.

There are people, both in and outside the Federal statistical system, with the necessary background to teach these subjects. Models already exist in the U.S. Federal statistical system and in some other countries. The International Statistical Programs Center (ISPC) of the Census Bureau has for many years been training statisticians from developing countries in the skills needed to become competent statistical administrators and technicians.

It is recommended that a Federal Statistical Training Program (FSTP) be established to meet the career development needs of employees of the Federal statistical system. FSTP would have two major objectives: (1) to provide employees with a broad knowledge of the Federal statistical system and to help prepare promising employees at intermediate levels for supervisory and managerial responsibility within the system; and (2) to provide courses on relevant technical subjects not available in universities or from other sources, as the need arises.

Courses, seminars and lecture series would be developed on a flexible schedule to meet needs as they arise. Faculty would be drawn both from within the system and from universities, on a short-term basis. The latter arrangement would help to improve communication between the universities and the Federal statistical system.

Implementation options:

Option 1.—Establish FSTP at the Bureau of the Census, by expansion of the training programs of ISPC, and use of joint courses wherever appropriate.

Option 2.—Establish FSTP at a local (Washington area) university or the U.S. Department of Agriculture Graduate School, under contract to the CSO.

Option 3.—Establish FSTP as a part of the CSO.

IV. Relationship to the broad organizing principles

The purpose of this section is to discuss the relationship between the recommendations presented in this chapter and the three broad options presented in chapter 2 (priorities and budget). For convenience, the chapter 2 options are summarized below.

Option 1.—Increased role of CSO in *planning* statistical activities. Authority for *technical* approval of all data collection plans.

Option 2.—Budget authority over statistical agencies and statistical units in other agencies.

Option 3.—Consolidation of CSO with one or more multiple-purpose statistical agencies.

Adoption of either option 1 or option 2 could be expected to lead to significant quality improvements, primarily because either of these options implies the availability to the CSO of significant additional staff and other resources for functions related to quality. In particular, the early technical review of all data collection plans, if conducted by a competent staff, could be expected to bring substantial improvements, especially for data collection activities by agencies or units lacking technical expertise. Increased CSO resources for development of standards, training and career development of Federal statistical system staff, conduct of audits, and technical assistance should also lead to quality improvements.

Option 2 has the potential for more pronounced effects on quality than option 1 for those agencies and other statistical units over which the CSO is given budgetary authority. Clearly, on matters such as budgeting for methodological research, deciding when to choose the Federal-State cooperative mode, and sharing of sampling frames, option 2 gives the CSO more direct influence than does option 1.

On the other hand, if adoption of option 2 were to limit the CSO's sphere of influence to clearly identifiable statistical agencies and units, the quality of statistical activities in other areas would suffer from neglect. In general, the activities whose quality most needs upgrading are the latter.

It is more difficult to assess the potential effects on quality of adopting option 3. For agencies joining the consolidated unit, access to its directories and sampling frames would presumably no longer be a problem. With respect to other quality issues, the key questions are: (1) Would the CSO part of the consolidated agency have sufficient authority over statistical activities carried on outside the agency? (2) Would it be willing to devote a significant part of its resources to monitoring and providing assistance to those activities? If option 3 were adopted, it would be very important, from the quality point of view, to incorporate statutory or other safeguards against neglect of activities outside the consolidated agency.

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V. Interactions with issues in other chapters

As the introduction to this chapter indicates, producing statistics of a quality appropriate to their uses is difficult. An error in the direction of greater quality than needed in the relevant decisions wastes budget resources, but so does poor quality data which do not meet decision needs. The latter occurs much more frequently.

Quality is also a requirement for policy relevance. However, timeliness in getting data to decisionmakers will sometimes be lost in the time-consuming quest for improved quality.

When poor quality of decision results in poor or useless data, unnecessary respondent burden is created, which also is a waste of resources. Where improvements in quality of statistics are necessary, it is often achieved through more detailed questionnaires and larger samples, thus the goal of improved quality in this case conflicts directly with the goal of reducing respondent burden. The achievement of one goal reduces the achievement of others. The trade-offs between the problems involved must be managed since some residual mix of those problems will always remain. An important potential route out of this dilemma is sometimes possible through greater use of administrative records to produce statistics. This can often increase statistical quality while reducing respondent burden.

Chapter 4. Integration

For every human problem, there is a neat, plain solution—and it is always wrong.

H. L. Mencken

There is no safety in numbers, or in anything else.

James Thurber

I. Introduction

Historically, statistics have come into being through endeavors to satisfy demands in individual subject-matter fields, for example, agriculture, population, health, labor, manufacturing, and trade. The increased importance of the national economic accounts and, more recently, social indicators have helped develop a more comprehensive approach to statistical programs but, in the main, there is still a strong pull to serve the detailed needs in specific fields as they arise.

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However, increasingly, statistical series are not used in isolation—they are used jointly with other statistics in a wide variety of crosscutting analyses. Hence, an integrated product is essential, in terms of concepts, measurement, classifications, and analytical methods.

Integration may be viewed as the horizontal dimension of a statistical system; it relates to the across-the-board interagency or interdivisional activities. (The vertical dimension, more obviously, is comprised of the elements of line responsibility of statistical organizations—agencies, divisions, branches, sections—which focus on more specialized activities). The horizontal dimension is less visible than the vertical; it seldom appears on organizational charts. However, it is highly important, particularly in a statistical system concerned with an integrated output (or how its myriad pieces are put together), a balance among its various activities, and the ability to produce crosscutting analyses over a wide range of issues requiring a multitude of data sources. Thus, integration can, among other things, result in improvements in the quality of data, in its relevance and ease of access for policy purposes, and be an aid in reducing respondent burden.

It is essential for the Federal statistical system that the integration function be effective because this decentralized system, although having important benefits, tends to breed parochialism. In most statistical agencies or units, the day-to-day pressures—both internally and from the parent Department—focus on meeting deadlines and getting things done within a fairly narrow scope; systemwide considerations are viewed as less important. The integration function is more subtle than this and should play a key role in all actions and policies of the statistical system. In the words of Simon Goldberg, Director of the United Nations Statistical Office, UNESCO (1976),

... it should provide a corporate consciousness, maintain checks and balances in the face of differing pressures from the individual sections, foster interdisciplinary project planning and execution and overcome barriers, real or imagined, between the various parts of the organization. It should ensure that common concepts, definitions, classifications and methods are not only available but actually implemented in the various divisions and sections so that statistical series represent elements of an integrated

framework and are as consistent and comparable as possible.

It is important to reemphasize that the need for a strong integration function stems from a basic characteristic of the demand and use of statistics, namely, that there are two types of demand: those relating to specific fields, and those which involve wide-ranging statistics, that is, a collection of related and comparable data which can be used jointly in policymaking or research, or for constructing analytical models. The latter have become more important in recent years, reflecting the growing realization of the interdependence of Government programs. Filling the across-the-board demands calls for filling data gaps or improving statistics in specific fields. Conversely, satisfying demands in specific fields can, if carried out with regard to their interrelationship with other statistics, contribute to the wider-ranging statistics. The essence of integration is that both dimensions of statistical output—the specific and the comprehensive—be viewed simultaneously. In this sense, even though the integration function requires resources and tools, it is more than just one function among many, it must be, in Goldberg's words (1973), "a guiding philosophy which permeates the actions and policies of the statistical office."

Integration, in this view, encompasses all statistical activities of the Federal Government, reaching beyond the output of the large multiple-purpose statistical agencies to small special-purpose statistical units and to administrative and regulatory bodies.

II. *The current scene and problems*

The need for statistical integration renders organizational requirements more complex than would be necessary in the absence of integration. If subject-matter fields could be developed without regard to across-the-board needs, the horizontal dimension of statistical organizations could be minimized. However, in practice, the decentralized statistical system of the United States currently requires and employs a variety of integrating tools to foster and maintain unity and compatibility. The effectiveness of these tools is uneven. This section lists major integration activities, discusses some current problems, outlines benefits, and reviews tools of integration for meeting the demands placed on the statistical system.

Activities which fall under the heading of "integration" include the following:

A. *Substantive integration activities*

1. Balancing the total output of the statistical system by subject matter through planning.
2. Establishing standard concepts, definitions, classifications, survey frames, procedures, and so forth, for the statistical system and promoting and monitoring their utilization.
3. Merging primary data collections or compilation programs which deal with overlapping groups of respondents where this would be clearly cost-effective.
4. Promoting the use of standard statistical concepts and practices in administrative and regulatory record systems.
5. Developing a consistent conceptual framework or model based on behavioral relationships in various disciplines; using the models to insure that the definitions used for various components are consistent.
6. Promoting recordlinking at the micro-unit level in order to enhance their analytic potential.
7. Assessing research needs and critically examining the interrelatedness of the statistical system with research activities outside the statistical sphere.
8. Coordinating the interface of the statistical system with those outside the executive branch, such as: (a) the legislative branch, (b) the international community of statistics producers and users, (c) the professional academic and business communities, and (d) State and local government producers and users of statistics.

The OFSPS has developed *A Framework for Planning U.S. Federal Statistics for the 1980's* which describes and discusses many of the activities necessary for any agenda dealing with the Federal statistical system as a whole rather than as pieces which may or may not match.

The current role of OFSPS varies in carrying out these functions directly or through others. In some instances (standards and interface with the international community), OFSPS is actively involved in formulating the mission and either carrying it out directly or ensuring that it is being carried out by other parts of the system. At the other end of the spectrum is model building, recordlinking, or interface with State and local data producers and users, where the current involvement of OFSPS is

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relatively small. The other activities would fall in between the extremes in varying degrees.

While the role of OFSPS in the functions of integration varies from heavy to minor involvement, one must still determine in each case what degree of involvement is desirable. The response to this, while not specific in nature, is that to the extent the system is producing data in abundance in some areas and scarcely not at all in others, or to the extent different data sets measuring related phenomena do not match or are in conflict—there are failures or weaknesses in the system which, while not calamitous at the present time, clearly will worsen if the integration role of the OFSPS is not strengthened.

B. Some current problems

The present U.S. statistical system is beset by many problems of integration, but at least three general problems should be mentioned: (1) a lack of synchronization of some of the transactions reported by the system: hence different pieces of statistical information are often incompatible with one another; (2) fragmentation of the data collection system that may lead to poor data quality and present obstacles to improvement; and (3) severe limitations on exploitation of administrative record systems for statistical purposes.

With regard to the first problem, it is obvious that the present system does not always produce compatible and synchronized data. To a considerable extent, this is because the system utilizes data for multipurposes which are designed for specialized use. In addition, data requirements frequently differ from reporting practices of respondents. Nevertheless, while it is recognized that compatibility is not always possible and that integration of data systems is not a panacea, noncomparability and lack of integration create problems in many areas. This can be illustrated in the field of economic statistics where the way agencies collect information is not linked to the way the economic system generates it. As Burton Malkiel has recently pointed out (1978), many of the important economic series are collected by different agencies using different lists of companies, sampling frames, concepts, and classifications. The inconsistencies show up, for example, in problems connected with deflating sales data by price data where no integration of these two data bases exists at either the manufacturing or retail level. It also shows up in the statistical discrepancy in the *February 1981*

tional income (GNP) accounts where the sales and inventory data collected by Census that are used to calculate the "product side" of the accounts are not consistent with profits data collected by the Federal Trade Commission or wage data collected by BLS that are used to calculate the "income side." One effort to overcome some of these problems, which has clearly failed so far, relates to attempts over many years to develop a general-purpose list of business establishments (possibly including farms) that would be available to all Federal (and possibly some State) statistical agencies for use as a frame for economic censuses and surveys. This list is called a Standard Statistical Establishment List (SSEL).

Apart from the question of conceptual comparability, a second integration problem involves the great disparities that exist in the quality of data produced by different agencies. These quality differences arise because of wide differences among agencies in the quality of trained personnel, survey techniques and analysis, and computer expertise. These quality differences are especially important for integrating tools used in policy analysis such as the GNP accounts: for example, the Bureau of Economic Analysis (BEA) must use inputs from many agencies in putting together the accounts, and such quality differences have an important impact on the quality of the synthesized GNP data available to economic policymakers. Moreover, the fragmentation of data collection builds considerable inflexibility into the system, intensifying the difficulties of meeting new data requirements.

A third general problem arises because full development and exploitation of the great potential of administrative record sample data systems has been limited by:

1. Lack of resources, stemming largely from the fact that many of the systems are presently supported and operated by program statistical units in nonstatistical agencies such as the Social Security Administration (SSA) and the Internal Revenue Service (IRS). While the systems are valuable to the sponsoring agencies, these agencies are understandably not anxious to provide sole support for the systems when they are only one of many users. At any rate, statistical service to other agencies is clearly a very secondary part of the parent agencies' mandate, so it inevitably receives relatively low priority.

2. Legal barriers to record linkages for statistical purposes, which have become much more restrictive in the past 5 years.

3. Problems of coverage and content. Some of these can be readily solved given adequate resources. Others require a sufficient base of authority to insure that statistical needs are given adequate weight in designing instruments and procedures for the collection of program and administrative data.

C. Importance and usefulness of integration

An approach to describing the need for a better integrated system is to describe the benefits or uses which would derive from better integration. At least five benefits can be identified:

1. *Facilitate crosscutting analysis.*—As described in chapter 1 (introduction), issues are more and more of a crosscutting nature, that is, they have not just one, but several dimensions. For example, import policy is not just a concern of business, but also has important implications for labor, energy, agriculture, transportation and probably several other widely disparate constituent groups. The analysis of crosscutting issues requires the utilization of data from several sources. As a consequence, increasingly for analytical purposes, it is not only desirable, but often mandatory that data from a wide variety of sources be integrated. Such integration is made possible in some instances or at least made easier where the data have been developed as a part of a system in which—to the greatest extent possible—each element has been designed to relate to other elements in the system. When data collection programs serve many purposes, it is never possible to integrate fully data sets from all sources, since modifying a data set to meet one need may make it less adaptable to other needs. However, such considerations only heighten the need to weigh from a broad overall perspective the competing demands on a data set to determine which have the highest priority.

2. *Identify data gaps.*—An immediate follow-on of developing crosscutting analyses from widely diversified data sets is to identify data gaps. Any system which identifies such gaps needs to have some regular procedures for transmitting and recording these gaps so that they become an input to setting priorities for subsequent modifications and improvements. Only when data gaps from all sources are sifted and addressed in some priority

mode can one hope to develop a system which fits together.

3. *Identify data inconsistencies.*—Just as integration of data sets will reveal data gaps, it will also reveal or identify data which are inconsistent. These inconsistencies can be caused by ill-defined data concepts, nonstandard concepts or classifications, inconsistent definitions of the populations surveyed, inaccurate data or data collected using different quality standards. Of course, one will always have to live with some inconsistencies, especially in data originating in administrative records. Nevertheless, integration will highlight or pinpoint these data irregularities—the first step toward ultimate resolution, at least in instances where the resolution is of sufficiently high priority. It also can be useful in identifying redundant data collection which, when corrected, lowers burden.

4. *Set priorities for resource use.*—As integration performs a role in isolating data needs, data weaknesses, or data redundancies, these become raw material or input to the decisionmaking process for new or expanded data collection, data improvement, or reducing or eliminating data series. From this framework or process, information is derived which is necessary to this decisionmaking process. Thus, successful integration produces a more policy-relevant statistical and analytical product.

5. *Reduce costs and response burden.*—Integration of direct data collection programs that are closely related offers considerable potential for reducing costs and improving quality. In addition, it may be possible to reduce overall response burden and to distribute it more equitably, by coordinating selection procedures for different sample surveys from the same population. (This issue is discussed more fully in chapter 7.)

D. Tools of integration

In carrying out the integration role for the Federal statistical system, a wide range of tools, devices or systems are available. A short description of these tools provides a better insight into how they can be used to attack integration problems. While not exhaustive, this section is designed to outline the breadth of tools, approaches, systems, or procedures available for integration.

1. *National economic accounts.*—In assembling or producing the synthesized data series (as differentiated from those developed principally from

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data collection from primary data sources), a significant amount of data comparison, evaluation, and interpretation is a necessary and/or integral part of the process. As noted earlier, this process isolates many data problems not readily apparent until widely disparate data sets are brought together. There are many current or ongoing data frameworks in the economics area which in varying degrees can or should provide this type of integrating framework; the most important of these is the national economic accounts. For many years, the OFSPS and its predecessors have been in the forefront of the development and expansion of these accounts. They include integrated accounts for national income and product, input-output, flow of funds, and balance of payments. In anyone of these, such as input-output, a very large body of data is assembled which can and often does pinpoint data weaknesses or gaps. It may, for example, show that material input data for a given industry is inconsistent with its output or sales data. Or it may be instrumental in isolating large bodies of missing or sparse data such as material and service input data for nonprofit institutions. One can run through each of the other systems and show how similar roles are played, whether isolating inconsistencies between the income and product sides of the national accounts, or between real and financial data for flow-of-funds accounts, or inconsistencies between real production and man-hour trends in productivity data. Of course, none of these systems in themselves puts priority ranking on the data needs or inconsistencies, but they do provide the raw material or input for the decisionmaking process.

2. *Integration of social statistics.*—While social statistics lack a single comprehensive system as unifying as the national accounts, an increasingly coherent system is emerging from the pioneering work of Richard Stone, Nancy Ruggles, Sir Claus Moser and others. While the field is not fully developed, a useful tool of great potential for integration of social statistics is on the horizon. For as one relates education data to demographic data, or health or injury statistics to employment data, problems, gaps, or inconsistencies are brought to the forefront in much the same way as described earlier for the various parts of the overall economic data framework. The tools involve, among others, the preparation of broad, policy-relevant, analyses and the creation and subsequent analytic exploitation of rich (in content) data bases through the use of direct or synthetic (statistical) record linkage.

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The development of a consistent conceptual framework for existing social indicators (similar to that now existing for economic indicators) is an important first step. All of these are important tools for the integration of the social statistics system potentially comparable in their impact to that of the national income accounts in economic statistics.

3. *Model building.*—Construction of economic and social statistics accounts or systems can be, as just noted, important elements in forming a coherent statistical system. Similarly, the development of broad-scale models can perform another level of integration by bringing data systems or subsets of data systems together. The act of bringing very broad data systems together from both the economic and social statistics fields can be instrumental in pointing out inconsistencies across these broad systems as well as within each. Thus, it follows that this technique should be pursued, along with others, in monitoring and improving the Federal statistical system.

4. *Standards and definitions.*—A somewhat different but still extremely salient part of insuring the greatest practical consistency through the system is in the area of standards. They encompass industrial classification systems, such as the Standard Industrial Classification, commodity, enterprise, occupational and geographical classification systems. As noted, the OFSPS has played an important role in their development and enforcement. Wherever a standard classification system is used, it is far more likely that the resulting data can be integrated. An area closely related to standards concerns definitions. Wherever data elements are collected, use of common definitions greatly facilitates not only comparisons but integration with other data sets. However, while on the surface, definitions seem obvious, any probing of data reveals many gaps in providing standard definitions of terms throughout the statistical system, whether one is looking at valuation of imports, part-time employment, years of schooling, or farm population. Even if, for different purposes, sufficient cause exists for differing definitions, it would be vastly more useful for analytical purposes if these could be related or made fully compatible. Thus, insuring that common definitions be widely if not universally used can lead to more integrated products of the statistical system.

5. *Record linkages.*—The matching of data at the macro level is an important part of the analytical

base of the present system, as well as an important integrative device. An equally powerful tool for integration and analysis is the linking of data at the micro level, usually on a sample basis. Here, rather than relating, for example, wages and benefits for a common industry, a link is made at the establishment, company, or individual level of the data from different sources. The linkage of administrative records from various agencies offers the possibility of developing powerful multipurpose data systems, at a relatively low cost and with little burden on respondents. One such system, the Continuous Work History Sample (CWHWS), provides longitudinal data on labor force participation, earnings, and migration starting from 1957. It has been used for many purposes by Federal and State agencies and for university-based social science and economic research.

Some of the benefits of record linkages can, under certain assumptions, be achieved through so-called synthetic (statistical) matching where the records linked from different data sources do not involve identical respondents, only similar respondents (suitably defined). Synthetic matching, where applicable (particularly involving records of households or individuals), is free of most of the privacy concerns involved in direct record linkages, but there are no means to determine the error structure of such estimates. There are *a priori* grounds to believe that direct linkages usually provide more accurate estimates.

6. *Other.*—In addition to those described above, several other tools should be noted. Of particular importance are methodological approaches having an integrative dimension. For example, use of the Standard Statistical Establishment List as a common survey frame across all economic surveys (as well as possibly establishment-related administrative data) would immediately aid record linking at the micro level. It would also ensure that data collected for different industrial activities—producing products, employing people, making profits—are synchronized. It would also ensure the use of common industrial classification. The use of nested surveys, or surveys with some unifying questions, along with more detailed questions related to a subsample of the overall frame, represents one possibility which could lead to some integration of data and analyses, but much more needs to be learned about the error structure of such surveys. The forms clearance process, if structured and developed with an overall system in mind, can

also act as an important tool of integration. Interagency committees can be useful in providing a forum for exchanging views and highlighting important technical issues. Another integrating device is compiling of data from widely differing data sources for the *Statistical Abstract*, other data compendiums, or a Federal Data User Inquiry Service.

III. Recommendations and options

A. *It is recommended that the role and authority of the CSO be clearly defined—both in general and specifically in relation to all the major tools of integration.*

The present statistical system is pursuing many of the integration activities described above, albeit with woefully inadequate resources. The role of the OFSPS varies, but that role is often not clear, nor well articulated or, if it is, it is not widely understood or accepted. This role is a highly important one in standard classifications, such as the Standard Industrial Classification or the Standard Metropolitan Statistical Area designations, but only informational (or bringing together interested groups) in model building. Other activities in various degrees fall in between these two, but more often than not the role is not clearly articulated and understood. Existing legislation appears to give the OFSPS broad authority for some aspects of integration, but, in practice, its mandate is blurred. It is more than likely that the role of a future CSO should vary with respect to each integrating activity, but whatever the role, it should be the result of conscious decision, clearly defined, and understood by all in the statistical system.

B. *It is recommended that additional tools of integration should be assigned to the CSO.*

In looking at the options available, one can review each important tool of integration and decide whether or not it should be brought into the CSO, left where it is with or without some explicit CSO oversight, or shifted elsewhere. To cite several examples of the range of options:

1. *The Standard Statistical Establishment List.*—Bring the SSEL into CSO. It is now located in the Bureau of the Census, but it could be brought to the CSO (subject to clarification of its confidential status). Other standard lists such as a list of individuals' addresses and a list of all government entities could be developed.

2. *Indicators.*—Bring work on and publication of social and economic indicators into the CSO. *Current Statistical Reporter*

rently, social indicators are housed in the Bureau of the Census and economic indicators are in the Bureau of Economic Analysis. Options are open to leave each of those where they are now or bring them into the CSO.

3. *Model building.*—Currently many different agencies are involved in building analytical models to meet a broad spectrum of needs. While diversity in model building and analysis is desirable, an option is available either to develop a more comprehensive model in the CSO or to shape the model development currently underway so that the models are more compatible and can be linked where appropriate.

4. *National economic accounts.*—Essential elements of integration are the economic accounts. A number of those accounts (national income and product accounts, input-output and balance of payments) are prepared by one agency, the Bureau of Economic Analysis. Flow-of-funds accounts are prepared by the Federal Reserve Board. One option which should be considered is to place all or part of the preparation and analysis of these accounts within the CSO. Another option would be to give the responsibility for all the economic accounts, including flow of funds, to BEA.

5. *Standards.*—Most of the existing work on standards is either done or coordinated by the OFSPS although its resources are clearly inadequate. A principal issue here is to decide if existing provisions for monitoring and enforcing adherence to common standards are broad enough or tough enough to do the job required. The technical review and approval function proposed in chapters 2 and 7 would probably deal adequately with this problem.

6. *Multiple-purpose administrative record sample data systems.*—The full potential of multiple-purpose systems such as the CWSHS maintained in the Social Security Administration and the Statistics of Income sample maintained by IRS is not being realized, nor is it likely to be under existing arrangements. Placing these systems in the CSO or in a multiple-purpose statistical agency, with a dedicated staff and budget, could bring a substantial increase in the utility of these integrated systems. For example, in conjunction with the National Death Index now under development by NCHS, these systems could greatly improve the ability to track the long-range effects of occupational and other environmental exposures to risk.

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C. *It is recommended that the CSO engage in a broad range of activities designed to improve the "integration of statisticians."*

This recommendation calls for the creation of a milieu in which (1) there is a widespread awareness of the interdependence of individuals working in the system and (2) decisions and conclusions are made after adequate consultation of all agencies in a position to contribute to successful solutions. To this end, the existing network of interagency committees must be reviewed and used more effectively (many committees exist at the present time but few are active). Seminars should be held with emphasis on the impact of unintegrated data on crosscutting analyses. The technical review process, training activities, and widespread and timely publication of important issues can also contribute to this important element of integration.

IV. *Relationship to the broad organizing principles*

The purpose of this section is to discuss the relationship between the recommendations on integration and the three broad organizing options spelled out in chapter 2 (priorities and budget).

The three organizing principles are: (1) strengthen CSO role in planning and in authority for technical approval of data collection plans; (2) same as (1) plus CSO budget authority over statistical programs; and (3) Same as (1) and (2) plus consolidation of CSO with one or more multiple-purpose statistical agencies.

Some of the impact of the organizing principles on each of the recommendations is described below:

Recommendation 1. Clearly define role and authority of CSO.

Implementation of this recommendation carries equal weight under all three organizational options although it can be argued that the greater the degree of change from present arrangements—options (2) and (3)—the more important it is to implement this recommendation.

Recommendation 2. Give the CSO additional integration tools.

Implementation of this recommendation would be facilitated by option 3, particularly if Census and BEA were part of the CSO. This is because the SSEL and social indicators are now housed in Cen-

sus and the national economic accounts and the economic indicators are in BEA. Under option 2, budget authority could be a rather powerful integration tool, used as a "carrot" or a "stick" to insure compliance with integration goals. It is perhaps most important to lodge additional integration tools in the CSO under option 1, which has the least amount of formal "clout." In the absence of budget authority and without the staff resources which consolidation with other agencies would provide, the CSO must clearly profit from additional integration tools. However, under option 1, one tool that could not be shifted would be the national economic accounts which are the principal *raison d'être* of BEA. In other words, a BEA without the accounts would not be a viable statistical agency.

Recommendation 3. Improve "integration of statisticians."

The larger the number of agencies included under the third organizing principle, the more this recommendation would be enhanced. It is clearly easier to develop an awareness of interdependence or to have adequate consultation within an agency rather than within a "system." Nevertheless, organizing principle 3 may not promote much stronger integration of those statistical activities outside the enlarged CSO, and it is precisely in these smaller special-purpose statistical units that problems of interdependence and consultation exist. This is because a large CSO would be more likely to focus its energies inward on managing its own very large program to the possible detriment of even broader integration objectives. In this context, organizing principles 1 and 2 may be preferred because their focus is necessarily outward and their orientation more likely to be concurrent with systemwide integration problems. Organizing principle 2 does not appear to have significant advantages over principle 1 for this recommendation unless budget authority included control over personnel as well.

V. Interactions with issues in other chapters

Integration is, as described, directly supportive of the goals of policy relevance and reduction of respondent burden. In an extremely decentralized statistical system, however, integration frequently comes into conflict with the privacy and confidentiality commitments of individual statistical agencies. Even within the same agency some "zero-sum"

conflicts arise between these two goals. Again, such trade-offs can only be managed, not eliminated.

Chapter 5. Integrity

Statistics are the heart of democracy.

Simion Strunsky

Integrity without knowledge is weak and useless . . . Knowledge without integrity is dangerous and dreadful.

Samuel Johnson

. . . when I call for statistics about the rate of infant mortality, what I want is proof that fewer babies died when I was prime minister than when anyone else was prime minister.

Winston Churchill

There are 3 kinds of lies—lies, damned lies and statistics.

attributed to
Disraeli by
Mark Twain

I. Introduction

Statistics and statistical evidence are of ever-increasing importance to debates on public policy. The proper role of the Federal statistical system⁸ as in chapter 3 on quality, the Federal statistical system is defined in this chapter to include statistical activities of nonstatistical agencies is to provide, for use in these debates, data and analyses which (1) do not take sides on the issues, (2) address all relevant aspects, (3) are based on accepted statistical theory and techniques, (4) make explicit their assumptions and limitations, and (5) are freely available to all parties under the same conditions. If the system fails to meet these objectives, its products will not have credibility nor will they deserve it.

Statistics are also used increasingly in the allocation of funds by Federal and State governments, and in other decisions and actions which directly affect the economic and social welfare of millions of Americans. Equity demands that data used for these purposes be produced by a system and by individuals with the highest standards of integrity. Even the perception of a lack of integrity will have serious consequences.

⁸As in chapter 3 on quality, the Federal statistical system is defined in this chapter to include statistical activities of nonstatistical agencies.

The Federal statistical system must also display integrity in its dealings with respondents (individuals and businesses who supply information from which statistics are compiled) and with users of its products. Respondents must be given complete information about whether response is mandatory or voluntary and about the uses to be made of the data they supply. Pledges of confidentiality should not be given unless they can be fully upheld. All users must be given access to data from the system under the same conditions.

II. *The current scene and problems*

A. *Threats to integrity*

The most direct threat to integrity is outright manipulation of, or tampering with, data. For the most part, this is not believed to be a problem. The production of a major statistical series or analysis is almost always a joint effort involving many statisticians, field staff, systems analysts and others. Any significant manipulation of the output would likely cause someone within the system to blow the whistle. Knowledgeable users would also be likely to raise questions.

According to the diaries of Henry Wallace (1973), President Franklin D. Roosevelt once suggested to Dr. Isador Lubin that he "doctor up the cost of living figures by leaving out some item so as to make it appear that the cost of living was not really rising so much as it is." Such a suggestion to a statistical administrator by a president or other high administration official today seems almost unthinkable. It is important to insure that the conditions that make it unthinkable continue to exist.

More subtle threats to integrity can arise from *selectivity*—selectivity in what kinds of data to collect, in the resources allotted to establish the quality of data in a particular series, in the selection of models and assumptions for analyzing an issue, in decisions on what data to include in publications, in decisions on when to release data or analyses, and in many other ways. Analytical, as opposed to data-production activities are especially vulnerable to threats of bias from selectivity. Selectivity biases can arise inside the statistical system, if employees allow their own personal biases to affect their objectivity, but are perhaps more likely to arise from outside the system. It is usually in the interest of any administration, particularly as a Presidential election year approaches, to demonstrate that the economy is sound and society is healthy. Consider
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able restraint and objectivity on the part of administration officials are needed to avoid favoring statistical activities which support that view, and withdrawing support from those which do not.

Any administration is, of course, entitled to flexibility in controlling and directing the activities of the executive branch, subject to constitutional and statutory restraints. It is hard to fix the borderline between legitimate determination of broad priorities and the selectivity biases mentioned above. However, there is widespread agreement among persons familiar with the Federal statistical system that significant attempts to politicize it occurred during the early 1970's. The Committee on the Integrity of Federal Statistics (1973), a joint committee established by the American Statistical Association and the Federal Statistics Users' Conference to review the situation at that time, found that:

... while there is no evidence that statistical results have been altered to support a particular point of view, there are tendencies—through reduced span of authority of professional leadership, appointment of noncareer personnel, and current and proposed reorganizations to reduce or inhibit the independence of Federal statistical personnel.

The Committee felt that:

... specific steps should be taken to allay the growing fears concerning politicization of the Federal statistical system and to ensure and maintain a high level of credible, professional statistical work.

This threat was eventually overcome, but at some significant cost to the system.

The integrity of the Federal statistical system depends heavily on the maintenance of high professional standards by its members. Threats to integrity can arise within the system from lack of professionalism and objectivity. Some practices to be avoided include:

1. The use of judgment, as opposed to random or probability, samples. Judgment or purposive samples are sometimes acceptable for small exploratory studies, but should never be used when estimates for the population sampled are a primary objective.
2. Failure to deal properly with missing or incomplete data. Statisticians must evaluate the

probable effects of nonresponse bias on a particular series, make reasonable efforts to achieve an acceptable level of response, and develop and document suitable adjustment procedures to deal with remaining nonresponse.

3. Failure to monitor all phases of data collection and processing with appropriate quality control procedures.

4. Failure to document all procedures used to collect, compile, process and analyze data, and to make documentation available to data users and other interested persons.

5. Failure to use acceptable evaluation techniques, such as verification, validation, and sensitivity analyses, in connection with the use of statistical modelling, simulation studies, forecasting, and other analytical techniques.

Another kind of threat to the integrity of the Federal statistical system can occur if agencies or individuals fail to observe what has come to be called a code of fair information practices. Data collectors must not, in their zeal to achieve high response rates, harass potential respondents to voluntary surveys or misrepresent in any way the conditions under which they are being asked to respond. Once data are supplied to the system, all employees must be aware of and scrupulously abide by all regulations, policies and procedures designed to protect the confidentiality of individually identifiable data.

Failure to abide by fair information practices, no matter how well intentioned, in the long run can only impair the integrity of the system and destroy the confidence of persons and businesses asked to supply data for statistical purposes. Cooperation in voluntary surveys will probably decline, and the quality of results will suffer accordingly.

Finally, employees of the Federal statistical system must avoid any conflict of interest. Most issues in this area are similar to those which arise in other kinds of government activities. Employees with responsibilities for procurement should deal at arm's length with any organizations from which their agencies contract for the performance of surveys and other statistical services, purchase of data-processing equipment, and so forth. Selection of contractors in competitive procurements must be based on objective evaluation criteria which have been made known in advance to all offerors.

A special kind of conflict may occur when employees of the system are assigned responsibility

for statistical activities that have direct implications for their own welfare. Thus, for example, the wage comparability surveys that are used to determine annual increases in Federal salaries are conducted by a Federal agency. While there has been no evidence of lack of objectivity in these surveys, there is a potential conflict of interest which could be eliminated by conducting these surveys under different auspices.

B. *Aids to integrity*

There are several organizational and institutional features which either exist or could be introduced to help maintain the integrity of the Federal statistical system and its output. These are discussed under four headings: insulation from political pressures, clearances and reviews, "sunshine" principles, and ethical standards.

1. *Insulation from political pressures.*—To maintain credibility, the Federal statistical system must have considerable independence, within broad priority guidelines, in determining what data to collect and how to collect and analyze them. Obviously, the system cannot have complete independence. It must be responsive to the needs of the Nation, as perceived in terms of priorities established by the Congress and President. It must also be responsive to other users, some representing influential organizations and others acting as individuals. However, the selection of particular data elements to collect, and the technical decisions on how to collect, process, analyze and disseminate information and how to present it must be made by responsible officials within the system, objectively, and based on high standards of professionalism.

The question of what kinds of data analysis should be done within the system is a delicate one. Any administration will want and is entitled to prepare analyses in support of its policies, and such analyses will frequently incorporate statistical evidence. However, it is important that advocacy analysis be labelled as such, and that it not be performed by statistical agencies. For reasons presented elsewhere in this paper, agencies in the Federal statistical system need to do analytical work, but their analyses should not advocate particular policies or program initiatives in response to political questions, nor should they be asked to do such advocacy analysis. Thus, it would be appropriate for a statistical agency to forecast the effect of alternative economic policies on income distribution, but it would not be appropriate for the

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agency to recommend adoption of a particular policy.

The above discussion brings out the importance of clearly defining the various components of the Federal statistical system so that there will be no question about the agencies and parts of agencies to which institutional principles in support of the independence of the system apply. Given such a definition, it then will be possible to adopt and apply appropriate principles such as:

a. Limiting the number of political appointments in statistical agencies and parts of agencies, and assuring that political appointees have suitable technical or managerial qualifications.

b. Requiring that analysis and presentation of output of the system be objective and neutral with respect to policy options.

c. Making original budget requests of statistical agency heads available in appropriations hearings for review and comparison with budget requests submitted after departmental and OMB review. (This is a feature of the legislation for the Energy Information Administration (EIA).)

d. Giving heads of statistical centers in Departments the authority to collect specific kinds of information without further departmental review (another feature of EIA legislation).

e. Limiting access to key economic and social indicators to a very few designated administration officials prior to general public release.

2. *Clearances and reviews.*—Clearances and reviews of statistical system programs and projects serve many purposes, such as control of response burden and maintenance of quality. In addition, they can aid in maintaining the integrity of the system. Reviews are conducted by many different groups, including:

a. Internal groups, such as the Office of Validation in EIA.

b. Departmental and General Accounting Office auditors.

c. Departmental, OMB, and OFSPS clearance units.

d. Advisory committees and panels established by the agencies, sometimes to fulfill statutory requirements.

e. User groups, such as the Federal Statistics Users' Conference.

Representation of a diversity of professional and other interests by these groups will help to insure
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that programs will not be designed to favor narrow interest groups, and that high standards of quality will be maintained. Where the system has some control over the membership of such groups, as is the case for many advisory committees, it is important to obtain a balanced representation of user and/or technical viewpoints.

3. *"Sunshine" principles.*—Just as openness in Government generally helps to maintain the integrity of our system, openness in the Federal statistical system is vital to the maintenance of its integrity and credibility. The products of the system and detailed information about its operations should be readily available to everyone, subject to restraints necessary to protect the confidentiality of information about individual data subjects.

There have been many developments in recent years that have favored and encouraged openness by and public access to the Federal statistical system. These include:

a. Legislation dealing with freedom of information and public attendance at advisory committee meetings.

b. Initiatives by the statistical agencies, with encouragement from the OFSPS, to document the methodology associated with major statistical activities.

c. Active participation and interchanges, at both individual and agency levels, between the Federal statistical system and relevant professional societies, including the American Statistical Association, the American Economic Association and several others.

d. An increasing sophistication and understanding, by the media, of the technical aspects and the pitfalls of statistical data collection and analysis. Data are no longer automatically accepted at face value by all users. It is not unusual to see newspaper or magazine articles which bring data from several different sources to bear on an issue and undertake critical analyses of apparent contradictions in data from different sources.

All of these developments have contributed to the openness and hence the integrity of the Federal statistical system.

One method which is currently being used to promote openness and responsiveness in several institutions, but does not exist in the Federal statistical system, is the ombudsman principle. Employees of the system or members of the public

who may feel that a breach of integrity has occurred in the Federal statistical system have no designated individual or body to whom they can present their concerns in confidence and with assurance that all matters will be fully and impartially investigated. Provisions of the Civil Service Reform Act of 1978 may go part way toward meeting this need for Federal employees in the statistical system.

4. *Ethical standards.*—Knowing how to act with integrity in a particular situation is easier if reference can be made to formal standards or guidelines.

The OFSPS and its predecessor agencies have developed several "directives for the conduct of Federal statistical activities" which have been published in the *Statistical Policy Handbook*. Two of these directives bear on matters closely related to integrity.

Directive No. 2, "Standards for the Publication of Statistics," contains detailed instructions for making full information "available to users about sources, definitions, and methods used in collecting and compiling statistics, and their limitations." Directive No. 4, "Prompt Compilation and Release of Statistical Information" is intended "to ensure that the principal statistical series . . . are released without unnecessary delay, and that the publication dates for principal weekly, monthly, and quarterly indicators are made publicly available in advance."

Many of the other directives in the series call for the use of standard definitions, classifications and data sources, thus limiting the possibility of subjective decisions which might favor a particular point of view.

In the area of privacy and confidentiality, a "code of fair information practices" was first proposed by the HEW Secretary's Advisory Committee on Automated Personal Data Systems (1973). Many features of this code were incorporated in the Privacy Act of 1974, and have subsequently been widely adopted and extended in various agency regulations and policies. The formulation of the code has made an important contribution to the integrity of the Federal statistical system in dealing with individuals and businesses who are asked to supply information for statistical purposes.

While there are general standards of conduct for Federal employees, there are no generally accepted standards of professional behavior for statisticians, economists and members of other disciplines that form the backbone of the Federal statistical system. With respect to statisticians, Gibbons (1973) summarized the many past efforts of statisticians and their associations to develop standards, and argued strongly the need for them. She proposed that statisticians should be neutral in all nonstatistical aspects of any quantitative study, and should inform their employers of this position with a statement similar to the following:

The statistician is an independent professional expert who does not make judgments or decisions outside of the area of his expertise, which is specifically and solely statistical theory and techniques. In any study relating to debatable issues, the statistician does not take sides in the design of the experiment, on the analysis of data, or on the presentation or interpretation of the results. Further, he will not be a party to manipulations and analyses which are, in his honest opinion, not statistically proper.

By extension, formal recognition of a similar principle of neutrality and objectivity for statistical agencies and components vis-a-vis the rest of the executive branch, the Congress and the public might contribute substantially to the integrity of the Federal statistical system in the face of potential pressures to ignore inconsistent data, shade inferences, make unprincipled judgments or behave in other unethical ways.

III. *Recommendations and options*

A. *Independence of statistical agencies*

It is recommended that steps be taken to insure a greater degree of independence for statistical agencies and centers in order to permit them to serve the best interests of the country by compiling and analyzing data in accordance with high standards of quality and objectivity.

One or more of the following options is available:

Option 1.—Transfer one or more of the existing general-purpose statistical agencies out of their Departments to form an independent central statistical office (CSO).

Option 1a.—(Dependent on adoption of option 1)—Assign responsibility and resources for analytical functions to the CSO, especially where crosscutting issues are involved. (See chapter 6 (policy relevance) for further details.)

Option 2.—Give statistical centers in Departments broad authority, within budget guidelines, to collect information and perform analyses without the need for departmental approval. (See chapter 6 for more discussion.)

Option 3.—Limit control of Departments over the budgets of their statistical centers. Transfer overall authority for budget to CSO, and allow statistical agencies greater authority over allocation of their own funds.

Pro: Allocation of funds less subject to undue political influence and disruptive shifts with changes of administration.

Con: Could cause some decrease in policy relevance, for departmental issues, and too wide dispersion of resources by project.

Option 4.—In OMB and appropriations hearings, require heads of statistical agencies to discuss differences between their original budget proposals and those emerging after departmental (and OMB) review.

B. Appointment of personnel

It is recommended that steps be taken to minimize the effects of political pressures on employees of and advisors to the Federal statistical system.

One or more of the following options is available:

Option 1.—Require that, except for heads of key statistical agencies, all employees of statistical agencies and statistical units in nonstatistical agencies must be career Federal employees.

Option 2.—Politically appointed heads of statistical agencies should be appointed by the President with confirmation by the Senate. Appointees should be persons with demonstrated professional achievement and recognition. They should serve a fixed term of 4 years with a limit of two terms. Four-year terms should not coincide with the presidential term.

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Comment: Obviously other related options can be considered, by changing the length and number of terms and specifying the agencies to be included.

Option 3.—Eliminate all political clearances for membership on technical advisory committees. If option 3 is approved, select one of two sub-options.

Option 3a.—Final selection of advisory committee members by agency heads.

Option 3b.—Selections subject to approval by CSO.

C. Audits, evaluations and reviews

Option 1.—Continue to conduct audits, evaluations and reviews at the present level, with a diversity of formats. See part III,A,2 of chapter 3 (quality) for two options on how to coordinate and make more effective use of resources presently available.

Option 2.—Increase resources for technical clearance and review of statistical activities. See part III,B,4 of chapter 3 (quality).

D. Ethical standards

It is recommended that standards or guidelines for ethical professional behavior be developed for agencies and employees of the Federal statistical system. As a starting point, Gibbons' statement of neutrality might be adapted for general-purpose statistical agencies as follows:

Federal statistical agencies and their employees shall not make judgments or decisions outside of the area of their expertise, which is specifically and solely statistical data collection and analysis. In any study relating to policy issues, the agencies and their employees do not take sides in the design of data-collection procedures or experiments, on the analysis of data, or on the presentation or interpretation of results. Further, they will not be a party to manipulations and analyses which are, in their honest opinion, not statistically proper.

Options for development of standards:

Option 1.—Development by an advisory committee established by CSO, with membership drawn from appropriate professional societies.

Option 2.—Development by an interagency committee, chaired by CSO.

E. Documentation and dissemination of methodology

The present level of documentation and dissemination of information about methodology and error structure of data products and analyses is unsatisfactory. It is recommended that standards be tightened and resources made available to bring about the necessary improvement. Specifics are discussed in chapter 3 (quality).

F. Prerelease announcements

In order to extend further equitable treatment for users, it is recommended that:

1. The scope of mandatory prerelease announcement be expanded to cover all data releases of general public interest.

2. Prerelease announcements, which are now being published monthly in the *Statistical Reporter*, be published in a daily bulletin. Further details on a proposed daily bulletin appear in chapter 9 (access and dissemination).

Implementation options:

Option 1.—Announcements to be published by statistical agencies, with monitoring by the CSO.

Option 2.—Announcements submitted by agencies to CSO, and published by CSO in a daily bulletin.

IV. Relationship to broad organizing principles

Six sets of recommendations have been presented in this chapter. Only the first, dealing with independence of statistical agencies, has potential outcomes which may vary substantially depending on which of the 3 broad organizing options presented in chapter 2 is adopted.

Threats to the integrity of the statistical system or to individual statistical agencies or units can come from several sources. The most effective organizational option depends largely on the source of the threat. If the threat or pressures are from groups outside the Government, such as industry groups and labor unions, a consolidated statistical agency, as presented in option 3, should be in a better position to withstand them. On the other hand, if pressures are from Congress, the consolidated agency of option 3, with its large and visible budget for statistics might be more vulnerable.

However, if the threat is from the executive branch, specifically the White House or a de-

partmental head, it is difficult to say which of the 3 options would provide greater safeguards for integrity. Exertion of administration pressure via control of the budget might occur more readily under option 2 or 3 than under option 1. The ability to resist more direct administration attempts to influence outputs of the Federal statistical system might best be achieved through the adoption of the recommendations in III, B, relating to appointment of personnel, regardless of which of the 3 options of chapter 2 was adopted.

As noted, the effectiveness of the remaining recommendations should not depend very much on which of the 3 options of chapter 2 is adopted. However, there may be a few exceptions. For example, the budget authority of option 2 might make statistical agencies somewhat more attentive to ethical standards, prerelease policies, and other materials issued by the CSO than would be the case under option 1. Under option 3, it would be easier to control the activities of units included in the consolidated agency (given strong leadership), but it might be more difficult to exert influence on the statistical activities of other agencies.

V. Interactions with issues in other chapters

The rapidly growing practice of using statistics to allocate resources and to index costs or benefits of programs for inflation now affects 20 percent of the Federal budget (Emery, 1980). This practice constitutes a major threat to the integrity of the entire Federal statistical system. Nevertheless, the *total insulation* of all statistical decisions from the political and policy decision process, while it would insure integrity, is not desirable. It is not desirable because total insulation would also assure isolation of the Federal statistical system from any understanding of the data requirements of policymakers and prevent statisticians from educating policymakers about the existing capacities of the system. Statistical and analytical products would neither be well nor wisely used, and the system would be unable to respond to the legitimate evolving information needs of decisionmakers. The next chapter treats the problems of achieving policy responsiveness and relevance. The conflict between these goals can only be managed, not eliminated. It can be managed if the appointed officials responsible for the interface between statistical and political institutions are statistically competent and are made very visible and formally accountable at high levels to a multiplicity of users.

The goal of integrity also interacts with quality. Ironically perhaps, politically motivated manipulation of statistics, if successful, distorts or misrepresents reality, directly reducing the policy relevance of the manipulated data or analysis. It also directly reduces the quality of statistical products. Sustained partisan political interference in statistical decisions also makes it difficult to assure that base concepts and statistical methods keep up with changes in the reality being tracked, which leads to a deterioration in data and analytic performance. Sustained political interference also makes it difficult to recruit good quality statistical professionals. This also eventually undermines the capacity of the affected organization to do good quality work.

Chapter 6. Policy Relevance

Raw Haste (is) Half sister to Delay.

Alfred, Lord Tennyson

Fiedler's Forecasting Rules:

- 1) *He who lives by the crystal ball soon learns to eat ground glass.*
- 2) *Economists state GNP growth projections to the nearest tenth of a percentage point to prove they have a sense of humor.*
- 3) *Give them a number or give them a date, but never both.*
- 4) *If you are ever right, never let them forget.*

To err is human but to really foul things up requires a computer.

Farmers Almanac

I. Introduction

Policy relevance may, like beauty, lie in the eyes of the beholder. No doubt most statistical agencies have a perception of what to them is policy relevant data. This, however, may or may not be what policymakers perceive as their informational needs for data for policymaking purposes. Therefore, a distinction needs to be made at the outset between data and the information upon which decisions are made.

Data are the product of counting or measurement. Statistics are the summarization of individual data or, if you prefer, data which have been aggregated. Analysis and interpretation of data and statistical summaries of data transform them and provide the decision context in which they are used by decisionmakers. The final product of this February 1981

interpretive and analytical transformation, when used in a decision, is no longer just data but becomes information (Bonnen, 1977). A statistical agency may have collected relevant data and produced relevant statistics, but their relevance to the policymaker is largely dependent on subsequent interpretation and analysis to give them appropriate form and significance. In other words the data must have been related in a meaningful way to other data and to tested conceptual knowledge so that broader inferences needed for policy judgments can be made about them. Finally, the policymaker needs data which have been placed by the policy analyst within the current political and policy decision context. Thus, to make policy decisions, the policymaker needs not just raw data, but the further interpretation and analyses both by applied analysts and by policy analysts.

We do not have comprehensive criteria against which policy relevance can be assessed. However, some of the major attributes of "policy relevant" statistics can certainly be listed:

A. *Quality.*—Data should be accurate and reliable. This is of fundamental importance to good analysis. Quality is discussed in chapter 3.

B. *Timeliness.*—This has several dimensions.

1. *Quick access to existing data.*—(Discussed under access and dissemination in chapter 9).

2. *Minimizing the delay between reference dates and data availability.*—This is an internal agency production problem and, thus, largely beyond the scope of this Project—except that if it is an important systemwide issue, the overall planning and resource allocation mechanism should give it priority. Planning was discussed in chapter 2.

3. *Capacity to develop new surveys with minimum delay.*—While some improvements might be possible (some general survey-taking capacity for "quickie" surveys, as an example), this problem is largely inherent in the nature of the statistical activity. While not discounting the analysis which can and is done on cross-sectional data sets, one-shot surveys do have limited uses. Often time series data are needed as well as several data sources which can be related to one another.

4. *Ability to meet future data needs through anticipatory planning.*—The analytical function discussed further in this chapter plays a major role in anticipating needs and is an important source of

input to the planning process. The latter was discussed in chapter 2. Outside groups to advise the CSO on future trends would also provide an important input for discerning future statistical needs.

C. *Preliminary data requiring minimum revisions.*—Preliminary data are most likely to be used in policy formulation. In the case of single data sources (e.g., current business reports such as retail sales or inventory data), this is largely a function of designing the surveys to achieve good preliminary estimates (e.g., by fast followup of a subsample of nonrespondents). In the case of complex synthesized series (GNP), it is an issue of coordinating the production cycles of the component series—a task for the CSO.

D. *Consistency.*—Data from multiple series should yield consistent “signals.” This issue is discussed further in chapter 4 on integration. Consistency also is related to integrity (chapter 5) and quality (chapter 3).

E. *Analysis.*—Data should be summarized in the form analytically most useful for policymakers, calling attention to highlights, unusual situations, and apparent structural problems in the economy or society. All of these require analysis of data.

F. *Communication links.*—Good communication should be maintained between statistical agencies and policymakers—here again the analytical function discussed below plays a decisive role, with a trade off between proximity to avoid distortion and distance to assure objectivity.

All the features of policy relevance except those involving analysis are addressed directly or indirectly in detail in other chapters. Hence in this chapter the emphasis is on analysis.

Inasmuch as the focus of the chapter is policy relevance and a major dimension of that is developing or enhancing the Federal statistical system's analytical ability, an impression could be left that the only purpose of analysis is to improve policy relevance. That is certainly not the intended conclusion. Analysis clearly serves other very important functions. It is the most powerful and systematic tool available to provide feedback to data collection activities about data gaps, inconsistencies and weaknesses. It can also help to sharpen definitions and methods research. In addition it is often the only way to educate new policymakers about the capability of existing data.

In this chapter the statistical system is broadly defined. It would include not only the data and analyses of the statistical agencies but also data or analyses from administrative and regulatory agencies as well. It would also encompass research to the extent it had policy relevance.

II. *The current scene and problems*

A. *Contact between policymakers and statistical agencies*

A tension between the statistical system and policymakers is inevitable, and in some sense may be beneficial, because of the differing yet complementary nature of their roles. Policymakers frequently must deal with immediate problems, many of which are at society's difficult cutting edge, while producers of statistics deal with systematic measurement of broad facets of society's dimensions and behavior. Policymakers take existing data as given and state their need for more, while statistical agencies are typically developing data to measure recently emerged problems. Policymakers work with a need for timeliness, relevance (to the policy problem at hand), and at the same time must deal with values and, therefore, with judgments and subjectivity. Statistical agencies strive for quality, reliability, integrity and objectivity. While this tension may be inevitable, statistical production and policymaking are enmeshed in a complementary embrace of growing dependence. Thus, from most perspectives the gap between the two should be reduced. How to reduce that gap is a major focus of this chapter.

The statistical and policymaking communities can and do interface at several different points in the executive branch of the Federal Government. A common point of contact for the statistical agency is often with the policy unit or units in the Department in which it is located. The nature of these contacts varies both with the nature of the statistical unit and with the statistical expertise in the policy shop. If the statistical unit is program related, the contact typically would be greater than if the statistical agency is a multiple-purpose statistics unit. Also, departmental policy shops vary in their capability both to produce and to use analysis. Some Departments may have a separate analytical unit which is a point of contact both for the policymakers (typically an Assistant Secretary for Policy) and a statistical agency.

A second contact between the statistical community and policymakers is at the White House level, that is, with the Domestic Policy Staff, with OMB or with the Council of Economic Advisers. Contact at this level is not frequent and is generally of an *ad hoc* nature when statistical agencies are requested to supply data or analyses. More typically, the interface would be between the White House policymakers and the departmental policymakers.

Another dimension of the interface between data and policy involves the statistical community and the Congress. Congress has a great deal of interest in policy development. For that reason Congress has frequent contacts with both departmental and White House level policymakers. It is difficult to characterize broadly in any meaningful way the congressional interface with the statistical community. It is extremely fragmented even for budget purposes. Increasingly, Congress has used statistical formulas in legislation, creating new uses for statistics and new demands on the statistical agencies. Many agencies receive frequent congressional requests for data, analyses, and forecasts (some of them legislatively mandated). Sometimes statistical studies are urged upon agencies without provision of additional resources, thus limiting resources to be used in other areas. Statistical agencies also are requested to testify or respond to legislative initiatives which have implications for their programs.

B. *The nature of policy groups*

Of importance to the policy relevance issue is the nature of policy groups close to the President, Cabinet Secretaries and Assistant Secretaries. There are exceptions to generalizations about such groups. However, generally they are staffed by individuals brought in by the policymakers and turnover is rapid. Most units for that reason develop little institutional memory. Many of them lack staff trained in quantitative analysis. The primary focus of policy shops is on putting out the immediate fire. For this reason, analysis is frequently (and probably necessarily) "quick and dirty." On the other hand, statistical agencies deal more with the long term. These differences in training and in orientation of the policy units and the statistical agencies, therefore, make it difficult for them to communicate. It is also a basic premise of this discussion that many policy shops have an inadequate quantitative analytic capability to make informed decisions on complex crosscutting issues.

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C. *A taxonomy of the analytical function*

Decisionmakers rarely use statistical data in their original form or rely exclusively on data alone in their decisions. Rather statistics are transformed into information through various types of interpretation and analysis. Consequently, a critical link between policymakers and statistics frequently is analysis of those statistics. Analysis is a term which has come to be interpreted broadly to mean "analysis and synthesis," and is associated with all systems of inquiry or attempts to understand objects, events, or other phenomena. The all-encompassing nature of the use of the term "analysis" makes it a vague term, and any taxonomy concerning types of analysis is necessarily arbitrary and context dependent. Moreover, the boundary between the different categories unavoidably includes a gray area. For purposes of this discussion concerning the Federal statistical system and policy relevance, four types of analysis are defined:

1. *Data Analysis.*—This is the most limited kind of analysis. It utilizes standard statistical techniques and some subject matter knowledge such as economics or demography, to interpret and explain the limitations and characteristics of particular data series. Its purpose is to draw out the meaning or sense of the data and to understand their limitations in different uses.

2. *Applied analysis.*—This subsumes data analysis, but applies a broader conceptual framework, typically involves several data sources and employs a wide variety of standard analytical techniques, including mathematical and econometric models. Examples of applied analysis are standard forecasts, sensitivity analyses of alternative scenarios, and analyses of quantifiable impacts of particular policy initiatives on an *ad hoc* or as-requested basis (such as the distributional effects of imposing a tax on gas-guzzling automobiles, or empirical estimation of "true" cost of living indexes). It also includes imputation used in the derivation of synthesized data sets such as the GNP for which there are no direct measures, and the matching and integration of data from more than one source. This type of analysis does not advocate policy or program initiatives. It answers questions whose normative content is explicitly embodied in the assumptions of the analysis, but remains objective. It focuses principally on the quantitative aspects of problems or issues, and clearly documents

the assumptions and range of uncertainty associated with the analysis.

3. *Quality analysis.*—This type of analysis is often called data validation or a statistical audit. It is aimed at understanding the quality of data through decomposed error analysis and other methods. It seeks to determine (a) the continued relevance of the data to the questions it purports to answer; (b) the degree to which the actual characteristics of the data represent the data specifications or user requirements; and (c) the accuracy, reliability, and timeliness of data. This type of analysis is an essential part of a strong statistical system, and the result of quality analysis should be taken into account by those who convert data into information for policymakers. This is treated more fully in chapter 3 on quality.

4. *Policy analysis.*—This subsumes the techniques utilized in data and applied analysis, but includes an even broader range of considerations, judgment, or choice of options. Qualitative and intuitive considerations are often added to the more rigorous quantitative techniques used in applied analysis because of the complex and often unfamiliar nature of the problems and because of the frequently unquantifiable social, political, and institutional factors that enter into national policy choices. This type of analysis seeks to illuminate the nature of the choices available to some decisionmakers; its distinguishing characteristic is the requirement to integrate what is simply unknown for the present with what may be known with reasonable certainty based on technical analysis. The "softer" nature of this analysis and the usually controversial nature of policy decisions, largely because of the unavoidable application of value judgments, almost inevitably, but unfortunately, lead to suspicions of bias and advocacy of a policy decision. It is the controversial nature of "softer," future-looking analysis and of advocacy that may affect the credibility of such analysis or the source of such analysis. Policy relevance of data or analysis, it should be noted, is a perceived value and not something that can be measured in any quantifiable way.

D. *The policymaking environment*

Policymakers must increasingly operate in an environment of broad crosscutting issues. Rarely can it be said that an issue is an agricultural problem, a housing problem, an energy problem or a

labor problem. Policy issues are typically multifaceted with implications for a broad spectrum of areas. For example, agricultural programs have important implications not just for farmers but also for wage earners, consumers, and business groups. There is a stronger or better articulated advocacy from all of these groups today forcing the policymaker to consider more or broader trade-offs.

Also, society in all its dimensions demands a quicker response today and policymakers feel this same pressure for "instantaneous" response. To the extent that policymakers depend on data and analysis as inputs to decisionmaking, the pressure that policymakers feel for quicker response is passed on to the statistical system in the form of demands for quicker results. The inability of the statistical system in many instances to meet these demands leads many policymakers to conclude that the system is incapable of producing policy-relevant data.

While this may be only a perception, it is widely held by most, though by no means all, policymakers. Where this perception is held, it can result in policymakers turning elsewhere for data and analysis. If this continues, the statistical system will be increasingly isolated from policy and confined to producing data only for the general public. At the same time, the data which are an input to the decisionmaking process will not be reviewed by the public, inasmuch as it would be provided entirely by policy analysis units and as a consequence not made available for public perusal. Policy will become less open as a process and policy conflict more difficult to resolve without an adequate and validated factual base—available to the public in general and to all protagonists in policy debates.

Why do policymakers perceive the statistical system as increasingly less policy relevant? Is it a data failure in the sense that the data needed are not available? Or are the data available, but not timely enough? In general, it would seem that failures are not related to lack of data. With some exceptions, neither is it a case of data not being accurate enough—often the opposite complaint is made, namely that statisticians dwell on detail and inordinate accuracy, both of which may result in delays. For many decisions only rough parameters are needed. Lack of timely data is a common complaint and is one which probably can never be fully resolved. Without doubt many, perhaps most,

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policymakers believe that the output of the Federal statistical system is inadequate, that is, does not provide them with sufficient insight into the problems and trade-offs with which they have to deal.

It is one of the salient conclusions of the present Project that there are no adequate *mechanisms* in place to ensure the policy relevance of the output of the Federal statistical system. Furthermore, even when the output is potentially highly relevant, the institutions of communication between statisticians and policymakers are so inadequate that there is an endemic failure to base policy decisions on available statistical data. Both of these problems can be traced in large measure to an inadequately developed analytical capacity—within statistical agencies and in the various policy decision processes.

Analysis within the statistical agencies is necessary to draw out the "message" of the data in terms which are meaningful for policymakers. It is also a major tool used to compare different data series so as to identify and explain the inconsistencies among them. A deep knowledge of various areas of complex phenomena based on an analytical capacity, is required in statistical agencies to track changes in society, and thus to anticipate data needs.

A study of the policymaking process was not within the direct mandate of the Project. Nevertheless, it appears from the Project's work that quantitative analysis in policy shops is generally not given a high enough priority. The complex output of the statistical system can seldom be put to effective use within the policy process without quantitative analysis: it is an essential synthesizing tool for bringing to bear on complex policy issues the large amounts of relevant and often divergent statistical evidence.

The inadequate development of quantitative analysis both in statistical agencies and in policy shops is an obstacle to the more effective conduct of their different mandates. Perhaps even more important, from the point of view of the policy relevance, it results in a very weak bridge between the policy process and the statistical system. Quantitative analysts in policy shops and in statistical agencies, having largely interchangeable skills (although different mandates), are a potentially important but presently weak link between policymaking and statistics. Exploiting the naturally easy communication between personnel having similar professional backgrounds, these

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analysts could contribute to a better exploitation of statistical data for policy purposes where the data are potentially relevant. They also could be the link to the statistical data-producing functions through which future data needs or current data problems could be signalled.

In summary, since statistics cannot be relevant without their being effectively used, and since effective use is inhibited by the inadequately developed quantitative analysis function within both policy shops and statistical agencies, lack of analytical capacity is seen as being of fundamental importance to the future of the statistical system and its continuing real and perceived policy relevance. Improvements in analytical capacity assure that the information needed for policy purposes will always be there.

III. *Recommendations and options*

It has been found that the Federal Government lacks an adequate quantitative analytical capability, particularly to provide analysis for policy purposes. It is therefore recommended that analytical units be established in at least three distinct areas in the Federal Government, each with somewhat different responsibilities. These analytical units will provide both applied and policy analyses within the Departments. Further, greater *applied* analytic capability is recommended at the White House level to complement its existing *policy* analysis capability.

A. *It is recommended that applied analytical units be established in each major statistical agency.*

1. These analytical units should report directly to agency heads or their deputies. This should provide them with considerable authority within their agencies for analyses spanning the entire spectrum of the agency's program.
2. A high priority should be placed on broad crosscutting analyses drawing on data both from within their agency and Department and from other agencies. Some redundancy in analysis is useful and should be encouraged to assure policy relevance and an open, objective system of applied analysis.
3. The basic approach of these analytical units should be to analyze *data* rather than *issues*. For example, these units would analyze the price elasticities of alternative energy supplies, not the issue of deregulating natural gas. In order to protect the integrity of the statistical agencies they should

neither initiate policy nor advocate policies. They should, however, engage in research to shed light on economic and social problems, using data from the statistical programs as a principal input. It is recognized that even when the analysis and techniques used are objective, the conclusions that can be reached on the basis of the analytical results might favor one policy outcome over another. While there is already a gray area here, it is believed that the integrity and objectivity of the statistical system will not be jeopardized as long as the following conditions are adhered to: the quantitative analysis is objective, its methodology and limitations (including those of the statistics used) are clearly stated, the results are put into the public domain, and the policy implications of the analysis are left for others to draw out and debate.

4. Another very important function of these analytical units would be to provide feedback to data producers within their agencies. This feedback would indicate data weaknesses, quality concerns, data gaps or inconsistencies, and data needs. While the existing data system is extensive, it is not designed to meet every potential problem and, as noted earlier, the long run viability of the Federal statistical system depends on adapting to changing needs. The analytical unit would provide an important link between data producers and policymakers to signal data needs or problems.

5. In addition to their regular analytic functions these units should work toward developing a quick response capability to provide data and analysis in forms more useful to policymakers. They should have increased direct contact with analysts in the policy shops to form an essential communication link.

6. A very important dimension of applied analysis would be theoretical and conceptual work on measurement concepts. Such research would have extremely important implications for data, their quality and their policy relevance.

7. The new units should be staffed by subject-matter specialists, physical scientists, quantitative economists, statisticians, other social scientists, computer specialists and others, as appropriate, to form an interdisciplinary group that builds on the contributions of each.

8. Analyses produced by these groups should be made available to the public with assumptions, methods, and data sources documented.

9. These analytical units in the statistical agencies will represent links to other types of analysis. They will provide more input for use by

policymakers both within the Departments and in the Executive Office and Congress. This will forge a better link between data and policy. Their analyses should also be made available to the public, to promote a more informed discussion of national issues.

B. It is recommended that, in Departments and in major independent agencies which currently have no statistical agencies, an applied analytical unit be set up.

In Departments or major independent agencies which do not have statistical units, an applied analytical unit should be developed within the agency but outside the Office of the Assistant Secretary for Policy. These units will provide applied analysis of data, found in the Department or agency and elsewhere, useful to policy analysis and policy advocacy. By setting up these units separate from policy analysis, a focal point for objective statistical activity would be formed providing the basis for a later consolidation of statistical programs.

C. It is recommended that Departments strengthen their policy-analytical capability. To do this they should:

1. Set up quantitative analytical units where they do not exist, either as separate units within the Office of the Assistant Secretary for Policy, or as distinct organizations. (In large Departments it may be desirable to have both.) These units should be in direct support of policy analysis but should also interact with the applied analytical units.

2. Provide for some career staff who stay from one administration to the next and who are experienced in quantitative analysis in the relevant disciplines, statistics, and subject matter specialties. They should become the "institutional memory" of policy shops.

3. Develop mechanisms for stronger linkage between policy shops and statistical agencies by hiring policy staff from the analytic units of statistical agencies or by obtaining them through rotational assignments.

4. Focus should not be exclusively on policy advocacy. The focus of the analysis would be closer to policy issues than in applied analysis. However, sufficient time and distance from day-to-day policy concerns should be kept to allow a more careful review of pertinent data to draw out their meaning. In some instances, it may be very useful to make such analyses public although generally they will be confidential.

The policy analysis provided by these units, coupled with the applied analysis in the departmental statistical units, should provide Cabinet Secretaries with information which is more relevant to the policy questions in their respective Departments. The outline here is not meant as a precise formula. Departments differ and modifications would need to be considered, for example, in so-called program agencies where the distinction between applied and policy analysis is far more difficult to make.

D. It is recommended that an overall Federal statistical system Applied Analytical Unit be established.

1. Central to analysis both at the Presidential and at the departmental level is an overall analytical unit. An important element in its mission would be to perform analyses on broad subject matter and crosscutting issues that involve potential trade-offs between different policy issues. This analysis should deal with issues concerning structural changes in society rather than serve to guide immediate policy actions such as is done by the Council of Economic Advisers. However, the applied analysis often would presumably have a great deal of longer-run policy relevance—in fact that is one of the primary purposes. The recommended unit for applied analysis would complement the policy analysis of the CEA and other White House units just as the applied and policy analysis units complement each other at the departmental level. It would, however, provide to the President analysis generally not available from any existing agencies, since it would not be filtered through Departments before reaching him.

2. This unit should work with and encourage applied analysis in the statistical agencies. It should not duplicate analytical work in the agencies, but strengthen agency analysis by expanding its scope and helping to provide knowledge of the broader context of national information needs for policymaking.

3. This unit should feed to the CSO identification of weaknesses, redundancies, or gaps in the statistical system which will need correction.

4. This analytical unit should work on development of the concepts and data bases necessary for model development. This would have value both for its analytical usefulness in developing simulation studies, forecasts, or "what if" analyses and also as tools for determining data weaknesses and needs in the Federal statistical system. In so doing it should be able to shorten lead times by anticipat-

ing analytical and data needs, thus addressing one aspect of the timeliness concern policymakers have about the performance of the Federal statistical system. This should be done in close cooperation with the modelling efforts in the Departments and statistical agencies. Chapter 4 on integration elaborates on this issue.

5. The analytical work of the unit should be similar to that performed within the statistical agencies, but should deal with broader issues and data bases: it should be objective, documented and available to the public. However, to form the last link in the statistics-producing to policymaking chain, namely to link with the White House, the unit should have a capacity to perform applied analyses in a service mode. It should work with the policy analysts at the White House in ensuring that the topics on which it conducts its analysis are most useful to their needs.

6. Another function which the analytical unit should pursue would be to commission research or "think pieces" from academic or private research institutions on data needs for future substantive or methodological problems or related issues. These "think pieces" could be useful inputs for outside advisory committees when they provide guidance on research, analysis and methodological issues.

7. Locational options:

Options exist as to the location of the central applied analytical staff.

a. A unit which is not a part of the Executive Office of the President or of the Central Statistical Office. Such a unit could be an independent agency or inside an existing department.

b. An analytical unit which is part of the Central Statistical Office.

c. An analytical unit which is part of an existing agency in the Executive Office of the President (such as the Domestic Policy Staff or the Council of Economic Advisers) or an independent unit in the EOP.

The pros and cons for these three options revolve around (1) closeness to policymakers for purposes of relevance, and (2) closeness to the Federal statistical system for feedback and integration purposes and to preserve the image and reality of objectivity and integrity. In this context option (a) seems not to have an advantage on either of these issues. Option (b) has strong feedback potential but a somewhat weaker policy directness. Option (c) has the advantage of closeness to policymakers but might have weaker links to the statistical system.

E. Improved communication and analyses

Wherever the central applied analytical unit is located, establishment of analytical units at statistical agency, departmental and Executive Office levels should improve the analyses provided to policymakers. Communications would be improved, and so probably would the policy relevance of both the data and the analysis produced—in the short run with respect to data which are currently collected and in the longer run with respect to new data needs or complex analyses.

The approach of developing various types of analytical capacity throughout the statistical system as well as the policy decision process has the virtue of providing the linkage necessary to achieve greater policy relevance without creating a formal structure of control which would lack flexibility and might endanger the integrity of statistical decisions. The disadvantages are those of any decentralized approach: for example, the need for formal mechanisms of cooperation; the greater time sometimes needed for an integrated response; more opportunities for a mismatch of effort.

IV. Relationship to broad organizing principles

This section discusses the relationship between the recommendations presented in section III of this chapter and the three broad organizing principles developed in chapter 2 on establishing priorities and allocating resources. These three organizing options very briefly are:

Option 1.—CSO has a role in planning statistical activities and for technical approval of all data collection.

Option 2.—Includes option 1 authority plus CSO authority over the budget of the statistical agencies.

Option 3.—Includes option 1 and option 2, plus CSO is organizationally combined with a number of the major statistical agencies.

The three major recommendations in this chapter were for analytical units to be established in (1) statistical agencies, (2) in or near departmental policy units, and (3) within CSO or close to White House policy units.

Option 1 would afford a better opportunity for analysis within the statistical agencies on the as-

sumption the CSO would use its planning and clearance authority to facilitate analysis.

Option 2 would perform the same role with respect to providing links between the statistical agencies and the CSO on the assumption that CSO's planning and budgetary authority is used to that end. It could be enhanced by the stronger CSO role in budgetary matters.

Option 3 has more significant implications for this recommendation. It would put the third and first link in the recommended analytical chain inside the same organization (assuming the analytical unit was in CSO). This would seem to reduce the desired potential for providing different analyses prepared by different groups with different perspectives; that is, the departmental-level and presidential-level applied analysis within the statistical system would be merged. This would also seriously weaken the linkage between the applied analytical units and the departmental policy analysis units because the consolidated statistical unit of option 3 would be organizationally, if not physically, further removed from the Departments.

V. Interactions with issues in other chapters

Policy relevance conflicts directly with integrity as a goal. To achieve greater policy relevance the institutional linkage and communication between statisticians and policymakers must be effective and reasonably close. However, the more closely involved partisan political interests are in statistical decisions, the greater the danger to the real or perceived integrity of statistics. Thus, there is an unavoidable tension between these two goals which must be managed since it cannot be eliminated. Attention to the institutional protections discussed in this chapter and in chapter 5 (integrity), as well as continuing and conscious management, are necessary to maintain an appropriate balance between these competing goals.

Chapter 7. Response Burden

The Federal Government requires large numbers of statistical figures from businesses and individuals, thus imposing a financial burden on them. This is particularly true in the case of small business. This burden might be further reduced.

Hoover Commission, 1949
Statistical Reporter

I. Introduction

All will agree that some paperwork is necessary and that unnecessary paperwork should be eliminated. Without good information, Government cannot equitably award benefits to eligible persons, assure compliance with national laws and policies, evaluate the performance of Federal programs, or measure economic and social trends to enlarge the understanding of what is happening and why.

Nonetheless, the providers of information—individuals, businesses, State and local governments, and other organizations—justifiably complain about reporting burden and legitimately seek action to reduce it. Action is underway. The growth of reporting burden has at least been stabilized, and constructive proposals for improved management of reporting requirements are emerging, through Presidential initiatives, congressional review, and the work of the Commission on Federal Paperwork (CFP).

The management of Federal reporting requirements and the statistical system interrelate in several ways. First, a distinction should be drawn between the *products* of statistical agencies and the methods they use as the *tools* of inquiry. The *tools* used by statistical agencies (sampling, quality control, intensive analysis of existing data, etc.), are near the roots of reporting requirements, and the use of the appropriate tools reduces reporting burden. It is in this sense that, from the point of view of response burden, the use of appropriate statistical techniques is of major importance and should be applied well beyond any formal definition of the Federal statistical system to all Federal data collection.

Second, a substantial number of the major statistical programs depend on the accuracy and quality of information compiled for administrative and other nonstatistical purposes. Administrative records are used extensively in statistical programs, both directly (e.g., trade statistics) and indirectly (e.g., as survey frames for statistical inquiries). The compilation of the national income and product accounts is perhaps the most fundamental example of dependence on secondary sources of information for statistical purposes. Hence, the level and quality of responses to reporting requirements throughout Government has an important, though often indirect, bearing on the quality of statistical measures of economic and social activity.

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Finally, the value of the work of statistical agencies, in contrast to that of many Federal program agencies, depends greatly on public recognition that statistics are in themselves beneficial to Government operations and that cooperation is in the public interest. Indeed, much of Federal statistics directly or indirectly serves the private sector and other units of government who are in many cases also the respondents. The paperwork generated by statistical work for Federal Government uses does not normally confer any direct benefits on individuals or other respondents, nor can statistical agencies rely extensively upon mandatory authority to obtain necessary information. Consequently, the extent to which the Government manages paperwork requirements efficiently and wisely has a direct impact on the ability of the statistical system to produce accurate, timely, and relevant data for decisionmaking purposes.

II. The current scene and problems

The oldest tool for controlling reporting burden is clearance as mandated by the Federal Reports Act (FRA) of 1942. However, it no longer suffices in its present form to meet current challenges. The Internal Revenue Service, bank supervisory agencies, and several other governmental units were exempted from the Act's coverage when it was enacted. In 1973, jurisdiction for approval of regulatory agency report forms was shifted to the General Accounting Office (GAO). The statutory authority which GAO has over the reporting requirements of regulatory agencies is limited and ambiguous, and its clearance function is partially inconsistent with its overall responsibility for monitoring and evaluating agency activities. In 1976, GAO recommended that Congress relieve it of clearance responsibility. In 1975 Congress further exempted from OMB authority the collection by the Department of Health, Education, and Welfare of data on training in the health professions and in 1978 exempted education statistics. The clearance function was further complicated in 1977 by the transfer of part of what was then the Statistical Policy Division from OMB to Commerce. Fragmentation of clearance authority has destroyed the possibility of equitable and common rules and undermined the capacity for coherent burden reduction.

Since this options paper was developed in late 1978 the problems of burden control have been addressed by (1) Executive Order No. 12174 of

November 30, 1979, which extended the scope of and capacity for burden control with the establishment of a "burden budget" process, and (2) the enactment in December 1980 of the Paperwork Reduction Act of 1980, which completely revised the Federal Reports Act and returns (effective April 1, 1981) all final clearance authority plus statistical policy and standards to OMB.

It is still too early to know how effective these changes will be, but clearly the tools for burden reduction have been expanded; the Paperwork Act combined five other functions (computer systems management, OMB privacy oversight, records management, regulatory policy, and statistical policy and standards) with burden management in one OMB unit under the assumption that they are all subsets of "information management policy." Some of these functions are primarily day to day operations, others purely coordinative and long-run policy and oversight; some of the functions attract great political or bureaucratic attention, others attract little or none. It is doubtful that all six functions can be managed with appropriate attention to those which attract little political interest or create little bureaucratic power, especially in an environment which historically has never allocated adequate resources to such management and policy activities. This problem of compatibility of functions is addressed in the final report of the Statistical Reorganization Project published in the May 1980 *Statistical Reporter*.

The statistical policy and standards functions were transferred to OMB without otherwise addressing the problems now confronting the statistical functions of government. It also should be noted that if the statistical policy functions are folded into the present OMB unit (the Office of Information and Regulatory Affairs) and managed as the other functions are presently managed (an agency desk officer concept with each employee responsible for all the OMB unit's functions for a given agency or agencies of Government), statistical policy and standards will soon cease as an effective function. To be credible, statistical policy requires highly skilled and respected professionals. In the longrun, it will be impossible to attract or retain highly qualified statistical professionals in such a work environment. Maintaining the integrity of statistical policy decisions is a dicey proposition when these decisions are made by the same unit responsible for regulatory policy. Thus, the Paperwork Act of 1980 resolves several burden

control problems but appears to create severe difficulties for effective execution of statistical policy.

As measured in terms of burden hours, the Reports Act by mid-1978 covered less than 16 percent of all Federal reporting requirements, and only those regulatory requirements which are within the executive branch, such as those of the Occupational Safety and Health Administration and the Environmental Protection Agency. Federal tax forms accounted for 78 percent of burden hours—613 million hours and 260 forms. Regulatory and financial reporting account for about 9 percent of reporting hours; program evaluation and research, about 5 percent; applications, about 6 percent; and direct statistical reporting, about 2 percent (Office of Management and Budget, 1978). The statistical burden would undoubtedly be higher if it were not for the extensive practices of the larger statistical agencies in using existing administrative record sources in lieu of direct data collection. It should be noted that the most rapidly growing sources of response burden are administrative, including regulatory, records.

However, important dimensions of burden are obscured by undue emphasis on numbers of report forms or reporting hours. For example, the burden of completing income tax Form 1040 is distributed across a very large base of respondents, and thus if burden were measured in hours per respondent per year, and by type of respondent, a different picture would emerge. An application for a benefit is relatively less burdensome when clear and direct benefits are perceived by the person completing the form. On the other hand, a medicare claim may be "burdensome" because of frustration with red tape, or anxiety about the size of the benefit or when it will arrive. The burden of regulatory and compliance reporting often reflects basic opposition to being regulated rather than just frustration with hours of paperwork. The small business can readily associate a clutch of reporting requirements with direct loss in productive work. Individuals who receive statistical inquiries often cannot see why the inquiries are important or useful to the Government, much less of any direct benefit to them, or they may incur the psychic burden of anxiety over how personal information will be used and whether, when promised, it will be kept confidential. Lack of confidence in Government probably contributes indirectly to virtually all perceptions of burden.

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Apart from these different dimensions of the burden and paperwork problem, which require different approaches to resolve, the administration of the FRA through the clearance function has been widely characterized as deficient in several respects.

The stated purposes of the FRA are to: obtain information with a minimum of burden on business, especially on small business enterprises; obtain information efficiently at minimum cost to government; eliminate unnecessary duplication; and maximize the usefulness of data to Federal agencies and the public. Within the constraints of time and resources—which have been severe—the clearance function has been expected to fulfill these purposes by ensuring that proposed report forms reflect careful consideration of alternative methods of information gathering, usefulness, cost, quality, and timeliness.

Since Executive Order No. 12174 was promulgated, OMB has assumed the task of monitoring ceilings on reporting burden, providing guidelines to agencies, and attempting to ensure that exceptions to controls and guidelines are justified and endorsed at the top level of each Department or agency.

The problems and deficiencies in the administration of clearance under the Reports Act are discussed in detail in the report of the Commission on Federal Paperwork entitled, "The Reports Clearance Process." Key findings may be summarized as follows:

1. Clearance focuses on symptoms more than root causes of paperwork;
2. The clearance process is too late in the development of a program to be effective in stopping unnecessary information requirements or in shifting to alternative collection methods;
3. Coverage of information reporting practices is incomplete and split among three agencies;
4. The process is slow, adversarial, and does not differentiate adequately between major and unimportant burdens and projects; and
5. The management control and clearance activities of Departments and agencies vary widely with respect to priority attention, adequacy of staffing, and thoroughness of review.

The CFP and others have also noted that the clearance unit has been understaffed relative to the demands on it, the growth of reporting require-
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ments, and their complexity. Moreover, it has been difficult to enforce compliance with standards and guidelines short of the negative exercise of the explicit authority of the OMB Director to withhold approval of report forms. It should be noted, however, that the positive contributions of the clearance function to burden avoidance are seldom mentioned, and, in fact, have not been documented. (Several of these problems, of course, have been addressed by Executive Order No. 12174 and the Paperwork Reduction Act of 1980.)

III. General goals and objectives of a revised clearance process

A. A redesigned clearance process should remain the centerpiece of burden management; clearance should become a function rather than an office which acts at the last point in a chain of events. The revised *clearance function* should include: a *substantive review* phase, conducted by people with a diversity of skills including administrative as well as statistical; and *final approval*. The clearance process should encompass all Government report forms, and to achieve this, split jurisdiction over at least the substantive review and preferably also over final approval should be eliminated. The substantive review should largely overlap with the project planning phase and should relate not only to the proposed forms but also to the collection methods. The CSO should have a key role in the redesigned clearance process.

B. All reporting plans should be *registered* with the CSO and subject to a common process of technical review and approval. This technical review is in large part separable from broad determinations as to appropriate reporting burden *levels* (the determination of which involves policy and political considerations); the CSO might disapprove a plan because certain standards are not met, independently of the burden *level* question.

C. The substantive review by the CSO should occur early enough in the design of reporting plans so that potentially serious deficiencies in the plans are brought to the attention of program managers before final choices among alternatives are made. When it appears appropriate at this stage, the CSO should be able to consult independently with representatives of the information providers and data users that will be affected by the reporting requirements. The CSO should also be authorized to conduct after-the-fact assessments to

determine whether implemented plans have met the stated project objectives.

D. The central registration of report plans, together with information on the nature and content of finally approved report forms, will facilitate the development of a Federal Data Locator Service (FDLS) as recommended by the Commission on Federal Paperwork (1977f). This should be undertaken by the Federal Government as a common service to all those involved in the burden management and clearance process.⁹ In addition, to facilitate access to Federal statistics by data users, and starting from the FDLS data base to avoid duplication, a Data Users Inquiry Service (DUIS) should be developed. The Data Users Inquiry Service should provide, as its primary product, documentation as to which agencies are collecting what information, for what purposes and using what methods and concepts. (See chapter 9 on access and dissemination for discussion of the Data Users Inquiry Service.)

E. The clearance and coordination function should relate directly to State and local governments and intergovernmental entities that share common interests in the reduction of Federal reporting burden through simplifying requirements and improved integration between their own reporting needs and those which are Federal in nature. As part of the technical review of report plans, consideration should be given to alternatives or modifications which might be offered in the way of Federal-State-local cooperative efforts. The function should also include the preparation and dissemination to the States and intergovernmental entities of a periodic synopsis of reporting plans under development.

F. The concept of a Data User Inquiry Service addresses one dimension of the problem of making greater use of existing information in lieu of new reporting requirements. It is also necessary to make existing information more accessible in aggregated form. Data access is discussed in chapter 9. Noted here because of its relevance to State and local government concerns, is the need for a computer-based, general-purpose, socioeconomic data base readily available to all users. Large quantities of subnational data exist on the characteristics of States and their political and geographic subdivisions with regard to population and local economic activity. Many of these data elements are used in the development of grant and allocation

formulas and the targeting of Federal program services. The Commerce Department, in conjunction with the Executive Office of the President and other agencies, is engaged in developmental work (contingent on funding) to organize such a data base, with particular attention to retrieval and display capabilities. This development, and the ultimate use of its product, should be closely linked to reporting reduction goals and guidelines and utilized as a tool to simplify State and local reporting to the Federal Government.¹⁰

G. Departments and agencies are not optimally organized internally to focus clearly on the various fragments of managing and minimizing reporting burden, and we concur with the Paperwork Commission that resources and skills in this area should be better integrated. The redesign of the clearance function should be coupled with strengthened departmental and agency clearance, in order to bring together skills in statistics, administration, and other specialized knowledge in data collection, processing, retrieval; and dissemination. This would permit the Departments and agencies to carry out a delegated portion of the review and clearance process concurrently with the early involvement of the central, counterpart units.

H. The recommendation of the Commission on Federal Paperwork that focal agencies should be licensed to handle decentralized clearance of report plans in common subject-matter areas should be approached with caution. Under current guidelines and procedures for central management of Federal reporting burden, there are insufficient incentives for Departments and agencies to make substantial gains in reducing burden. As a result, they may not be able to resist constituent pressures for more information gathering. Under present controls, for example, an agency that makes a dramatic reduction in its total reporting burden has little reason to expect that its ceiling will not be lowered accordingly. Moreover, one source of burden is an agency's understandable desire to have facts and figures in hand in the event of outside audit and evaluation. A focal agency clearance unit is likely to encounter conflicts between burden reduction goals and the perceived

⁹OMB now has a Federal Data Locator Service operating as a function of the clearance and paperwork budget process.

¹⁰The Decision Information Display System (DIDS) is now operating in OFSPS.

information requirements for evaluating its success in achieving basic program goals. However, where a Department or agency demonstrates the capability for a degree of independence, and adherence to criteria for technical review of report plans, delegation of some clearance authority is desirable. The CSO, even with expanded resources, will never be in a position to give detailed and fully-informed scrutiny to every report plan submitted for review and clearance.

I. Research into the true nature, cost, and distribution of reporting burden is an essential element in better information management. This research should make full use of the knowledge of Federal program managers. Some beginning has been made in that OMB has refined its data on reporting hours to exclude *changes in use* of report forms (more tourists going abroad means more passport applications but the additional "burden" is not caused by the agency that requires the form) for purposes of monitoring real agency progress in controlling burden. (*Paperwork and Red Tape*, Report to the President and the Congress from OMB, June, 1978.) Consideration should be given to the complexity of data elements in a report plan, as well as the differential impact—by types of reporting—of an hour of reporting imposed on business, local government, and the individual.

J. Measurement of the *distribution* of burden should directly facilitate burden reduction by avoiding unintended accumulations of requirements placed on the same respondents. This is especially critical for small business. Although some case studies have been done, there is no practical way at present to establish how many report forms are received by the same establishment within a given period of time. This knowledge would permit the selection of samples (when alternative respondents are equally valid in the design) so as to avoid burdening a small business more than a minimum acceptable number of times in the same reference period. The Standard Statistical Establishment List would appear to hold promise for improved control over maldistribution of reporting, and should be made available for this purpose.

K. Strong incentives should be developed to encourage Departments and agencies to reduce reporting requirements. A lost opportunity has been the absence of any systematic measures of burden avoidance. When an agency designs a reporting

plan, it is usually designed to meet legitimate program objectives rather than a reckless response to the thirst for more information. To the extent that central review and clearance forces revisions or alternative methods of information gathering, it is often perceived as forcing departures from a plan well suited to a single purpose. Incentives are needed to encourage departures which would reduce burden without serious loss to the primary purpose and utility of the collection.

One clear incentive is to facilitate modest testing of alternatives in the developmental stage without central clearance for contacts with respondents below a given threshold (10 respondents is much too low, but the level might best vary according to type of form, type of respondent, and other considerations).

When a less burdensome—or more multi-purpose—alternative is selected, the agency should receive recognition for burden avoidance if it is significant in volume. Recognition can be intangible in the form of good publicity and a compliment from "on high," and in a more tangible form of greater management flexibility awarded to burden reduction "achievers."

Similarly, program managers who are responsible for information management should be motivated individually through performance objectives that will result in appropriate bonuses, awards, or merit pay in accordance with implementation of the Civil Service Reform Act of 1978.

IV. Recommendations and options

This section will discuss some concrete options for implementing the objectives described earlier. Most of those objectives constitute an agenda for improved management of Federal reports. The first two constitute major recommendations:

1. The clearance process *should be redesigned* to comprise a *substantive review phase* coupled with the project planning for *all* Federal data collections and conducted by people with a diversity of skills including administrative as well as statistical; and *final approval*.

2. *All reporting plans should be registered* with the CSO and subject to a standardized process of technical review and approval.

The following options are appropriate to how these recommendations are implemented.

A. Delegate *full* clearance authority to the CSO for *technical review and final approval or rejection of statistical projects and report forms*.

This would differ from the current situation in which the CSO performs a substantive review of statistical report forms but approval authority remains in OMB. Under this current arrangement, the CSO can concentrate its resources on statistical projects; however, its authority is weakened, the scope of what is defined as a statistical report is ambiguous, and the substantive outcome of its review can be altered by the ability of OMB ultimately to reject technically approved plans (or approve plans that are technically unsound). Such conflicts should be reduced, in principle, by the maximum use of the authority delegated by the President to the Cabinet-level Statistical Policy Coordination Committee.

Under this option, the technical review by the CSO would take place early during the project development cycle and would encompass concepts and definitions, adherence to standards, and classification systems where they exist. This option does not preclude retaining broad controls and guidelines in OMB for reporting burden levels; this could be accomplished by establishing reporting burden "budgets" for statistical as well as other reporting requirements. The statistical system would have a burden budget, and its allocation would be determined by the CSO in consultation with the statistical and program agencies. Exceptions to these budget ceilings should be negotiable.

B. Retain final clearance authority in OMB for all data collection, including statistics, and require the *registration* with CSO of all Federal reporting plans and forms currently subject to the Federal Reports Act. CSO performs *technical review* as in option A for *all* forms under the FRA, and *recommends* approval or rejection of all plans and forms.

This would conform to the current scene for *statistical* projects, but would also give the CSO a substantive review function for reporting plans associated with recordkeeping, applications, program evaluation, and selected regulatory data collection instruments.

C. Enact legislation to unify clearance authority, linked with the review process described in option A.

1. Delegate final clearance authority to CSO for statistical projects;

2. Retain final clearance authority in OMB and assign technical review to CSO:

- a. CSO technical review of *all* project plans.
- b. CSO technical review of statistical plans only.

Legislation is not necessary for the implementation of options A and B. If option C were adopted, legislation would be needed to amend several statutes. In the event that legislation is considered with respect to Federal reports management in general (not necessarily to implement option C), updating the Federal Reports Act is desirable to ensure that its basic thrust is consistent with newer statutes concerned with the management of information as a resource as well as those which affect the protection and disclosure of information. Consideration should also be given to clarifying clearance authority, its delegation, and its content, in the light of the options discussed above. (The Paperwork Reduction Act of 1980 deals with all of these matters.)

V. *Relationship to the broad organizing principles*

Here the clearance process is considered briefly in relation to the three broad options set forth in Chapter 2: (1) strengthened role of the CSO in planning and coordinating statistical activities, with authority for technical approval of data collection plans; (2) budget authority of CSO over statistical agencies and statistical units in other agencies; and (3) consolidation of CSO with one or more general-purpose statistical agencies.

Option 1 would clearly facilitate the redesign of the clearance process with respect to *statistical* plans and reports. The conduct of planning, coordination, and the setting of priorities for statistical programs would ensure early consideration of methods, alternatives, and reporting burdens, and would permit the CSO to schedule regular reviews which lead up to technical approval.

Option 2 would provide essentially the same environment for clearance, with the additional element of budget authority. The Chief Statistician would thus have stronger leverage over the design of statistical programs through the ability to allocate resources in accordance with adherence to established statistical methods, standards, and reporting burden budgets. As with any concentration of authority, some offsetting influence is appropriate—such as a high-level statistical policy group—to ensure that broad goals and priorities

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are not subordinated to the agenda of one or a few persons. Without this offset, option 2 might place more control in the CSO than would best serve the departments, agencies, and Federal statistical system as a whole.

Option 3 would have one principal advantage—and one disadvantage—over options 1 and 2. The advantage lies in the consolidation of a major portion of statistical work in a single agency. This should simplify resolution of problems with the agency which arise from duplication of effort, lack of data comparability, barriers to data access, and lack of adequate planning and coordination. The disadvantage lies in the potential neglect by CSO of the statistical projects, plans, and report forms outside the consolidated agency, and the prospect that favoritism toward its own agency would be perceived. The CSO would need to demonstrate equitable treatment of all agencies with respect to either the technical review or final approval authority conferred or delegated.

VI. *Interactions with issues in other chapters*

Reduction of respondent burden often conflicts directly with the goal of improved statistical quality. Improved quality, involving reduction of the level of sampling error or increases in the detail of data desired, inevitably means larger samples or longer questionnaires. Burden budget limitations also can prevent the collection of data, thus potentially limiting the capacity of statistical agencies to be responsive and relevant to policy decisions. There is a generally unavoidable conflict between these goals which must be managed since it cannot be eliminated.

The one escape from these conflicts is found in improved statistical designs and in development of administrative records for statistical uses, where possible. In any case, the implementation of the burden budget concept makes the trade-off between these ultimately incompatible goals basically a question of priorities.

Chapter 8. Privacy and Confidentiality

The personal life of every individual is based on secrecy, and perhaps it is partly for that reason that civilized man is so nervously anxious that personal privacy should be respected.

Anton Chekhov

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On implied consent in common law:

The poorest man may in his cottage bid defiance to all the forces of the Crown. It may be frail—its roof may shake—the wind may blow through it—the storm may enter—the rain may enter—but the King of England cannot enter—all his force dares not cross the threshold of the ruined tenement!

William Pitt

Confidence is a plant of slow growth.

William Pitt

I. *Introduction*

A. *Privacy*

A prime aspect of privacy, at least as it relates to statistics, is the right of individuals to determine the extent to which, and the purpose for which, they are willing to share information about themselves with others. This determination only can be made intelligently if, at the time of collection, the purposes for which data are requested, and the conditions of subsequent and additional use, are understood by the respondent. Thus, the ancient common law principle of informed consent is of major importance. The underlying notion is that since information potentially can be used against the interest of the respondent, he should be allowed to weigh the benefits to himself or his community against the resulting risks he is prepared to accept. When the collection is mandatory the right of the individual to refuse to provide information is waived by law in the interests of the larger community.

Informed consent is difficult to implement in the case of statistical surveys involving the general public—particularly in the case of the typical hurried oral communication between an interviewer and respondent at the latter's doorstep. It is therefore particularly important that the legal and other general conditions applicable at least to Federal statistical surveys be simple, uniform, and generally known—that is, that little reliance should have to be placed on the oral communication between respondents and interviewers.

A secondary issue of privacy is that the act of seeking information (mailing a questionnaire, attempting to obtain an interview) can, in itself, be perceived as an invasion of privacy.

1. The following characteristics of statistical data are relevant from the point of view of a coherent policy on privacy:

a. The objective of *statistical output* from a file is to describe some characteristics of a well defined population, not of an identifiable respondent. This is true whether the file was created initially for statistical or any other purpose. In this respect, statistical uses are fundamentally different from administrative or regulatory ones: in the case of the latter two the objective is to make a decision or assessment concerning particular respondents.

b. The individual providing data for statistical purposes receives no direct benefit for himself—his cooperation is solely for the public interest.

c. At least in the case of most surveys of households or persons, data are requested and provided voluntarily.

2. Clearly, a careful balance must be maintained between the individual respondent's right to privacy, and society's need to obtain certain information. In the context of statistics, the key considerations in maintaining this balance are:

a. Ensuring that data are only requested when there is an overriding need for them and when the needed information can not be secured, exactly or approximately, from data already collected. This point is discussed in detail in chapter 7 on response burden, and some aspects of it are also touched upon in chapter 9 on access and dissemination.

b. Adhering to the principle of informed consent. This is further discussed below in section II on the current scene and problems.

c. Developing and enforcing a coherent and consistent policy on statistical confidentiality—also discussed in section II.

Privacy, confidentiality and access are closely interacting issues. Nevertheless, in order to simplify our discussion and the presentation of options, we will treat them sequentially. Moreover, as discussed earlier, privacy within the statistical context can be considered under the headings of confidentiality and response burden—thus they will be considered together with those issues. Issues concerning access to information that can be related to an identifiable individual will be discussed under the heading of confidentiality in the next section. Finally, access to statistical (individually anonymous) information is discussed in chapter 9 on access and dissemination.

B. Confidentiality

The essence of statistical confidentiality, as indicated above, is that statistics released by the collecting agency or researcher cannot be related to data provided by or about an identifiable respondent.

This principle is considered to be a cornerstone of statistical policy for the following reasons:

1. When individual respondents provide statistical information about themselves, often voluntarily and typically without any direct benefit to them, it is vital to enlist their cooperation to respond accurately. Statisticians must be able to assure them that they will not be directly harmed as a result of their cooperation. The only unambiguous way to do so is to ensure that no output resulting from the collection reveals data provided by or about an individually identifiable respondent.

2. Having obtained their cooperation on the basis of a promise of anonymity, this promise becomes part of the respondents' informed consent to provide information. It is a moral imperative that such a promise be strictly kept. It is also essential to do so from the point of view of the integrity of the statistical system (as discussed in chapter 5), and in order to ensure the continued cooperation of respondents in the future to provide accurate data. Yet, the anonymity can only be ensured if it can be legally protected—with sanctions against any violations of it and overriding protection from all external (including judicial) threats to it.

3. To the extent that statistical output maintains the anonymity of individual respondents, statistical use of data originally collected for administrative or regulatory purposes does not represent additional "risk" for a particular individual. Indeed since such secondary statistical use of data reduces response burden, it reduces the instances of privacy invasion. However, a prerequisite to the validity of this line of argument is that statisticians should be in a position to ensure the confidentiality of identifiable individual data. This can only be achieved through appropriate legal protection.

Anonymity of individual respondents in statistical output does not imply that individual data subjects can be anonymous *within* the statistical process. Many activities internal to the statistical process require that data subjects remain identifiable: to ensure completeness of response, follow-up of nonrespondents, longitudinal surveys and record matching. Since it is generally not possible to abolish individual identification early in the statistical process, it is all the more important to have adequate protection for such identifiable information.

4. Some people prefer to draw a distinction between the statistical confidentiality protection that should be provided for personal data as opposed to

business data. In this connection the following points are relevant:

a. It is argued by some that, given the increased concentration of business activity within a few large corporations and their impact on the national economy, large corporations in concentrated industries should not be subject to privacy protection. Others would argue that corporations also have valid privacy concerns, particularly with respect to information which would benefit their competition. This issue is, to some extent, one of political philosophy and this report takes no position on it.

b. Whatever position is taken in relation to the issues of previous paragraph, it is nonetheless true that business surveys depend on the cooperation of their respondents in the same fashion as surveys of persons or households. For this reason, whatever one concludes on the basis of privacy considerations, the maintenance of statistical confidentiality, apart from a few clearly established exceptions, is just as important in business surveys as in surveys of households or persons—witness the fact that the main statistical agencies collecting business data treat them as confidential.

c. Some people would argue that, unlike data about persons, certain limited information about individually identifiable businesses or institutions, such as publicly owned corporations, is already or should be in the public domain, not subject to confidentiality. In this category would appear to belong information about the name, address, industrial activity, ownership, rough employment size group of all businesses, and financial information on public utilities and carriers.

As far as scope is concerned, statistical confidentiality policies should apply to the content of all files created purely for statistical purposes—whether the source of data is direct collection or other files.

II. *The current scene and problems*

It can be stated that the protection of individually identifiable information is the general policy of all statistical agencies—with the explicit exception of the Energy Information Administration (Title 15, U.S. Code, Section 790 as amended in Public Laws 94-85 and 95-91). However, explicit legal protection for identifiable information exists only in the case of the Bureau of the Census (Title 13, U.S. Code), the National Center for Health Statistics (Title 42, U.S. Code, Section 308(d)) and the

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Law Enforcement Assistance Administration. Other agencies rely on a variety of laws, mostly on exemptions to the Freedom of Information Act. However, in recent years their ability to safeguard data submitted in confidence has been increasingly questioned, both by parties seeking access to identifiable data and by some respondents. In an increasingly litigious society sole dependence on the ancient common law concept of implied consent and on the statistical agencies' traditional commitment to preserving confidentiality is an inadequate protection.

There are numerous Federal laws addressing different aspects of the issue of privacy and confidentiality, principally from the point of view of administrative procedure and management of physical documents. Some statutes refer only to personal data, others to all data. For instance, Federal statutes establish the following:

1. Controls on redundant collection of data to reduce cost and respondent burden (Federal Reports Act)—no distinction between personal and business data.
2. Public right to examine and copy Federal agency records, except for those containing certain classes of information which may be withheld at the discretion of agencies (Freedom of Information Act)—no distinction between personal and business data.
3. Individual right to see records about oneself and to correct the information content of records used for making decisions about the individual (Privacy Act)—restricted to natural persons; some exemptions for statistical records.
4. Physical safeguard practices to prevent access to personal records by unauthorized persons for unauthorized purposes (Privacy Act—restricted to natural persons; Tax Reform Act—with no distinction between personal and business data).
5. Limitations on sharing among Federal agencies of information contained in certain designated systems of records (Privacy Act and Tax Reform Act) or collected under certain specified conditions (Federal Reports Act).
6. Access to certain collections of records restricted to the collecting agency itself (Census, Title 13; National Center for Health Statistics, Title 42)—no distinction between personal and business data.
7. Provision of access to certain kinds of information, apparently transcending limitations im-

posed by other Acts (Parent Locator Service; EIA access to energy information).

From the point of view of the present project, the most important problem presented by the current legal scene is the lack of distinction between files collected or created exclusively for statistical purposes and all other files.¹¹ As explained in the introduction to this chapter, the distinction is profound and of great significance for the future of the statistical system.

A. Initiatives underway

1. During 1979, the Administration reviewed the Report of the Privacy Protection Study Commission (1977) and prepared its position with respect to following up on its recommendations. A key recommendation of that section of the Commission report which deals with statistics relates to the so-called principle of functional separation. This would establish, by statute, that "no record or information contained therein collected for or maintained for a research or statistical purpose . . . may be used in individually identifiable form to make any decision or take any action directly affecting the individual to whom the record pertains;" and also that no such record "may be used or disclosed in individually identifiable form without the authorization of the individual to whom such record or information pertains"—except for a few very restricted purposes (such as to forestall imminent physical injury to a person, or in compliance with a judicial order to audit the researcher or institution maintaining the records).

The Commission also recommends that a Federal agency should "be permitted to use or disclose in individually identifiable form for a research or statistical purpose any record or information it collects or maintains without the authorization of the individual to whom such a record of information pertains"—unless prohibited by Federal statute, on the basis of need to know, and subject to suitable safeguards against redisclosure.

Thus, loosely speaking, and combining the two recommendations above under the single heading of "functional separation," the Commission recommends that legislation be passed under which record systems will, in effect, be categorized into two classes: those maintained *exclusively* for statistical and research purposes and *all other* record systems. Access to identifiable records in the former category would be provided (on a discretionary, need to know basis) for other statistical or research

purposes exclusively; access to the latter category would be permitted for statistical or research purposes (irrespective of what other access may or may not also be allowed).

It is important to emphasize that the proposed legislation would be *enabling* in nature. It would permit a researcher or Federal agency to designate a record system, prior to its collection or establishment through other means, as statistical—with the consequent protection outlined above. Any record system designed for nonstatistical purposes, even when statistics is *one* of its purposes, would not be designated as "statistical." Legal protection would be extended to the records contained in the restricted statistical category and thus agencies could, in good conscience, promise confidentiality to respondents during collection.

The Commission's proposals apply only to records or information about natural persons. In its review the Administration decided in 1979 to support and act on this recommendation of the Commission.

2. Some statistical agencies are clearly disturbed by the lack of adequate legal protection they can provide to data obtained from respondents under a pledge of confidentiality. They are in the process of drafting or submitting draft legislation which would address this problem. The Bureau of Labor Statistics and the Economics and Statistics Service of USDA are in this category.

3. The Department of Commerce is in the process of drafting legislation to amend Title 13 with specific reference to the Standard Statistical Establishment List (SSEL). This is a list of businesses maintained by the Bureau of the Census and it includes name, address, industrial code, a broad size code and some ownership information. The amendment would require the Secretary of Commerce to make the SSEL available to other "Federal statistical agencies and designated statistical

¹¹Statistical purpose means an objective to develop or report aggregate or anonymous information not intended to be used in any way in which the specific identity of the respondent is material to the intended uses of the information. This definition relates the non-identifiability of individual respondents to the *end use*, and thus it includes within the scope of "statistical purpose" the development of lists to be used in the conduct of a project with an exclusively statistical purpose as well as the pre-testing and evaluation of procedures in such projects.

units" for statistical purposes only and under rules and regulations to be prescribed by the Secretary so as to safeguard the confidentiality of list information. The list would be made available to State cooperative agency counterparts of Federal statistical agencies only if its confidentiality could be protected under the State's law.

The proposed amendment would extend the confidentiality protection of Title 13 to individual company information gathered in surveys or other statistical undertakings based on the SSEL. The amendment, if submitted to and passed by Congress, would therefore provide confidentiality protection to business survey data obtained using the SSEL—even though the primary purpose of the proposed amendment is different: namely to permit access to SSEL by statistical agencies and units other than the Bureau of the Census.

B. Problems

1. Existing legislation does not provide a consistent framework for the protection of statistical confidentiality. In fact, some recent legislation, addressing specific problems, and not drawing a distinction between statistical and other uses of data (Freedom of Information Act, Parent Locator System), has the potential of creating particular problems for the statistical system.

2. At the same time, as each agency fends for itself in trying to protect the confidentiality of its data holdings, some vitally important *sharing* of data is prevented from happening. This, in turn, prevents the creation, through record linkage or other means, of some of the data bases necessary to analyze many crosscutting issues.

3. The current initiative to provide comprehensive enabling legislation for the protection of statistical confidentiality of data about natural persons may not lead to implementation.

4. There is no comparable comprehensive initiative underway which will define the concept of statistical confidentiality for information obtained for or about data subjects other than natural persons, and which will establish the necessary legal protection with whatever explicit exclusions might be necessary.

5. Where existing legislation protects the data holdings of particular statistical agencies (Bureau of the Census, National Center for Health Statistics), it is too restrictive: there is no provision for sharing identifiable data, on a need-to-know basis,

with other statistical agencies or designated statistical units of the Federal Government.

6. Even if the comprehensive enabling legislation outlined in paragraph B.I. were passed, an oversight authority would be needed to manage the actual implementation of the legislation on behalf of the entire Federal statistical system.

7. Access by statisticians or researchers outside the Federal Government to identifiable individual statistical records, on a need to know basis, has to be addressed. Title 13, for example, permits such access to agents of the Bureau of the Census as required by the Bureau to carry out its own mandate—subject to suitable safeguards and penalties. It does not, however, deal with cases of legitimate statistical or research needs which are not part of the Bureau's mandate.

8. Existing general legislation (Privacy Act) is not clear on whether access for statistical purposes to Federal administrative and regulatory data holdings is permitted. Some specific legislation explicitly prohibits all access to identifiable records, without distinguishing between statistical and other uses (Tax Reform Act, except that it permits limited access for statistical purposes by a few agencies).

9. Access for Federal statistical purposes to data holdings of other levels of government is not established (e.g. vital records).

III. Recommendations and options

Option 1:

Legislation would be implemented establishing the principle of functional separation as described above. Such legislation would apply to records or information obtained from or about natural persons, and would:

1. Permit access for statistical purposes to identifiable information maintained in all Federal files to officers or agents of designated statistical agencies and units.

2. Permit the designation of files and the information contained in them, prior to their collection from respondents or third parties, or prior to their creation from administrative files (e.g. through record linkage), as being for statistical purposes only; establish that in such cases access to identifiable information is *permitted* only for statistical purposes; provide legal protection against access to such identifiable information for all purposes other than statistical; and provide sanctions against

holders of such files who knowingly divulge identifiable information from such files.¹²

3. Establish the priority of this legislation over all other related acts and/or explicitly amend the other acts.

Pro.—1. Implementing this option would provide an unambiguous and comprehensive legal framework for a Federal statistical confidentiality policy with respect to natural persons. The lack of such a policy and the legal basis for it is a major potential threat to the integrity of the statistical system and a significant impediment to its better integration.

2. It would enhance public confidence in the statistical system. Statistical agencies and units would be in a fully defensible legal position to promise anonymity and the public could be unambiguously and uniformly informed with respect to the confidentiality safeguards applicable to all Federal statistical collections and data holdings related to natural persons, irrespective of the particular agencies which are involved.

3. It would permit access for statistical purposes to identifiable individual administrative and regulatory records, thereby reducing the need for statistical surveys to collect data already available in other files, and hence reducing total response burden. Moreover, the permissible access among statistical agencies would make it possible to create, with suitable safeguards, some new data bases capable of providing information for some crosscutting issues which could not be made available otherwise.

Con.—The con's listed below are considered to be mostly perception problems rather than substantive arguments against this option. Perceptions are, however, important in an area which is controversial.

1. Some law enforcement agencies would object to the principle of not being able to access statistical data files. However, even without such a law, there are no known instances of law enforcement agencies having obtained access to individually identifiable statistical records. At any rate, such access could at best provide a very temporary advantage to them: if it became public knowledge, the accuracy of reporting in statistical surveys would very likely decline, defeating even law enforcement purposes.

2. From the point of view of some statistical programs, notably those conducted by the Bureau of the Census, the proposed statute might be con-

sidered a relaxation of existing confidentiality protection—although it can also be considered as an extension of the type of protection presently enjoyed by Census records to the larger Federal statistical system.

Option 2:

Legislation, in addition to that under option 1, would also be proposed with respect to business and institutional respondents, generally analogous to that proposed in option 1, but with specific exceptions. The particular exceptions would be negotiated with interested parties during the drafting of the legislation, but they should be unambiguously specified.

Suboption 2.1—SSEL: The legislation would explicitly declare information contained in the SSEL to be in the public domain. There might be some exceptions, for example, sole proprietorships with no employees might be excluded.

Suboption 2.2—Joint collections: The legislation would permit the disclosure of individually identifiable data to other Federal agencies, provided that at the time of collection respondents were informed of the proposed specific non-statistical uses of the data and provided that they agreed to it. Agreement might be required to be active (i.e., in writing), or passive (i.e., opportunity to object in writing to the proposed nonstatistical uses).

Pro.—In addition to the analogous considerations of option 1:

1. From the point of view of quality of data reported, an unambiguous and legally enforceable confidentiality provision is at least as important for business respondents as it is for natural persons. Nonresponse or inaccurate response by even a small number of large businesses can have a major detrimental impact on the resulting statistics. Furthermore, business respondents are more aware

¹²Two exceptions to confidentiality protection would be: court-ordered investigations of the agency holding the files (but forbidding the use of information for the purpose of taking any action affecting individual data subjects); and in addition the holders of such information would be permitted voluntarily to disclose identifiable information to the extent necessary for the prevention of imminent physical injury to an individual. A decision whether the latter exception applies would have to be made prior to the collection of data from or about individuals and, in the case of direct collections, the individuals would be advised as to the applicable exceptions to the confidentiality protection.

than the general public of the importance and value of legal protection of confidentiality.

2. (Applicable to suboption 2.1) It would provide wide access to the SSEL. Not only would this enhance the integration of statistical surveys and censuses of the business sector, but it would increase the potential usefulness of some administrative or regulatory files for statistical purposes. Moreover, since the quality of a list is largely dependent on the extent of its utilization, wider utilization of the SSEL would improve its quality.

3. (Applicable to suboption 2.2) This option would result in some reduction of response burden.

Con.—In addition to the analogous considerations of option 1:

1. Some people believe that information about large corporations should not be held confidential.

2. (Applicable to suboption 2.1) Some of the information on the SSEL is derived from statistical surveys (industrial classification and size codes). It might be argued that wide access to the SSEL might jeopardize accuracy of reporting in the surveys concerned.

3. (Applicable to suboption 2.1) This suboption would expose businesses, particularly small businesses whose names and addresses are not available in public directories, to an increased volume of mail advertising or other selective mailing material, thus diminishing their privacy.

Recommendations (contingent on approval of options 1 and 2):

1. If options 1 and 2 above were implemented, they would provide enabling legislation according to which certain collections of data could be designated as "statistical" (subject to legally sanctioned confidentiality protection). In order to safeguard the collective image of the Federal statistical system, it is essential to ensure that when a Federal agency promises statistical confidentiality, it should be capable of protecting it. Thus, *it is recommended that a Federal collection of records should only be designated as "statistical" under the act when the collecting agency requests it and the head of the CSO approves it.* Such approval is to be based on agency practices (e.g., swearing in of employees under the act) and physical and computer access protection.

2. For purposes of exchanging individually identifiable data obtained through statistical collections, it is a necessary but not a sufficient condition that the receiving agency should be able to provide

the data the same *legal* protection as the collecting agency: the receiving agency should be quite "accident-proof." As a matter of pragmatic consideration, this can best be achieved if personnel in the receiving agency or unit, at all levels, have very clear and uniform instructions with respect to the *output* of the agency or unit: namely that all their output is subject to statistical confidentiality as established by the appropriate acts. Thus, *it is recommended that Federal agencies and units whose entire output is subject to statistical confidentiality (except for output under suboptions 2.1. and 2.2.) and which have adequate administration, physical and computer access protection, be designated as protected statistical centers. All files in such centers (with the exception of internal administrative files) should be subject to legal protection of confidentiality, with appropriate sanctions against violators. The head of the CSO should have exclusive authority to permit the disclosure in individually identifiable form of records designated as "statistical" under the act(s) and only to employees of protected statistical centers or personnel otherwise suitably controlled for this purpose by protected statistical centers.*

3. *The CSO, in collaboration with the Cabinet Secretaries responsible for agencies or units belonging to the Federal statistical system, should initiate a 3-5 year program of converting all computer processing of identifiable records by members of the Federal statistical system to secure facilities. A similar program of improving physical access protection should also be undertaken.*¹³

IV. Relationship to the broad organizing principles

The recommendations and options of section III above deal with two fundamental concepts: the notion of a system of records being created solely for statistical purposes; and the broadly conceived management function of a basically decentralized statistical system as it relates to the oversight and implementation of the relevant legislation. So long as the Federal statistical system remains decentralized, both of these notions remain fundamental—thus, in the broadest sense, the recommendations and options of section III above

¹³Confidentiality legislation incorporating all three of the above options and recommendations was drafted, circulated for review to the statistical agencies and Departments and, in a slightly modified form, cleared by OMB for transmission to Congress in late 1979. Efforts were made to combine it (and CSO legislation) with the Paperwork Reduction Act of 1980 but this was unsuccessful and the confidentiality legislation was held back pending transmittal of legislation (or a reorganization plan) establishing a CSO.

are invariant at least to the choice among the first two broad organizing principles of chapter 2.

If the third organizing principle were adopted, the statistical system would still remain decentralized, although less so than at present. In that case the new consolidated agency *might* possibly coincide with the Federal statistical system, as defined in recommendation 2. This might simplify the management responsibility (for the exchange of individually identifiable records between statistical agencies) assigned to the CSO if recommendations 2 were adopted. However, the legal protection of the confidentiality status of the data holdings of the consolidated agency and, indeed, of that of the excluded agencies, would still have to be established.

In summary, if both options above were accepted, together with the recommendations, the choice among the organizing principles would not have a fundamental impact. However, if the principle of functional separation were not accepted in general (or accepted only in relation to data about natural persons), then the strength and scope of authority of the CSO becomes an important issue. In that case the third organizing principle would offer a fallback position: the legislation establishing the consolidated agency could at least provide for the statistical confidentiality protection of its own data holdings. The second organizing principle would still offer a limited fallback position: through its strong budget authority the CSO would have considerable overall influence which it could use to coordinate the agency efforts to draft legislation protecting the confidentiality of their data holdings. Over time, a series of *coordinated* agency-level acts might approximate the legal protection that could be established by an overall act on functional separation—except for the strength, in terms of public image, that a single act would represent.

V. Interactions with issues in other chapters

The absolute promise of confidentiality given respondents to voluntary collections is a complete bar to access to the individual records for anything other than a statistical purpose, and access even for that purpose is frequently limited to the statistical purposes and employees of the collecting agency. This not only often prevents access to existing data for legitimate statistical purposes (aggregates which do not expose individual records), but it also

is the cause of duplicate collections which create otherwise unnecessary respondent burden and statistical budget costs.

The quality of data from voluntary collections is vitally dependent on the guarantee that no individual record will be used to impair the interest of any respondent. Nevertheless, the cost of this promise in an extremely decentralized statistical system without a common confidentiality statute is high in terms of inefficient use of public and private resources and in obstacles to the achievement of data quality goals, integration of data bases and thus to policy relevance. This basic conflict between confidentiality and access cannot be eliminated under present conditions and thus must be a matter of very conscious management, if the statistical system is to perform its functions effectively and efficiently.

Chapter 9. Access and Dissemination

Kristol's Law:

Being frustrated is disagreeable, but the real disasters in life begin when you get what you want.

I. Introduction

The prime objective of statistical activity is to place statistical information into the public domain—subject to confidentiality constraints. Thus access, as discussed here, refers to information that cannot be related to an identifiable individual.

While the objective of all statistical surveys and analyses is to generate statistical information, there are other important sources of statistical information, notably the administrative and regulatory data files. Thus, from the point of view of access to statistical information, and the coordination necessary to improve it, these latter data sources must be included in scope.

Good data access can be characterized as being able to *locate* the relevant information sources; being able to *retrieve* the required statistics from those sources; obtaining information about the *nature and limitation* of the retrieved statistics; and achieving the above with a minimum of *costs* and *time* delay.

Good access has far-reaching benefits. It facilitates the policy responsiveness of the statistical system by enabling policy analysts to shed light on

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policy issues from existing data sources. Similarly, it contributes to better decisionmaking outside the Government and to a better informed public. Last but not least, by ensuring that statistical data already collected is widely accessible, it maximizes the value realized from the investment in data and it reduces the possibility of duplicative collection and is therefore a prime determinant of keeping statistical response burden at a minimum level.

Since the initial purpose of collection is of secondary interest to the user, the scope for coordinating access mechanisms for statistical purposes should be broad: it should encompass all data of potential statistical interest.

II. *Current scene and problems*

Many potential users of the statistical system, it can be assumed, do not know where to look for the data they need. This will be particularly true of those with data needs transcending single data sources—for example, analysts dealing with crosscutting issues. Such a user would have to be assisted, first of all, to find out the available relevant data sources, including their characteristics and limitations, and secondly, having found the right data sources, he would have to accomplish the access (retrieval) itself. The present section on the current scene and its problems is accordingly organized into two subsections dealing, respectively, with aids to access and with access proper.

For purposes of the present section, all Federal statistical data sources are included—whether the data can be obtained from files that were initially created for statistical, administrative, or regulatory purposes.

A. *Access aids*

1. *Publicity and marketing.*—Publicity, generally defined, is “an act or device designed to attract public interest” (*Webster's New Collegiate Dictionary*). It is not enough to make the statistical product available, attention must be called to its existence in terms which are relevant for its users. Unlike most other products, the objective for the marketing of data is not to increase profits but to bring the available statistical information to bear on public and private decisionmaking and research.

The tools of publicity are also generally different from those used in relation to other products. Paid advertising is of less use compared to press releases, articles in journals, trade papers, profes-

sional meetings, displays at conventions, direct mailing to special groups, publication of thoughtful case studies showing how statistics can be utilized in particular types of decision problems, and training of potential secondary disseminators (librarians, local dissemination centers, State and local government officials, college teachers).

The current scene on the publicity and marketing of data is highly variable—depending on the particular agencies. There is no timely, comprehensive publication covering the recent releases of the entire Federal statistical system, nor is there a publication of selective analytical highlights of particular interest or importance. The impact of this gap is difficult to appraise. One recent study conducted by the Institute for Social Research, University of Michigan, indicated that, whenever the interviewed high-level Federal administrators used social science knowledge in formulating policy decisions, an overwhelming proportion of the source surveys were either conducted or funded by their own agencies. (Caplan, Morrison, and Stambaugh, 1975). The lack of current systemwide publications clearly inhibits interagency data utilization.

2. *Inquiry service.*—A user with a vaguely defined need for information (although with a possibly well-defined problem) needs assistance to formulate his information needs. No satisfactory Federal statistical inquiry service exists—in Washington or regionally. Inquiry services exist in some regional offices, but they are either fragmented along agency lines (e.g., separate ESS state offices and Census and BLS regional offices) or their statistical mission, hence knowledge of data sources, is secondary at best (Industry and Trade Administration offices of Commerce, Federal Information Centers).

It is not suggested that a single inquiry center could ever hope to be directly responsive to the full variety of data needs. It could, however, answer more routine inquiries and, in more complex cases, direct the inquirer to the appropriate contacts.

The *Federal Statistical Directory*, which is issued biennially by the Office of Federal Statistical Policy and Standards (OFSPS), Department of Commerce, can be of assistance in locating the “right” persons. Its usefulness for this purpose is somewhat limited by the fact that it is oriented to organizations (as opposed to subject matter) and tends to restrict its coverage largely to manage-

ment personnel. The Telephone Contacts for Data Users, published separately by the Bureau of the Census, by the Bureau of Labor Statistics, by the Economics and Statistics Service of the Department of Agriculture, and by the National Center for Education Statistics are excellent examples of a subject-oriented telephone directory. Their scope is, however, restricted to their respective organizations. The National Technical Information Service introduced recently a so-called "Statistical Data Reference Service" which undertakes to identify available statistical data sources for a fee—ranging from \$45 to \$75. The level of inquiry service within agencies (more generally, internal support of users) is highly variable: ranging from the excellent support by the Bureau of the Census to practically nonexistent.

3. *Tools for locating needed data.*—A variety of catalogs exist in printed form, each with its definite utility as well as limitations. The *Statistical Abstract of the United States*, although often used as an aid to locate data, is not really a catalog—it is a sample of available data. The *American Statistics Index* is an abstract of available publications. The *Directory of Computerized Data Files* (published by NTIS in cooperation with the National Archives and Records Service) covers only machine-readable public use files, and the *Directory of Federal Statistics for Local Areas* (Bureau of the Census) is a useful but infrequently updated directory of published statistics containing substate level data.

All of these tools have, for purposes of locating data, limitations which derive primarily from one or more of the following factors: they do not use a consistent subject classification (and/or key words); they are restricted to published aggregates and the relatively few machine-readable public use files; and their coverage often excludes administrative and regulatory data sources.

The Commission on Federal Paperwork recommended the establishment of a Federal Information Locator Service (1977f). This is referred to in the present report as Federal Data Locator Service, or FDLS (See chapter 7. III. D for a discussion of FDLS). The current design of FDLS in OMB is limited to supporting the management of burden control by OMB and the Departments. This data base, if further developed, could provide a focal point for user inquiries about available data. Essentially, what is needed is a subject-oriented, easily accessible reference of all Federal data holdings of

potential statistical interest (excluding perhaps some very special data sources). The FDLS would be designed to provide information about data holdings for which aggregate statistical information can *potentially* be retrieved. For this to be workable, there would have to be an administrative mechanism to keep the information content up to date.

4. *Documentation of data sources.*—Before a user can meaningfully utilize statistical information—or even decide whether a data set is potentially of interest—he has to be able to assess the data source. The following are some of the key aspects of documentation: definition of concepts used, the way the concepts were applied in the collection operation, reference dates, population or subgroups covered, frequency of collection, survey design, sample size (if applicable), measured errors or factors affecting the quality of data (e.g., response rates), geographic coverage and detail, and access mechanisms.

The level of documentation of U.S. statistical data sources is highly variable, ranging from the generally excellent documentation of decennial census data to quite unacceptable or missing documentation. Directive No. 2 of OFSPS (1978, superseding a previous OMB Circular) establishes some minimal standards of documentation for the publication of statistics. Perhaps as a result of this directive, and other efforts, noticeable improvements occurred in the last few years. While this is laudable, the improvement is not uniform. There is no mechanism to monitor adherence to this directive and to enforce it. Furthermore, it only applies to statistical publications: the status of statistical extracts from administrative or regulatory data sources is unclear, and it does not cover primary data sources—the microdata files from which statistics can be retrieved.

B. *Data access*

Having identified their data needs, users may access statistical data through at least five distinctly different media: printed copy, microfilm or microfiche, tapes, through on-line access, and through a custom-made retrieval from the agencies' microdata files. Each of these forms of dissemination has different advantages and disadvantages, both from the point of view of users and producers. The salient feature of the current scene is a lack of coherent and comprehensive guidelines as to the

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appropriate mix of these media under different circumstances. Furthermore, there is no policy to address the impact of the extremely fast developing technology of data access and use. A brief discussion related to each of the different forms of dissemination is presented below.

1. *Issues related to printed copy.*—Printed publications are the most accessible to the largest number of users, partly because no expensive equipment is needed to read them and partly because of the existence of a well-developed network of "retailers" (bookstores, libraries). However, printed publications are expensive to prepare, involve significant-time delays, and the data contained in them are necessarily subject to rather severe preselection and are relatively difficult to manipulate.

Printed publication was the only dissemination vehicle available to statistical offices until about 20 years ago. Because of its ease of access by a large segment of the population, it will probably always be a major method of dissemination. However, its relative price is increasing and serious major users (i.e., those interested in great quantities of detail) increasingly prefer machine-readable data. Thus, an evaluation of the detail which publications should contain is overdue.

Some very specific problems were identified with respect to the role of the Government Printing Office (GPO). GPO has been identified as the source of long delays in printing and in filling orders of customers. It is also alleged to be selling statistical publications at prices substantially higher than the cost of producing and distributing those publications—thereby, in effect, subsidizing other publications. Moreover, its marketing restrictions apparently prevent users from obtaining the most up-to-date publications: advance orders cannot be placed (in fact, pricing information is withheld until a report is printed), and it does not provide an invoicing service (billing *after* mailing the publication). Furthermore, GPO does not allow agencies to control effectively the quality of printing by contractors. All of these factors, and others, combine to render the GPO monopoly a major bottleneck to statistical timeliness, impairing the ability of statistical agencies to disseminate information and inhibiting public access to statistics.

2. *Microfilm and microfiche.*—Next to printed paper, the most generally accessible form of output is microfilm or microfiche: most libraries have the necessary reading (and reproduction) equipment.
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It is considerably cheaper to prepare and requires less storage space than printed reports. However, it is subject to the same problems of preselection and difficulty of manipulation as the printed publication.

There is some duplication in the dissemination of statistics on microfiche. NTIS is probably the Government's largest microfiche disseminator, but some agencies disseminate their own products (e.g., the Census Bureau). Also, the Congressional Information Service, a private firm, copies to microfiche virtually all Federal statistical publications.

3. *Computer tapes.*—For users with access to computers, statistical output on tape is *potentially* the most useful form of output. Two types of product must be distinguished under this heading: the so-called summary tapes (aggregate data) and public-use microdata tapes (fully disaggregated microdata, with identification of individual respondents removed).

Summary tapes are particularly useful when a very large volume of aggregate data is to be disseminated and where the data are likely to be the subject of subsequent manipulation by users (often in the form of "building blocks" for reaggregation by users). It saves the cost and delay faced by data users in hand-copying data from printed reports and reentering such data into computerized systems by keypunching or other means.

Summary tapes, like printed publications, are subject to preselection. Public-use tapes, on the other hand, provide the greatest flexibility for the most sophisticated users: once the microdata themselves are disseminated, users can not only prepare their own summaries from them, but also certain analyses are predicated on access to microdata. Confidentiality constraints limit the utilization of public-use microdata tapes as a medium of dissemination to surveys of persons or households (businesses, even with identification removed, are too easily identifiable); even then the level of coding detail must often be reduced compared to what is available on in-house files.

The extent to which tapes are used as dissemination vehicles by different statistical agencies and, indeed, by agencies supplying statistics from administrative or regulatory data sources, is highly variable. Even more variable is the extent to which they support this product—through good documentation, user advisory service, and software.

With few exceptions, tapes appear to be regarded as afterthoughts, as opposed to being planned end-products of the processing activity. The timeliness of output on tape generally lags far behind that of other forms.

No policy exists across agencies, and even within some agencies, regarding standardization. In effect, a user has to learn the particular organization and conventions adopted for each data tape. This further delays its effective utilization.

4. *On-line access to aggregate data.*—This form of access presupposes the existence of data banks of aggregates, regularly updated.¹⁴ For users with more than a passing interest in statistics, this is one of the potentially most useful forms of access. Apart from the limitation of preselection inherently involved in any aggregate statistical output, on-line access preserves great flexibility of manipulation. If the updating of the banks is built into the statistical production process, they provide the highest level of timeliness. Through telecommunication networks, access can be simultaneous across the Nation. Built-in software can make utilization very simple, compared to the use of tapes. A discipline of standardization of formats is imposed by the discipline of the systems. They can be linked with graphic display systems, such as the Decision Information Display System, for ease of analysis and overview. The major disadvantage of on-line aggregate data banks is cost: to the maintaining agency the cost of storage and updating, to the user the cost of retrieval and manipulation. Both of these costs are declining with hardware costs in general, and storage device costs in particular.

The Bureau of Labor Statistics has developed, initially for its own internal use, an on-line data bank of aggregates containing its data products (LABSTAT). The major limitation of LABSTAT is, of course, its limited coverage: restricted at present to BLS data. There is a real risk that, without overall coordination, fragmented, agency-oriented aggregate data banks might be developed—to the great inconvenience of users, as well as wastefulness in developmental costs. However, LABSTAT is a worthy model on which an interagency effort can be built.

5. *Custom made retrievals.*—With the exception of data which lend themselves to output in the form of public-use microdata tapes, all other outputs are subject to preselection, that is, a decision by the producers as to which of the astronomical number

of potential aggregates to include in the output. Where the utilization of public-use micro-data tapes is difficult or impossible, for whatever reason, the greatest potential flexibility to users is provided by the existence within the producing agencies of a capacity to retrieve directly from their internal microdata files the particular output required by each user. Few agencies appear to give high priority to the development of such a capacity—no doubt at least partly due to the fact that payments made by users requesting such a service are returned to the Treasury. Thus fulfilling such requests can reduce agency funds allocated to authorized programs.

It must be emphasized that such capacity does not simply represent an investment of resources. It requires almost a change in the philosophy with which data are regarded. The traditional view was that data were collected to produce a publication, after which they were retained for archival purposes only. Viewing microdata as *capital* which can be drawn upon repeatedly and long after the issuance of publications has far-reaching consequences: for the maintenance of the internal data bases, the way they are stored, the needed integrity of data at the micro level, their security, their documentation, and their compatibility with easy-to-use generalized retrieval and manipulation software. No systemwide policies, and hence standards, exist in this area—resulting generally in long delays and high costs for users wishing to request a custom-made output. As a consequence, users normally try to avoid this approach, if at all possible.

Not only external users but internal ones (analysts) are also handicapped by the low level of this form of service. Knowing that custom-made output will be very expensive and subject to great delays, they tend to require as *standard* output a very wide variety of *possibly useful* aggregates: almost all the aggregates that they believe they *might* need later. This, in turn, results in unnecessarily expensive production runs, delays and considerable wasted output. Moreover, it translates itself, rather naturally, into very detailed and consequently expensive publications—published long after the reference date.

¹⁴Confidentiality generally restricts on-line access to microdata to internal agency personnel. Data on public-use microdata tapes can, of course, be placed on-line—however this issue is not considered further.

Lack of common interagency standards of microdata management also inhibits record linkage applications—even where the confidentiality problems can be resolved. This in turn inhibits certain kinds of crosscutting analysis, that is, those which depend on linked microdata from different surveys.

Ultimately, one must face the fact that successfully linking files, while necessary, is not sufficient to satisfy user access needs. There is no *a priori* way of fully anticipating those data needs. What is necessary is not primarily solving the technological problems of “integrating data files in anticipation of use,” but “integrating statistical servicing activities capable of responding to current and future needs” (Dunn, 1974). This is a design problem involving compatibility of the conceptual structures, their operating definitions and the conventions and standards of data processing across existing data files. It is a problem of creating and interpreting meanings.

III. Recommendations and options

Option 1:

Description.—Locate a data access policy function in the CSO. This activity would establish an overall dissemination policy for the Federal statistical system, including guidelines for the conditions under which different media of dissemination should be used, as well as for the nature and extent of internal user support that should exist in all agencies involved in disseminating statistical information. It could seek and employ a proper balance of private sector participation in the task of distributing Federal statistics, while guarding against predatory commercial practices as well as protecting the right of the Federal Government to provide the data it collects to internal (Government) and external users. The CSO would also establish standards for user documentation and file design, for the development of internal data storage methods for the fully processed, “clean” microdata. It would represent multiagency and public user interests both in relation to individual agencies (interceding in some cases as an “ombudsman” for the data user), and in the budgetary decisionmaking at the agency, Department and Presidential levels. It would establish guidelines and provide assistance to agencies in promotion and marketing their output. It would carry out research and development regarding data display, presentation and other “data communication techniques” (such as use of good

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graphic display techniques). It would assign to individual agencies specific systemwide responsibilities (e.g., development of overall directories).

Pro (compared to status quo).—1. A focal point would be created to address the policy issues of dissemination from an overall point of view, representing the interests of users who need to utilize the output of several agencies. As such, it would contribute to greater responsiveness of the statistical system to the needs of analysts involved in crosscutting issues (policy responsiveness).

2. It would take a broad view of the impact of technology on current access and dissemination practices, it would attempt to foster the exploitation of effective new techniques to the benefit of users and it would prevent the development of incompatible agency-level access policies and dissemination mechanisms. It would thus minimize the need for extremely expensive future remedial actions.

3. A function such as this would foster the exchange of experience among agencies. This is quite important in light of changing user needs, fast-changing technology and the highly variable agency capacities in this field. It would also provide technical assistance to agencies which are weaker in this field.

Con (compared to status quo).—Additional resources would be required in the CSO.

Option 2:

Description.—Under this option, in addition to the policy activity described in option 1, the Federal Data Locator Service for burden reduction (see chapter 7) would also be established in the CSO, together with a central Data User Inquiry Service. Both services would relate to the entire statistical output of the Federal system, including administrative and regulatory data sources.

Depending on the approach taken, the implementation of FDLS could be a very expensive undertaking. It would appear, however, that at least an initial implementation of it could be tied to the clearance process with rather modest expenditures. If all Federal data collection forms were registered with the clearance process and if the clearance form was suitably amended (including an indication of all subjects covered), this information would provide the basis for a modest start on the FDLS program. A potential user interested in data about a subject or combination of subjects would

readily identify through such a FDLS the forms (questionnaires) which contain data on those subjects. A copy of the forms involved would provide additional detail to the potential user about the information content of the data file which resulted from the given forms. Assuming that the substantive review preceding clearance ensures that adequate documentation on other aspects of the collection are filed with the FDLS (e.g., population covered, methodology used, known limitations of data, contact officer's name), a very useful service could be initiated. Combined with a Data Users Inquiry Service (DUIS), it would provide an entry point for potential users to most of the Federal statistical information base, with very few exceptions. The inquiry data base requires information beyond that needed for management of respondent burden. If the FDLS and the Inquiry Service are not located in the same organization, they should share a common computerized data base to avoid duplication in collection and processing.¹⁵

Pro (compared to option 1).—1. This option would do more than any other alternative action to ease the burden on users of having to deal with a multitude of agencies for their data needs. User confusion about where to go for what would be reduced. In effect, a single "entry-point" for the statistical system (broadly interpreted) would be created.

2. The FDLS activity would have other benefits not related to access: it would be a tool to control response burden (duplication of collection). While this option would locate the FDLS in the CSO, the latter would maintain the system on behalf of the entire Federal Government—thus the question of the location of ultimate policy control of response burden is not prejudged by this option.

3. Another benefit of the DUIS—FDLS combined data base, also not directly related to access, is that it would be a central location for information about all data collection activities in related subject matter areas, together with documentation of the concepts used and other relevant information. This would serve as invaluable raw material for the integration function of the CSO—to establish, where applicable, common definitions of concepts and to monitor adherence to them.

4. In the fourth quarter of the twentieth century, it is stating the obvious that the CSO could not carry out its mandate effectively without coordinating the ADP aspects of agencies' work—subject to Governmentwide guidelines. Yet ADP coordination requires ADP expertise which can

best be acquired and *maintained* with a degree of actual involvement in ADP work. The FDLS would provide the concrete setting for such involvement.

5. The central Data Users Inquiry Service would provide good feedback to the CSO on the relative demand for different types of data and for improvements needed in the information marketing program of various agencies.

6. The Data Users Inquiry Service would also provide the agencies with a record of the frequency of different types of inquiries (market intelligence).

Con (compared to option 1).—1. Assuming that a FDLS service, so strongly recommended by the Commission on Federal Paperwork, is established somewhere in the Federal Government, arguments exist for locating it somewhere other than the CSO.

2. The Data Users Inquiry Service might be viewed by agencies as establishing some distance between them and their users. If managed properly, this should not be the case: the inquiry service would directly handle only routine inquiries, referring the more complex requests for data to the agencies concerned. The data files would, of course, be maintained in the agencies, not CSO.

Option 3

Description.—In addition to the actions involved in options 1 and 2, under this option responsibility for initiating and coordinating the maintenance of a Federal statistical data bank of aggregates would also be located in the CSO. The aggregates to be made available on-line would have been tested for statistical disclosure by the statistical agencies responsible for their production. It is not envisaged that such a data bank would be housed in a computer owned or rented by the CSO—the bank, containing nonconfidential data, would probably be housed in the private sector, with full public access to it guaranteed. The particular allocation of storage and update costs between the commercial carrier and the agencies responsible for updating particular series, as well as the charges which the former would collect from users, would have to be negotiated by the CSO. The CSO would not undertake the direct updating of all data series in the bank. Instead, it would mandate the provision of machine-readable updates by the agencies, either

¹⁵OMB now has a Federal Data Locator Service operating in support of the clearance and paperwork budget process.

directly or through the CSO, and it would monitor adherence. The CSO would be the prime contractor with the private sector, it would be the focal point for users of the system, it would determine what series and what level of disaggregation would be maintained in the bank, and it would be the initiator of any necessary developments to enhance user services.

The bank would provide all users with a *single* location to look for the most frequently used data series: it would have a common formatting and access convention and use common software. It could also be directly interfaced with the Decision Information Display System (DIDS) to provide the latter with all the necessary data inputs (See chapter 7. III. F).

Pro (compared to option 2).—1. The existence of an on-line data bank of aggregates, covering all of the most widely used (or usable) Federal statistical series would be a liberating influence for all analysts, particularly those dealing with crosscutting issues.

2. The CSO would gain an important handle on the main outputs of the statistical system which it could use for a variety of important purposes: for the broad analytical work it would carry out, to monitor the sequence of changes in important series from "preliminary" to "revised" to "final," and to prepare, directly from the bank, print-ready publication tapes.

3. The agencies themselves could prepare their own publication-ready tapes directly from the bank. This could be the source of considerable efficiencies for regular publications.

4. Such a data bank could be the Federal Government's baseline system for application of consistent and equitable distribution policies, especially as regards the interface with private sector statistical purveyors.

5. The bank, through its network of users, could be utilized as a vehicle for automatic selective dissemination of nationwide press releases or data based on the users' predefined subjects or geographic areas of interest.

Con (compared to option 2).—1. Some extra resources would be required, both in the CSO and in the data producing agencies.

Recommendation 1

The CSO should undertake to publish a daily Statistical Bulletin, as well as a weekly or biweekly *February 1981*

Statistical Highlights publication containing brief statistical analyses of topics of current interest. As far as the Highlights is concerned, the emphasis would be on selectivity, as opposed to routine reporting of data, on brief analytical texts and full utilization of the techniques of graphical presentation. The daily Bulletin, by contrast, would be restricted to the listing of new data bases which became accessible on that day, together with a reference to additional information (publication number, name and telephone of contact person). The Bulletin would typically contain one descriptive paragraph for each listing, and a few paragraphs with perhaps a summary table for key series.

The scope of the Bulletin should be as broad as practicable. The substantive review by the CSO of all data collection forms could provide the administrative base necessary to define its scope pragmatically.

Recommendation 2

In order to enhance the timeliness of their publications and their distribution to users, as well as to overcome the other problems discussed in section II.B.I. of this chapter, statistical agencies should be permitted to meet their publication requirements through direct contracting with the private sector and they should be allowed to handle their publication distribution programs in-house. All this could be subject to GPO oversight.

IV. Relationship to broad organizing principles

None of the issues in section III involve fundamental principles. There is likely to be little argument that even the full range of functions outlined in option 3 is desirable. Questions can be raised as to the priority of implementation and the cost of the full range of activities spelled out by option 3. One might also question the correctness of the implied prioritization in moving from option 1 through to option 3. Thus, the key questions relate to priorities and budgets.

In order for the CSO to undertake the access and dissemination activities outlined in the previous section, it would have to acquire the necessary resources. When the CSO is reestablished with its new mandate, the mandate should spell out the preferred options with respect to access and dissemination. Given the mandate, resources required might be assigned to the CSO explicitly. Al-

ternatively, the CSO itself, in its capacity of "manager" of the Federal statistical system, might be asked to reassign resources within the system in order to get the chosen overall access and dissemination activities underway. In the former case, the choice among the organizing principles of chapter 2 is important to the extent that all of the activities require strong agency cooperation and monitoring by the CSO. In this respect the budget control of organizing principle 2 might provide important leverage while the line control of organizing principle 3 would facilitate cooperation even more—within the scope of the consolidated agency.

Should the CSO be given responsibility to identify and allocate the resources required for the central function, then clearly the more authority it has over budgets the more it is able to do. Furthermore, in the case of organizing principle 3, line control over the agencies involved in the consolidation would enable the Chief Statistician to extend the scope of best practices within each of the component agencies to the entire consolidated agency (e.g., the strong data base technology of BLS and its LABSTAT program, and the strong user support activity of the Bureau of the Census). One would have to keep reminding oneself, however, of the basic trade-off of organizing principle 3: increased authority combined with a real or perceived reduction of scope.

V. Interactions with issues in other chapters

Statistical agencies must have conscious policies to facilitate user access and dissemination of the data they produce. To do otherwise is to fail in managing equity of access and in realizing the full public and private value from the taxpayers' investment in statistics. Complete access, however, is and must be constrained by the necessary promise to the respondent of confidentiality. The nature of this inherent conflict and the necessity to manage the trade-offs between access and confidentiality was discussed at the end of the chapter on privacy and confidentiality. How well this conflict is managed has a direct impact on the perceived integrity of the statistical agency. Failure to be honest or to keep faith with either users on access policies or respondents on promises of confidentiality will quickly erode an agency's reputation for integrity. This tension becomes intolerable when the decision on the trade-offs is forced into litigation, which now occurs with increasing frequency. An open, well-managed policy on access and dissemination

is necessary for improved statistical quality as well as relevance, since user feedback is critical to a good understanding of user needs and the uses being made of statistical data.

Chapter 10. Organizational Issues

We trained hard . . . But it seemed that every time we were beginning to form up into teams we would be reorganized . . . I was to learn later in life that we tend to meet any new situation by reorganizing; and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency, and demoralization.

Petronius Arbiter, 210 BC

If you want a track team to win the high jump you find one person who can jump seven feet, not seven people who can jump one foot.

Frederick E. Terman

I. Introduction

In previous chapters several issues and problems were discussed together with recommendations and options. Where appropriate, discussions have drawn out some of the broad implications for the distribution of skills and resources, and how statutes, organizational changes, authorities, and their delegation affect issues. A basic query throughout has been the identification of those functions which can best be carried out by a Central Statistical Office, the manner in which these functions should be carried out and the authority the CSO should have, so as to bring about permanent improvements in the Federal statistical system. It is difficult at this stage to envisage the CSO as a concrete organizational entity, since so much depends upon the choices made among the recommendations and options of previous chapters. These choices will determine in a fundamental way what the CSO will be like: its functions, authority, size, and professional capacity—irrespective of where it is located. While the decision on location impacts upon the substantive functions, nevertheless one first has to decide what kind of CSO is needed and then consider where it should be located. The question of location is primarily an organization issue. Since the *location* of the CSO—apart from its duties—has its own implications for improving the statistical system and sustaining its most desirable characteristics, location is treated separately in this chapter.

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II. Organizational criteria

Options for locating the CSO should be considered in the light of several basic criteria which are at least implicit throughout earlier chapters: credibility, durability, authoritativeness, and relevance.

A. *The organization should be credible and free from subordination to partisan political ends.*—Executive branch policymakers, legislators, and the general public must have a high level of trust in government statistics as forming the factual bases for public policy. For this reason, the organization must be impartial in its work and perceived by the public to be neutral on political policy debates about national goals and issues. It should be sensitive to Presidential direction as to program priorities, responsive to congressional oversight, and accountable to the general public. It should be able to examine issues on their technical and objective merit and make its positions known in a persuasive manner. It should be sufficiently independent to overcome any threats to the integrity of Federal statistics, including possible efforts to politicize the manner in which statistical inquiries are formulated and data are gathered, analyzed, published, or otherwise disseminated.

B. *The organization should have durability.*—It should not be vulnerable to short-run fluctuations in mission, staffing levels, or location, and it should not be outmoded by tomorrow's crisis or by structural or functional reorganizations of other elements of Government.

C. *The organization should have an authoritative voice.*—A staff without adequate authority will be unable to convert statistical policy into responsive and accountable actions. The head of the organization should have sufficient stature and authority so as to be able to affect all decisions by the administration or proposed actions by the Congress which will affect any aspect of the Federal statistical system: including budgets, legislation and expressed priorities.

D. *The organization should be relevant.*—It should possess a sufficient level of skills that there is no doubt of its relevance to policymakers, and equally important, to the statistical system itself. It should provide leadership in resolving conflicts among the diverse information needs of the administration, the Congress, data users, and the general public. In fact, the leadership role of the CSO should in large part derive from the respect accorded a professional staff of high competence carrying out visibly important functions.

fessional staff of high competence carrying out visibly important functions.

These criteria do not dictate an obvious answer to where the CSO should be located. Different locations may have different effects of concentration of authority, inadequate accountability, or parochial perspective; checks and balances should be designed to offset such effects—perceived or real—such as external review and audit, advice from committees, statutory mandates, fixed term appointment and/or Senate confirmation of the head of the agency, and disclosure to the public of actions and policies.

III. Location options

Since organizational setting is often influenced by size, a working premise has been adopted, with the understanding that the optimum size of CSO has not been determined by enumerating all of its possible functions and adding up the corresponding staff requirements. However, the organization must be large enough to meet the challenges of a statistical system very much larger and more complex than its early predecessors had to meet. Many of the issues and corresponding needs for central direction discussed in previous chapters were not even in evidence in 1947 when the Division of Statistical Standards in the Bureau of the Budget had 69 positions. Our working premise is that an adequate CSO today should be at least twice as large as its 1947 counterpart.

Five location options are discussed below: (a) in OMB; (B) outside OMB, but in the Executive Office of the President (EOP); (C) in a Cabinet Department; (D) in an independent executive branch agency; and (E) in a commission independent of the executive branch.

A. *CSO in OMB.*—Under this option, the CSO would return to the only home its predecessors ever had. There are several *potential* advantages: proximity to the budget and clearance authority of the OMB Director; the interagency perspective of OMB which is relatively independent from particular programmatic interests; association with OMB staff responsible for information management, procurement, and intergovernmental relations, and involvement in the development of administration positions on legislation affecting data collection, use, disclosure, and protection. One general advantage of this proximity is the ability to

"speak for the President"—a characteristic inherent in all OMB functions.

A major disadvantage of locating the CSO in OMB derives from history. Numerous observers have criticized OMB for a long pattern of understaffing and generally weak support of both the clearance and statistical policy functions. The transfer of certain of these functions in 1977 from OMB to Commerce was widely perceived—rightly or wrongly—as a final manifestation of "budget-and-management" indifference to statistical policies and programs. Perceptions are important considerations; as W.I. Thomas noted, "If men define situations as real, they are real in their consequences."

Apart from history, there are some inherent disadvantages to locating the CSO in OMB. Sound statistical policy requires long time horizons for highly technical coordination and planning, and a measure of freedom from short-run political and economic events, of whatever significance. OMB's primary function—Presidential budget development and oversight—involves immediate, often crisis driven, decisions of great political and economic significance which dominate OMB's internal agenda and priorities. The question remains whether the important functions of the CSO could draw upon the necessary commitments of resources and attention in OMB.

While "speaking for the President" adds authority to a function, it may serve on occasion to constrain the CSO's freedom to discuss the data implications of legislative proposals with Congress. Ideally, the CSO should be able to bring its perspectives to bear early in the legislative process, without initially representing the administration's position. A location in OMB might also constrain an advisory role in budget matters.¹⁶

B. CSO as an independent unit in the Executive Office.—The Executive Office of the President (EOP) currently includes several White House support units and advisory offices, OMB, the Domestic Policy staff, and 4 councils (Council of Economic Advisers, Council on Environmental Quality, Council on Wage and Price Stability, and National Security Council). While all of these units advise and serve the Chief Executive in direct ways, OMB and the four councils were established by law, and except for NSC, their activities are visible to the public and are generally summarized regularly in published reports.

This option contains most of the advantages of option A with respect to proximity to the President. The location in EOP avoids the disadvantages of option A with respect to the inherent nature of OMB discussed previously. This option provides a "place to stand" for the Chief Statistician—to give advice and direction to all of the Government's statistical work (whether or not performed by statistical *agencies*), and to represent the statistical system in policy discussions affecting data gathering, analysis, and dissemination. The EOP location would also facilitate the increased policy responsiveness and relevance of the CSO and the statistical system to the administration and its policies.

These advantages are mirror images of two important risks: (1) that political concerns might unduly influence statistical policies, and (2) that the CSO staff would be diverted excessively to short-term issues or immediate crises, especially in terms of its intended analytical capabilities. Furthermore, the priority given to the statistical policy and coordination function could change dramatically from one administration to the next, thus conflicting with organizational criterion B, durability.

The current policy of holding EOP to a no-growth objective would be a significant disadvantage under this option if it resulted in a CSO without adequate staff to sustain its substantive functions.

C. CSO in a Cabinet Department.—This option is not identical to the status quo (whereby certain statistical coordination functions have been delegated to the Department of Commerce and are conducted by the OFSPS), unless one concludes from the review of previous chapters that little or no changes are necessary or desirable in the way the statistical system now functions. At this writing, OFSPS has been in operation for barely 1 year; while its *potential* effectiveness as part of Commerce cannot be judged empirically, some conceptual issues concerning the location of a CSO in *any* Department can be noted.

Under this option, a major Department is designated a lead role for a Governmentwide set of functions. This has two principal advantages. The

¹⁶A more definitive evaluation of the OMB location option was developed for the Final Report of the Project which was published in the May 1980 *Statistical Reporter*.

organization is freed from the restraints of OMB's budgetary and Presidential spokesperson functions, and the CSO's own resource requirements no longer compete with those of OMB. Increases in CSO functions, staff, or budget levels would presumably be justified by its parent Department and would, in any event, be a relatively modest part of any Department's budget.

On the other hand, even the modest budget requirements of the CSO must compete with the various program missions of its Department. Why should any Department be expected to give as high a priority to a Governmentwide function as to the programs for which it is more directly responsible and for which there are supportive clientele? There is likely to be a similar disadvantage in competing for the time and attention of top departmental officials; secretaries, under secretaries, and assistant secretaries are necessarily caught up in the immediate operating problems and policy issues confronting their Departments, and may not give "equal time" to issues that are not of as direct concern to their own constituencies and statutory responsibilities. The structure (without regard to actual operation) of the current arrangement is a case in point. The statistical policy functions delegated by Executive Order No. 12013 to the Secretary of Commerce have been redelegated, not directly to the head of OFSPS, but to a secretarial officer at the assistant secretary level, who has many other formal responsibilities.

While this arrangement is not inevitable, it is almost predictable that departmental responsibility for statistical policy and coordination will involve a Secretary or the Secretary's immediate subordinates in conflicts of roles and/or priorities. If statistical integrity and the independence of Governmentwide statistical policy functions from narrow departmental policy interests are to be credible across the rest of Government, the functions of the CSO would have to be vested in the Director rather than the Secretary. Even then the operational problems of running a Governmentwide coordination function from within any Department would be awkward, if not often impossible, in instances where Governmentwide statistical policies, standards, legislative and other matters are likely to have to be cleared by the Department before review or action by the other Departments or OMB.

As noted earlier, checks and balances may be designed to offset location effects, to increase or decrease leverage or to reduce potential conflicts.

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Two such devices were, in fact, established with the 1977 transfer of statistical policy from OMB to Commerce: a Cabinet-level Statistical Policy Coordination Committee (SPCC), and a memorandum of understanding with OMB. These should be examined to see what they offer in offsetting the apparent disadvantages of locating the CSO in a Cabinet Department. The SPCC was established by Executive Order and its members are 12 Cabinet officers, the Federal Reserve Board chairman, the CEA chairman, and the OMB Director. There are 15 alternative members, and 15 technical representatives. As with most Cabinet-level committees, these alternates and representatives are officials with program knowledge who have the most direct interests in policies and developments across departmental lines. The SPCC has met monthly (except for July and August) since its organizational meeting in April 1978. Thus far, the topics considered by the Committee as well as the alternates and technical representatives who address the topics, correspond closely to the work of the 15 standing interagency statistical committees under OFSPS jurisdiction. The Committee's stated purpose—to bring Cabinet-level attention to major Federal statistical issues—does not appear to be realized as yet. The Committee did not meet, for example, to consider statistical agency FY 1980 budget proposals before their submission to OMB. Efforts to address the 1981 budget are underway. Unless matters as significant as the statistical budget are placed before the SPCC, its potential as a coordinating body is not likely to be achieved.

The memorandum of understanding between Commerce and OMB on statistical policy matters—another potential source of leverage for the CSO—was issued in July 1978. It provides for independent review of the major statistical agency budget requests by OFSPS; based on the reviews, the Secretary will make recommendations to the OMB Director. These budget requests go to OFSPS *after* they are submitted to OMB, therefore after cabinet officers have exercised their own judgments on statistical proposals. It is not clear whether the recommendations prepared by the OFSPS would be adopted and endorsed by the Secretary of Commerce or might be altered at that level before submission to OMB; nor is it clear whether the OMB Director would adopt the recommendations or modify them, or what further consultation, if any, would occur with OFSPS thereafter. The memorandum does provide for OMB consultation with OFSPS during the review

of agency budgets, during the OMB consideration of legislation when statistical issues are identified, and during the clearance process. Each of these steps requires OMB initiative; OFSPS has no authority to enforce desirable and timely communication, and certainly very little ability to impact on these processes after basic decisions are made. The memorandum of understanding does not, by itself, provide strong assurance that statistical policy considerations will be brought to bear in a timely fashion on decisions affecting budgets, legislation, and clearance.

There is no clear reason to expect that the deficiencies noted above would prevail to a lesser degree if CSO, as *presently configured*, were located in any of the Departments.

D. CSO in an independent executive branch agency.—There are two possible arrangements within this option: CSO by itself, and CSO consolidated with one or more other existing agencies. Independent agencies *within the executive branch* are numerous, and quite diverse in size and function. For the most part, they are either (1) small and charged by law with advisory functions, adjudicatory functions, or the administration of specific statutes that call for uniform treatment across departmental boundaries; or (2) quite large, and charged with major functions and responsibilities (e.g., Veterans Administration and GSA).¹⁷

Although the CSO does not entirely meet these general precedents, it *could* be a separate office by itself if its authorities and functions were provided for by law. Unless it had substantial influence over budget priorities or were granted *independent* budget authority over statistical programs and/or final clearance authority over statistical report forms, it would be inherently weak because of its small size. With only limited authority of coordination over statistical budgets or programs, and without formal access to the budget and policy councils of the EOP, it could probably be ignored by the Departments and agencies when their own agendas conflicted with the CSO agenda of priorities. Its advantages as a freestanding independent agency would include minimization of the issue of potential politicization and clear direct accountability. With appropriate authorities to offset small size, it would also have high visibility and a clear image.

The second alternative—consolidation of the CSO with one or more other agencies—represents

a continuum of possibilities, such as combining CSO with Census or with Census and BEA, or adding to the consolidation one or more of the principal statistical agencies in the Departments of Labor, Agriculture, HEW, and DOE. Where the line is drawn is somewhat arbitrary, but the levels of disruption or fragmentation would probably vary according to the extent to which statistical functions are highly integrated with departmental missions. For example, the transfer of Census and BEA to a consolidated agency would impact less dramatically on the Department of Commerce mission, because of their *multiple-purpose* statistics and analysis, than would the transfers of statistical agencies out of the Departments of Energy, Labor, HEW, and Agriculture.

Under this option, the CSO would constitute a core function around which certain related statistical functions might be grouped, such as multiple-purpose data collection and analysis, and contract work for other agencies—functions which are not now closely tied to specific departmental programs. This would facilitate central coordination for general-purpose activities, provide a resource base from which the CSO could draw, and make broader use of specialized skills in data dissemination and presentation, statistical methods, and evaluation of data gaps and errors. The application of standards of quality and the integration of data series would be facilitated for those statistical programs brought within the consolidated agency. By virtue of its size and composition, the agency would be more visible and influential than a separate CSO, and drawing on the resources of the consolidated agency, should have a durable and relatively stable budget of considerable size.

The consolidated agency, including the CSO, could, however, be less responsive to policy concerns and more insulated from policymakers because of its relative independence. Many of the advantages and disadvantages of consolidation discussed in chapter 2, section III.C with respect to coordination are also broadly applicable to this option.

¹⁷The General Services Administration and the Administrative Conference of the United States (a very small independent agency dealing with the problems of regulatory administrative processes) were briefly discussed during 1979 by OMB in its search for an alternative location to the EOP. Both were soon discarded as seriously flawed as a location for CSO.

E. *CSO in an independent commission in the executive branch.*—This option would place the central statistical policy and coordination functions of CSO—and perhaps related functions—in an independent commission modeled more or less along the lines of an independent regulatory commission in terms of separate statutory authority and limited direct control by the Chief Executive. It varies from option D primarily in this broad difference in accountability and commission leadership form.

The principal advantage of this approach is to insulate the CSO and its related (consolidated) agencies from the various program and policy perspectives of the Departments and Executive Branch generally. Since it would require a statutory charter, its durability would be assured. Its scope, authority, and corresponding ability to coordinate Federal statistical activities, would depend on the nature of its statutory authority—whether, for example, it provided for budget and clearance controls, and how much of the Government's total statistical work were affected.

The disadvantages are similar to those of option D, with the further effect of lack of continuing accountability to the Chief Executive. It appears doubtful, in any event, that the issues and problems confronting the statistical system, and the recommendations and options set forth to deal with them, would require this type of organizational setting. Moreover, this option would cause further fragmentation between statistical programs inside and outside the Executive Branch; it is questionable whether the CSO could carry out its coordinating functions more effectively in this environment than under option D.

IV. 1980 Postscript

It should be noted, as a 1980 postscript, that the debate over CSO location was the most difficult and time-consuming part of the process of developing OMB recommendations to the President. The concern which motivated the early examination of such a diverse set of location options (both before and after the options paper) is the long and widely held reluctance to expand either personnel or the number of agencies in the EOP. As one of the Project staff observed during staff debates over location options, "One of the difficulties of assigning new activities to the EOP is that it is the 'idiot's solution' to every problem in Washington." Thus, the period when project recommendations were February 1981

being developed was first dominated by 6 months of effort to find a viable solution outside the EOP. When this failed, there followed several months of intense debate over whether CSO functions should be returned to OMB or established as a separate EOP unit.

This part of the debate started with the presumption that, since the CSO functions had been in OMB before 1977, it was both the logical and least costly location (politically and in dollars) since it avoided the establishment of a new EOP unit. The evaluation that evolved, rejecting the OMB option, is recorded in the Final Report of the President's Reorganization Project for the Federal Statistical System (*Statistical Reporter*, May 1980). Thus, OMB decisionmakers and subsequently all other major Presidential advisors who participated in this decision were ultimately led, against their initial presumptions, to recommend locating CSO functions as a separate EOP unit. The President selected this location option in his January 1980 action on the decision memorandum submitted to him from the Director of OMB. The outcome and the unusual total agreement among presidential advisors on location is a function of this lengthy examination of alternatives and the periodically intense debate which took place between February and December, 1979.

It perhaps also should be noted that the confidentiality legislation developed by the Project also generated pressure leading to the EOP location. Both inside and outside the Government one of the strong beliefs conditioning support of the proposed confidentiality legislation was the necessity to make the official responsible for this function a very visible, broadly accountable presidential appointee. Since this was envisioned as the head of the CSO, it combined with other integrity requirements to lead many people to perceive lower level positions and locations external to the EOP as inadequate.

Chapter 11. Bibliography

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CURRENT DEVELOPMENTS

TWENTY-FIRST SESSION OF THE UN STATISTICAL COMMISSION

The United Nations Statistical Commission elected Joseph W. Duncan Chairman of the twenty-first session, which was held in New York, January 12-21, 1981. In the previous session, Mr. Duncan was elected First Vice-Chairman of the Commission, a 24-member functional commission of the UN Economic and Social Council which assists in developing national statistics and improving their comparability. He is currently Director, Office of Federal Statistical Policy and Standards (OFSPS), U.S. Department of Commerce.

Mr. Duncan is the second U.S. statistician to head the UN Statistical Commission. The first chairman of the Commission in 1946 was Stuart Rice, Assistant Director of the Bureau of the Budget for Statistical Standards. He provided leadership in the development of statistical services by the organizations and agencies of the UN system.

The United States delegation was led by Mr. Duncan, who is the U.S. Representative on the Commission. Meyer Zitter, Assistant Director for International Programs, U.S. Bureau of the Census, was the Alternate Delegate. Suzann Evinger, also of OFSPS, was Adviser to Mr. Duncan.

A more complete report on the work of this session of the Commission will appear in a forthcoming issue of *Statistical Reporter*. (SUZANN EVINGER, OFFICE OF FEDERAL STATISTICAL POLICY AND STANDARDS, DEPARTMENT OF COMMERCE, telephone (202) 673-7965)

DOE REVIEW OF REQUIREMENTS AFFECTED BY DECONTROL

In the summer of 1980, the Energy Information Administration and the Economic Regulatory Administration initiated a review of data collection programs that would be affected by the September 1981 expiration of the Emergency Petroleum Allo-

cation Act. The President's order of January 28, 1981 immediately decontrolling oil and petroleum products has accelerated this review. A large number of data collection programs are candidates for elimination or modification.

Some preliminary proposals and issues were presented to the American Statistical Association Ad Hoc Committee on Energy Statistics at a public meeting on January 30, 1981. As *Statistical Reporter* goes to press a *Federal Register* notice containing detailed proposals for public comment is being prepared for publication in February 1981. Interested readers may contact Bill Bloom (202-633-8512) of EIA for information concerning the notice. (JERRY L. COFFEY, OFFICE OF FEDERAL STATISTICAL POLICY AND STANDARDS, DEPARTMENT OF COMMERCE, telephone (202) 673-7974)

SURVEY RESULTS OF ACCURACY OF THE SCHEDULED DATES FOR ECONOMIC INDICATORS

Introduction.—The Office of Federal Statistical Policy and Standards (OFSPS), Department of Commerce is responsible for monitoring agency compliance with Statistical Policy Directive No. 4. The purpose of this Directive is to ensure the prompt compilation and release of statistical information. As part of its monitoring of the directive, the Office asked the various agencies who have principal economic indicators listed in the *Statistical Reporter* on the "Schedule of Release Dates for Principal Federal Economic Indicators" to supply certain information about the indicators. The request for information included: the scheduled release date, the actual release date, the scheduled release time, and the actual release time. This information covered the period from January to June of 1980. The results of the inquiry showed that the scheduled release dates are a reliable indication of the actual release dates. Since the schedule does not carry the time of release, most of the agencies did not report a discrepancy between the scheduled time of release and the actual time of release.

Statistical Reporter

Survey Results.—The survey showed a high degree of accuracy between the scheduled and actual release dates. Both the January and February schedules of release dates showed 88 percent accuracy rates. The March and May schedules had 94 percent accuracy rates. And the April and June schedules both showed 96 percent accuracy rates. These results were determined from information supplied by the eight agencies participating in the survey. Five of these agencies reported some differences in the scheduled release dates and the actual release dates of their indicators. Only one of these five agencies showed a difference in the scheduled release time and the actual release time of an indicator.

Eleven principal economic indicators had some differences between the scheduled release dates and the actual release dates. Eight of these indicators were monthly series. The remaining three were quarterly series. The discrepancies ranged from 1 day to 7 days (one quarterly series was released 16 days after its scheduled date). Four of the monthly indicators showed a discrepancy only once in the 6-month period. Table 1 indicates the number of days that a scheduled release day differed from the actual release day. There were 6 out of 50 indicators in January that deviated from their scheduled release dates, 5 out of 43 in February, 3 out of 47 in March, 2 out of 47 in April, 3 out of 49 in May, and 2 out of 46 in June. All six of the January indicators showing differences were monthly series. In February, four were monthly series, and one was a quarterly series. All of the discrepancies in March and April were monthly indicators. Of the three series in May, one was a monthly indicator and two were quarterly indicators. Of the two indicators in June, one was a monthly series and one was a quarterly series.

Problems Identified.—There were several reasons cited for delays in release dates. One agency lacked a budget appropriation for 2 days which caused a delay in the release of the data. Another problem was because of Federal official holidays that sometimes can cause an agency to release the indicators earlier or later than the scheduled release dates. Also an agency may not obtain all of the data in time to meet its deadlines for release. Some agencies also noted that occasionally computer breakdown was a problem.

Conclusions.—The results of this survey indicated improvements over the 6-month period in adhering to the scheduled release date reported by the agencies to OFSPS and, hence, the reliability of the Schedule of Release Dates listed in the *Statistical Reporter*, and cooperation of agencies in following the guidelines set forth in Directive No. 4. (RONALD L. MEEKS, OFFICE OF FEDERAL STATISTICAL POLICY AND STANDARDS, DEPARTMENT OF COMMERCE, telephone (202) 673-7962)

SHISKIN AWARD FOR ECONOMIC STATISTICS

Nominations are invited for the second annual Julius Shiskin Award in recognition of outstanding achievement in the field of economic statistics. The Award has been established by the Washington Statistical Society Chapter of the American Statistical Association and will be presented, with an honorarium of \$250, at the WSS Annual Dinner in June 1981.

The Award is designed to honor an unusually original and important contribution in the development of economic statistics or in the use of economic statistics in interpreting the economy. The

SUMMARY OF DELAYS BETWEEN ACTUAL AND SCHEDULED RELEASE DATES JANUARY-JUNE 1980

Month	Number of Days the Scheduled Release Dates Deviated from the Actual Release Dates								Total Number of Delays Per Month
	1	2	3	4	5	6	7	16	
January	4		1					1	6
February	2		1	2					5
March	1	1		1					3
April		1	1						2
May			1	1					3
June	1	1							2

contribution could be in statistical research, in the development of statistical tools, in the application of computers, in the use of economic statistics to analyze and interpret the economy, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups can be nominated.

A nomination form may be obtained by writing to the Julius Shiskin Award Committee, c/o American Statistical Association, 806 15th St., N.W., Washington, D.C. 20005. Completed nomination forms must be received by April 1, 1981.

1978 CENSUS OF AGRICULTURE PUBLICATIONS

Preliminary county and State reports presenting data from the 1978 Census of Agriculture have been released by the Bureau of the Census. These reports include data on the number of farms, farm operator characteristics, land in farms, size of farms, land use practices, income and sales, expenditures, machinery and equipment, livestock, poultry, livestock and poultry products, and major crops harvested.

County reports include data for all farms for which the Census Bureau was able to obtain mailing addresses. The reports for States, regions, and the United States contain tables similar to the county tables, but reflect a more complete coverage of farms than the county reports as they include estimates for farms not included in the census mailing list. In a major effort to improve the usefulness of census data, the 1978 collection program contained a direct enumeration sample designed to provide reliable estimates for States, but not for counties, of the number and characteristics of farms not included in the mail portion of the census. Households in this sample were screened by census enumerators to identify farm operators living in the segments and were interviewed to obtain the agriculture census information. During the office processing, the names and addresses of all farm operators identified as living in the sample segments were matched to the census mailing list. Data for the sample segment farms not matched to the mailing list were used as the basis for making estimates representing all farms not included in the mailing list. These estimates were combined

with data from operators included on the mailing list to provide State totals for publication.

The preliminary reports indicate a U.S. count of 2.48 million farms for 1978; 2.26 million from the mailing list and 220 thousand from the direct enumeration sample. The 1974 census was taken completely by mail and counted 2.31 million farms but evaluation studies indicated that almost 11 percent of all farms were not included in the census. Based on an adjusted count of about 2.6 million farms in 1974, numbers decreased by approximately 5 percent from 1974 to 1978.

The 220 thousand direct enumeration sample farms are not distributed to counties and are included only in State reports. The farms are primarily small and part-time operations, accounting for only 1.5 percent of total land in farms and 1.0 percent of total sales of farm products.

Due to the inclusion of the direct enumeration sample estimates in 1978 State totals, and the improvement in census mailing lists, Bureau officials have warned users to use caution in comparing 1978 data with prior censuses. In general, the improved coverage had a much greater effect on farm counts than on acreage, inventory, or value figures. The Bureau will make available, upon request, a detailed statement on comparability which shows some 1974 figures adjusted for undercoverage.

The preliminary reports will be followed by the final report series, Volume 1, State and County Data. In addition to final totals for the data published in the preliminary reports, the Volume 1 series provides county and State data for all other agricultural products reported in the 1978 Census of Agriculture. Chapter 1, State Data, presents tables organized by subject matter comparing data with one or more prior censuses. This chapter also presents major data items and classifications cross-tabulated by tenure of operator, size of farm, age and principal occupation of farm operator, value of agricultural products sold, and Standard Industrial Classification of farm.

Chapter 2, County Summary Data, contains tables organized by subject matter and tabulated by county. Chapter 3, Individual County Data, presents tables organized by county and tabulated by subject matter.

For further information, contact Mary Burch, (301) 763-1113, or write to Chief, Agriculture Division, Bureau of the Census, Washington, D.C. 20233. (MARY BURCH, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-1113)

CHILD SUPPORT AND ALIMONY IN 1978

The Bureau of the Census recently released an advance report entitled "Child Support and Alimony: 1978." This report is based on a survey which collected information on the receipt by women of child support, alimony or maintenance payments, and property settlements, by selected demographic and economic characteristics. The estimates were obtained from common segments of the combined March and April 1979 Current Population Surveys, covering a sample of about 40,000 occupied households across the country.

The report presents data on the economic consequences on women and children following divorce or separation. It states that of the 7.1 million women with children from a father no longer living in the household, about half had agreements to receive child support in 1978. Another 10 percent were awarded payments but were not due to receive them in 1978 for a variety of reasons, such as death of the children's father or children past the age of eligibility. The remaining 40 percent were never awarded payments. Of those women who were due payments in 1978, almost three-quarters actually received payment, with a mean payment amount of \$1,800; or about 20 percent of their average total money income (\$8,940).

Of the 2 million of these mothers who had incomes below the poverty level, about 30 percent had agreements to receive child support in 1978. For women in poverty the average annual support payment was only \$1,220; these payments constituted a third of their average total money income (\$3,500).

Child support awards, reciprocity rates, and average payments varied by demographic characteristics. For example, women with only a high school education were much less likely to be awarded or to actually receive child support payments than those with four years of college. Also, those with only a high school education received, on the average, payments substantially lower than those with four years of college. Also, those with only a high school

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education received, on the average, payments substantially lower than those with four years of college.

The study shows that of the 14.3 million women who were either ever-divorced or currently separated, only about 14 percent were awarded or had an agreement to receive alimony or maintenance payments. About one-third of these women were supposed to receive payment in 1978. Of those who actually received payments, the average yearly amount was \$2,850, and their average total money income was \$11,060. This compares with an average total income of \$7,270 for women due payments but who did not receive them.

The study also showed that of the 12 million women who were ever divorced, less than half had received a property settlement. Such settlements are typically in the form of a house or other real estate, a one-time cash settlement, or other property. The median value reported for women who received a property settlement between 1975 and 1979 was \$4,650.

Copies of this report, "Child Support and Alimony: 1978 (Advance Report)," *Current Population Reports*, Series P-23, No. 106 (12 pp., \$1.25) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (RUTH SANDERS, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5060)

CONTINUOUS LONGITUDINAL MANPOWER SURVEY PUBLIC USE TAPES

The Department of Labor (DOL) has announced release of the first public use tapes from the Continuous Longitudinal Manpower Survey (CLMS). The CLMS is the major data development effort of DOL for evaluation of the decentralized employment and training programs funded under CETA. The survey is sponsored by the Office of Program Evaluation within the Employment and Training Administration of DOL. Data collection and preparation are the responsibility of the U.S. Bureau of the Census, while Westat, Inc., supports the CLMS effort in data management and analysis.

The Survey.—Beginning in the first quarter of 1975 and continuing every quarter thereafter, a national sample of new enrollees into CETA has been selected for inclusion in the CLMS. The enrol-

lees are sampled from each of 147 randomly selected governmental jurisdictions acting as prime sponsors under CETA. Data on these enrollees are obtained from prime sponsor records as well as from personal interviews with the individuals. The initial enrollee interview is administered shortly after the sampled individual's enrollment in CETA. Depending on the type of employment and/or training activity received, follow-up interviews are administered periodically for up to 36 months after the initial interview.

CLMS Data File.—The CLMS data file contains microdata on sampled individuals from three sources: prime sponsor records, personal interviews, and social security earnings records. Each individual record contains a sequence of weights which allows the user to make, at each stage of interviewing, national estimates relating to the universe of CETA enrollees as defined in the CLMS. File data from sponsor records include intake and eligibility characteristics, as well as identification of program activity/activities in which the individual participated. Selected sponsor information on participant's termination from the program is also included. Information that would permit identification of a particular prime sponsor has been deleted from the release files.

Data obtained through the sequence of personal interviews primarily constitute a longitudinal record of labor force experience for a 4-year period beginning 1 year prior to CETA enrollment. Included in the CLMS file are data on labor force status, wages and earnings, types of jobs held, and training and education. Other data included on the files are basic demographic characteristics, a history of public benefits received by the individual and/or the individual's family, selected family-related variables (composition and income), and attitudes toward and satisfaction with the CETA program.

The third source of data included on the CLMS microdata file is the earnings records of Social Security Administration (SSA). For each sampled CLMS individual, an earnings history as reported to SSA is included as part of the record. Reported annual SSA earnings are on file for each year beginning with 1951 and concluding with the latest year available.

Supplemental CPS Data File.—In order to assist the user in developing estimates of CETA's impacts, a comparison file using the Current population Survey (CPS) with appended SSA earnings is also being

made available at this time as a separate issuance. This file contains the annual demographic file (March CPS interview data, including weights) with SSA reported annual earnings and counts of quarter worked appended.

Current Tape Release.—The first three data files, made available in July 1980, are 9-track, 1600 BPI, with a maximum record length of 16,000 characters, as follows:

- CLMS Data File No. 1 contains approximately 7,500 individual records on persons newly enrolled in CETA between January and June 1975. The records contain: data from prime sponsor records, interview data covering the preprogram year and up to 36 months after CETA enrollment, and SSA earnings through 1977.
- CLMS Data File No. 2 contains approximately 15,000 individual records on persons newly enrolled in CETA between July 1975 and June 1976 (FY 1976). These records contain data from prime sponsor records, interview data covering the preprogram year and up to 18 months after CETA enrollment, and SSA earnings through 1977.
- Supplemental CPS Data File No. 1 contains approximately 80,000 individual records on persons interviewed in March 1976. The records contain: CPS interview data, and SSA earnings through 1977.

Further Information.—In order to help potential users determine if the public-use tapes are appropriate to their interest, persons may request a free copy of the CLMS Handbook for Public Use Tapes from the Employment and Training Administration, Office of Program Evaluation, or from the Westat, Inc., (1650 Research Boulevard, Rockville, Maryland 20850). The Handbook contains brief general information on CETA, CLMS, and data available for public use, and the questionnaires used in the study. (JAIME G. SALGADO, EMPLOYMENT AND TRAINING ADMINISTRATION, DEPARTMENT OF LABOR, telephone (202) 376-7258)

EDUCATIONAL ATTAINMENT IN THE UNITED STATES: MARCH 1979 AND 1978

The Bureau of the Census has recently issued a report entitled "Educational Attainment in the
Statistical Reporter

United States: March 1979 and 1978." This report contains data on years of school completed by persons 14 years old and over by such characteristics as age, sex, race, Spanish origin, type of residence, region of residence, and occupation.

Sixty-eight percent of persons 25 years old and over were high school graduates in 1979, a significantly larger proportion than the 55 percent recorded in 1970.

The proportion of persons who completed 4 or more years of college was greater for men than for women in 1979, 20 percent and 13 percent respectively. This differential between men and women has not been narrowing, and in fact, among all persons 25 years old and over, the gap appears to have widened.

College graduation continued to be more common for Whites than Blacks. In March 1979, 17 percent of White adults 25 years old and over had completed 4 or more years of college, compared with 8 percent of Black adults.

More than three-fourths of all workers were high school graduates in 1979, compared with less than one-half in 1960. During the period from 1960 to 1979, the proportion of employed persons 25 to 64 years old who had completed 4 years of high school or more increased by 33 percentage points for men and 29 points for women.

Copies of the report, "Educational Attainment in the United States: March 1979 and 1978," Series P-20, No. 356 (pp. 70, \$4.00) are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or at Commerce Department district offices. (DENISE I. SANFORD and PETER J. SEPIELLI, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5050)

RECENT NCES FAST RESPONSE SURVEY REPORTS

The National Center for Education Statistics recently issued the following survey reports which are briefly described.

Availability of Evening and Weekend Baccalaureate Degree-Credit Courses (FRSS #10).—A sample of 4-year colleges and universities was surveyed to determine the availability of evening and weekend courses needed by students to fulfill degree requirements in 11 major fields of specialization. The institutions were also asked to indicate factors that inhibit the introduction or expansion of evening or weekend courses creditable toward a bachelor's degree.

ESEA Title I Schoolwide Projects: Eligibility and Participation (FRSS #9).—Title I of the Elementary and Secondary Education Act (ESEA), the largest Federal elementary/secondary education program, provides services to meet the needs of economically and educationally disadvantaged children. Recognizing that schools with concentrations of low-income families may need special attention, Congress passed Section 133 of the Education Amendments of 1978. This section provides that districts having at least one school serving an attendance area with 75 percent or more children from low-income families may apply for a Title I schoolwide project to upgrade the school's entire education program.

A survey of State education agencies was conducted to assess the potential impact of this recent legislative provision. A final report presents the findings concerning the extent of eligibility of school districts for ESEA Title I schoolwide projects and their participation in such projects. Only a small fraction (24) of the estimated 626 school districts eligible to apply for schoolwide projects received or expected to receive such funding for the 1979-80 school year.

NCES's Fast Response Survey System (FRSS).—Like other FRSS surveys, both of the above-mentioned were conducted for NCES by Westat, Inc., a research firm in Rockville, Maryland. NCES established FRSS to collect quickly key, issue-oriented data needed for educational planning, policy, or legislative purposes.

For information about FRSS or the surveys, contact the FRSS Project Officer, Jeanette Goor, NCES, 205 Presidential Building, 6525 Belcrest Road, Hyattsville, Maryland, 20852, telephone (301) 436-6684. For single copies of the reports, write to NCES, Statistical Information Service, at

the same address. (O. JEAN BRANDES, NATIONAL CENTER FOR EDUCATION STATISTICS, DEPARTMENT OF EDUCATION, telephone (301) 436-7873)

HHS HEALTH REPORT: POTENTIAL GREAT FOR DISEASE PREVENTION

The Department of Health and Human Services recently issued its annual health report to Congress. The report, *Health, United States, 1980*, examines selected issues of current concern and provides detailed statistics on the Nation's health status. A Prevention Profile prepared for this year's edition provides baseline data for tracking progress in disease prevention and health promotion.

The report shows a marked trend toward equity of access to medical care regardless of income. The percent of population seeing a physician within 2 years has increased in every age and race and ethnic group, with the greatest increases for the poor.

However, there is no definitive evidence that the poor's level of use is commensurate with their needs for medical care, the report says. In addition, the poor receive fewer preventive services and less dental care than the nonpoor. Because of dollar ceilings on payments, poor patients using Medicaid to pay for nursing home care, especially patients who need more than usual care, may have more difficulty than others in gaining admission.

The report shows that the sustained declines of recent years in infant mortality and in death rates for heart disease and stroke are continuing. It says the decline in infant deaths in the United States between 1960 and 1977 is due largely to improved survival of low birth weight babies. The higher U.S. infant mortality, in comparison with rates in the Scandinavian countries, is the result of the higher incidence of low birth weight babies in this country.

Stroke mortality declined by one-third between 1970 and 1977. The decrease was especially large for black people, who are more likely than white people to die of this cause.

The report also shows that mortality from respiratory cancer has been increasing faster for women than for men. It was five times higher for

men than women in 1970; in 1977, the ratio was down to 3.7.

The high level of teen-age childbearing continues. Numerous health risks are associated with early childbearing. Although birth rates are not as high for these young women as they were in the early 1970's, the United States has one of the highest rates of teen-age fertility among industrialized nations, the report says.

An examination of the recent rise in the Cesarean deliveries in this country indicates that a fundamental change in obstetrical practice has occurred, according to the report. In 1978, 15 percent of deliveries, or more than 500,000 births, were by Cesarean, compared with 5 percent in 1970. As major surgery, Cesarean deliveries increase the mother's hospital stay and the costs of childbearing. Considerable controversy exists over whether there are compensating benefits.

In a comparison of hospital utilization in the United States with that of nine other countries, the report shows that this country has one of the highest rates of hospitalization but one of the shortest mean lengths of stay. For people 65 and over, hospital stay in the United States was more than five days shorter than in seven other countries studied.

Medical care expenditures continue to rise rapidly, topping \$212 billion in 1979. This was an increase of more than 12 percent over the previous year. Price increases alone accounted for more than two-thirds of the increase in 1979.

The report shows the very large share of national health expenditures that goes for conditions that are to some degree preventable. For example, heart disease, cancer, stroke, violence and respiratory conditions accounted for 46 percent of the total costs of illness in 1975.

Health, United States, 1980 was prepared by the National Center for Health Statistics and the National Center for Health Services Research, two components of the Office of Health Research, Statistics, and Technology, with the assistance of the Office of Disease Prevention and Health Promotion. All are part of the Public Health Service. Copies of the report will be available in late March from the National Center for Health Statistics. (ALICE HAYWOOD, NATIONAL CENTER FOR HEALTH STATISTICS, DEPARTMENT OF HEALTH AND HUMAN SERVICES, telephone (301) 436-7019; SHIR-

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LEY BARTH, OFFICE OF ASSISTANT SECRETARY FOR HEALTH, DEPARTMENT OF HEALTH AND HUMAN SERVICES, telephone (202) 472-5663)

CENSUS BUREAU METHODOLOGICAL RESEARCH, 1979

The Bureau of the Census has published the 14th annual issue of the *Census Bureau Methodological Research, 1979, An Annotated List of Papers and Reports*. This publication lists published and unpublished papers, memoranda, and reports on methodological research which has progressed far enough for dissemination outside the Bureau.

Copies of this publication may be purchased for 50 cents from Subscriber Services (Publications Division), Bureau of the Census, Washington, D.C. 20233. Upon request, single copies for official use are available from Statistical Research Division, Bureau of the Census, Washington, D.C. 20233. (DEANE H. HARRIS, RESEARCH DOCUMENTATION REPOSITORY, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-2372)

POCKET DATA BOOK, USA 1979

The *Pocket Data Book, USA 1979* has been recently released by the Bureau of the Census. The Data Book, the sixth in a series begun in 1967, provides a compact presentation of current and historical economic, political, and social statistics.

The latest edition comprises 400 pages, 646 tables, and 60 charts. As in the past, the data presented are a selection of the more comprehensive data in the *Statistical Abstract of the United States*. Covered in the Pocket Data Book are such subjects as: population, vital statistics, elections, national defense, law enforcement, education, welfare, income, prices, agriculture, energy, as well as other subjects of public interest. An alphabetical subject index, a brief section on definition of terms, and a list of charts are included.

The *Pocket Data Book, USA 1979*, (\$6.00 GPO stock number 003-024-02682-1) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or ordered from the Department of Commerce's District offices located in many major cities. A 25-percent discount will be allowed on orders of 100 or more copies sent to the same address. (GLENN February 1981

KING, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 449-1650)

FRB REPORT ON FLOW OF FUNDS

The Federal Reserve Board recently released a report entitled, *Introduction to Flow of Funds*, which contains a revised description of the flow of funds accounts. This publication consists of the 53-page introductory text on purposes, nature, and structure of flow of funds accounts that was last published in 1975. This version of the text has been updated in terms of charts and definitions with the September 1979 revision of the accounts. It *does not* include the tables themselves, which are available as annual data on request without charge, nor does it include the detailed description of derivation methods.

The price of the publication is \$1.50 a copy; in quantities of 10 or more sent to one address, \$1.25 each. Copies may be obtained from Publications Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. (STEPHEN P. TAYLOR, FLOW OF FUNDS SECTION, DIVISION OF RESEARCH AND STATISTICS, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, telephone (202) 452-3482)

CONSUMER INSTALLMENT CREDIT REVISIONS

The Federal Reserve has revised its estimates of consumer installment credit to reflect recent benchmark information. Estimates for commercial banks and retailers were revised back to 1977, while estimates for most other holders were revised back to 1975.

Finance company benchmark data are expected to be available later this year, but new seasonal factors have been used to provide adjusted estimates.

Revised monthly estimates, in the same format as the G.19 Consumer Installment Credit release, are available for the period January 1975 through November 1980. Contact Nellie Middleton, Mortgage and Consumer Finance Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. (NELLIE MIDDLETON, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, telephone (202) 452-2458)

BUSINESS INCOME TAX RETURNS

The Internal Revenue Service recently released the *Preliminary Report, Statistics of Income—1978, Business Income Tax Returns*, which presents data from the returns of sole proprietorship and partnership businesses.

Receipts, deductions, and profit are included in the four basic tables covering the business activities of over 13 million unincorporated businesses. Data are presented by 200 industry groupings adapted from the 1972 *Standard Industrial Classification Manual*. In addition, selected data are shown for sole proprietorship and partnership with new jobs credit, classified by industrial division. All data in the report are estimates based on samples.

More comprehensive statistics from business income tax returns will be published in the complete reports for 1978 now in preparation.

Copies of the *Preliminary Report, Statistics of Income—1978, Business Income Tax Returns*, IRS Publication 453 may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (JACK BLACKSIN, BUSINESS AND TAX EXEMPT STATISTICS SECTION, STATISTICS DIVISION, INTERNAL REVENUE SERVICE, telephone (202) 376-0151)

SALES OF CAPITAL ASSETS REPORTED ON INDIVIDUAL INCOME TAX RETURNS, 1973

The Internal Revenue Service released the *Supplemental Report, Statistics of Income—1973, Sales of Capital Assets Reported on Individual Income Tax Returns*. The data in this report are estimates based on a sample of returns filed by individuals for income year 1973. This study represents the most recent (the last being for 1962) detailed information on the capital asset transactions that underlie the net gain or net loss included in adjusted gross income.

Detailed data on gross sales price, cost and expense of sale, and gross gain or loss are shown for 27 different types of property or capital distributions. Other significant classifications include size of income, size of net gain or loss, length of period held (for selected asset types), and State.

The 263-page report (Publication 458) may be purchased for \$7.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (KEITH GILMOUR, INTERNAL REVENUE SERVICE, DEPARTMENT OF THE TREASURY, telephone (202) 376-0171)

UNITED NATIONS STATISTICAL OFFICE PUBLICATION RECENTLY ISSUED

The following briefly describes a recent publication issued by the Statistical Office of the United Nations. Copies of the document may be purchased from the Sales Section, United Nations, New York, New York 10017. When ordering, please use the price and stock number included in the description. Government agencies should request the discount to which they are entitled, as it is not automatically given.

Classification of the Functions of Government. (Statistical Papers, Series M, No. 70, 52 pp., UN Sales No. E.80.XVII.17, \$6.00).—The present classification is intended to form an integral part of the United Nations System of National Accounts (SNA) (UN Sales No. E.69.XVII.3); it replaces the classification of the purposes of government contained in table 5.3 of SNA. The change in terminology from "purposes" to "functions" does not imply any change in the underlying rationale of the classification or in the uses to which it may be put.

The classification contains three levels of detail, namely major groups (01-14), groups (denoted by a third digit) and subgroups (denoted by a fourth digit). The major groups may be thought of as broad objectives of government, while the groups and subgroups detail the means by which the broad objectives are achieved. There are 14 major groups, 61 groups and 127 subgroups.

1980 INDEX, JULY TO DECEMBER

This index for *Statistical Reporter* lists the articles and news items which appeared in the issues from July to December 1980, Nos. 80-10 through 81-3. The listing is by agency. Where more than one agency was involved, the article is listed under each agency.

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		Handbook of Statistical Organization; Volume I, A Study on the Organization of National Statistical Services and Related Management Issues (October)	47
		Yearbook of Construction Statistics, 1969-1978 (November)	64
		Yearbook of Industrial Statistics, 1978 edition (November)	64

PERSONNEL NOTES

DEPARTMENT OF COMMERCE

Bureau of the Census: VINCENT P. BARRABA resigned as of January 10, 1981 as Director of the Bureau to become director of market intelligence for Eastman Kodak in Rochester, New York. DANIEL B. LEVINE, who is now the Deputy Director, will be the Acting Director until a new Director is appointed.

DEPARTMENT OF EDUCATION

National Center for Education Statistics: NORMAN D. BELLER has been appointed Assistant Administrator for Elementary and Secondary Education Statistics. He came to the Center from ESS/USDA where he was Chief of the Sampling Frames and Survey Research Branch. JOHN B. LYONS, formerly Assistant to the Director for Administration, Institute for Museum Services, has been appointed Director, Office of Program and Budget Planning and Evaluation. ANTHONY J. PETRICCIONE has joined NCES as a Budget Analyst in the Office of Program and Budget

Planning and Evaluation. He was formerly a Senior Analyst for the Prince Georges County, Maryland Public Schools.

FEDERAL RESERVE BOARD

JARED J. ENZLER, formerly Deputy Associate Director in the Research and Statistics Division, has been promoted to Senior Deputy Associate Director.

DONALE L. KOHN, formerly Chief of the Capital Markets Section, has been promoted to Deputy Associate Director.

DAVID E. LINDSEY, formerly Chief of the Banking Section, has been promoted to Assistant Director.

LAWRENCE SLIFMAN, Chief of the National Income Section, has been promoted to Assistant Director and will also retain responsibility as the Section Chief.

JOE M. CLEAVER, Chief of the Financial Structure Section, has been promoted to Assistant Director and will also retain responsibility as the Section Chief.

SCHEDULE OF RELEASE DATES FOR PRINCIPAL FEDERAL ECONOMIC INDICATORS

March 1981

Release dates scheduled by agencies responsible for the principal economic indicators of the Federal Government are given below. *These are target dates that will be met in the majority of cases. Occasionally agencies may be able to release dates a day or so earlier or may be forced by unavoidable compilation problems to release a report one or more days later.* In certain cases,* timing variability in the receipt of raw data requires a range of dates rather than a specific release date.

A similar schedule will be shown here each month covering release dates for the following month. The indicators are identified by the title of the releases in which they are included; the source agency; and the release identification number where applicable. Release date information for additional series can be found in publications of the sponsoring agencies.

(Any inquiries about these series should be directed to the issuing agency.)

<i>Date</i>	<i>Subject</i>	<i>Data for</i>
March	2 Construction Expenditures (Press release), Census, C-30	January
	3 Sales, Inventories of Single-Family Homes, Census, C-25	January
	3 Selected Interest Rates, Federal Reserve Board (FRB), G.13	February
	4 Manufacturers' Shipments, Inventories, and Orders Census, M3-1	January
*5-6	Consumer Installment Credit, FRB, G.19 ..	January
6	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1	Week Ending March 4
6	Weekly Consolidated Condition Report of Large Commercial Banks and Domestic Subsidiaries, FRB, H.4.2	Week Ending February 25
6	Money Stock Measures, FRB, H.6	Week Ending February 25
6	The Employment Situation (Press release), Bureau of Labor Statistics (BLS)	February
6	Monthly Wholesale Trade (Press release), Census, BW	January
6	Producer Price Indexes (Press release), BLS	February
9	Monthly Selected Services Receipts (Press release), Census	January
10	Advance Monthly Retail Sales (Press release), Census (54)	February
10	Manufacturers' Export Sales and Orders, Census, M4-A	January

March

10	Crop Production, Agriculture	March 1
11	Supply/Demand Estimates, Agriculture	Current Marketing Season
12	Plant and Equipment Expenditures, BEA	4Q'80
13	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1	Week Ending March 11
13	Weekly Consolidated Condition Report of Large Commercial Banks and Domestic Subsidiaries, FRB, H.4.2	Week Ending March 4
13	Money Stock Measures, FRB, H.6	Week Ending March 4
13	Manufacturing and Trade: Inventories and Sales, Census	January
16	Yields on FHA Insured New Home 30-year Mortgages, HUD	March 1
17	Housing Starts (Press release), Census, C-20	February
17	Industrial Production, FRB, G.12.3	February
17	Personal Income and Outlays, BEA	February
18	Capacity Utilization: Manufacturing and Materials, FRB, G.3	February
18	Gross National Product (Second Revision), BEA	4Q'80
18	Corporate Profits (Preliminary), BEA	4Q'80
19	Federal Receipts and Expenditures, NIPA Basis, BEA	4Q'80
19	Summary of U.S. International Transactions, BEA	4Q'80
20	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1	Week Ending March 18
20	Weekly Consolidated Condition Report of Large Commercial Banks and Domestic Subsidiaries, FRB, H.4.2	Week Ending March 11
20	Money Stock Measures, FRB, H.6	Week Ending March 11
20	Advance Report on Durable Goods, Manu- facturers' Shipments and Orders (Press release), Census, M3-1	February
20	Hogs and Pigs, Agriculture	March 1
20	Manufacturing Capacity Utilization, BEA	December
24	Consumer Price Index (Press release), BLS	February
24	Real Earnings (Press release), BLS	February
24	Treasury Statement (the monthly "budget"), Treasury	February

March

27	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1	Week Ending March 25
27	Weekly Consolidated Condition Report of Large Commercial Banks and Domestic Subsidiaries, FRB, H.4.2	Week Ending March 18
27	Money Stock Measures, FRB, H.6	Week Ending March 18
27	Labor Turnover in Manufacturing (Press release), BLS	February
27	Export and Import Merchandise Trade (Press release), Census, FT-900	February
30	Sales, Inventories of Single-Family Homes, Census, C-25	February
30	Quarterly Financial Report for Manufacturing, Mining and Trade Corporations, Federal Trade Commission	4Q'80
*27-31	Savings and Loan Association Activity (Press release), Federal Home Loan Bank Board	February
31	Composite Indexes of Leading, Coincident, and Lagging Indicators (Press release), BEA	February
31	Manufacturers' Shipments, Inventories, and Orders, Census M3-1	February
31	Work Stoppages (Press release), BLS	February
31	Agricultural Prices, Agriculture	Mid-March



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