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Politics and Statistics: Independence, Dependence or Interaction?

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ABSTRACT

In 1994 the Statistical Commission of the United Nations unanimously adopted a set of Fundamental Principles of Official Statistics designed to foster the establishment and maintenance of credible national statistical systems, free of improper political influence. The present study examines a number of the issues involved in the transformation of the ideals embodied in these Fundamental Principles into institutional realities in both national and international statistical work.

The main body of this study consists of four sections. The first section provides an introduction to the subject. Section II reviews the range of political threats and controversies that have affected national and international statistical programs. Section III, drawing on national and international experience, offers a number suggestions on how the integrity and credibility of statistical programs can be strengthened to resist these threats and weather these controversies. The final section of the paper (section IV) presents a more general discussion of the matters taken up in the previous sections and some conclusions. Three annexes are also included. The first contains the text of the Fundamental Principles. The second reviews the major political conflicts that arose around recent population censuses in Nigeria and the United States. The final annex summarizes the experience of several international agencies in dealing with the issues raised in this study. Because this is a subject that is usually addressed in terms of the experience of individual countries, but the issues involved concern all countries, a full multinational list of references is provided.

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POLITICS AND STATISTICS: INDEPENDENCE, DEPENDENCE OR INTERACTION?

William Seltzer*

I. Introduction

At the special session of the United Nations Statistical Commission held in April 1994, a statement of Fundamental Principles for Official Statistics was unanimously adopted [United Nations Economic and Social Council, 1994: chapter 5]. The statement sets out ten basic principles to guide governments and statisticians in establishing and maintaining credible national statistical systems, free of improper political influence. The text of the Fundamental Principles is reproduced as annex I of the present study. These Fundamental Principles grew out of an initiative of the Conference of European Statisticians [1991] that was subsequently endorsed by the member governments of the Economic Commission for Europe [1992].

A separate path of activity aims at fostering integrity and professionalism among individual statisticians by means of a code of ethics [International Statistical Institute, 1986]. Several national statistical societies have also developed statements of ethics or principles to guide statisticians in their work [American Statistical Association, 1989; Royal Statistical Society, 1993]. In some cases, more specific statements of principles have been developed for statisticians working in universities, in government [UK, 1984; Association des Administrateurs de l'INSEE, 1985; UK Government Statistical Service, 1994] and in the private sector [Deming, 1965].

Over the years, many of the issues addressed in the Fundamental Principles and in these codes of ethics have been the subject of national discussion and controversy. However, with few exceptions, what has been written on the subject has focussed on issues in individual national statistical systems, particularly those faced with specific current challenges [for example, Arowolo and Daramola, 1982; Hauser, 1973; Mitroff et al, 1983; Fienberg, 1989; Royal Statistical Society Working Party on Official Statistics in the UK, 1991; Committee on National Statistics, 1992; Carson, 1993; Walczak, 1994]. Moreover, these earlier efforts did not relate these issues to the statistical work of international organizations.

The present study examines some aspects of the issues posed by the Fundamental Principles as they pertain to both national and international statistical work. It focuses on the issue of the maintenance of a statistical activity that attempts to be responsive to policy and other data needs without compromising professional independence and credibility. In other words, the study looks at how to transform the ideals embodied in the Fundamental Principles into institutional realities.

At the outset it must be recognized that any discussion of fundamental principles or ethics—whether at the level of individuals, nations or international organizations—is complex because decisions and actions usually must be seen in light of not one but many principles, some of which may point in different directions. For official statistics, these possible conflicts include responsiveness to user needs versus independence, continuity of time series versus the improvement of concepts and methods, policy relevance versus political neutrality, the norms of a statistician as scientist versus those of a statistician as civil servant. In many concrete situations regarding apparent conflicts of principles related to official statistics, there would be broad agreement among government statisticians about the proper course of action, although there might be less agreement among other stakeholders in the process such as political leaders, other civil servants, specific user groups, the media, and the public. In still other situations, government statisticians themselves may differ on how best to reconcile apparently conflicting priorities.

The main body of this study reviews the political threats and controversies affecting national and international statistical programs (section II). It then suggests

* I am deeply grateful to the extensive and thoughtful comments provided by a number of statisticians and others who commented on an earlier draft of this report and enriched it with both ideas and examples. However, I am solely responsible for all errors of fact or interpretation in the study.

how the integrity and credibility of statistical programs can be strengthened to resist these threats and weather these controversies (section III). The final section of the paper (section IV) presents a more general discussion of the matters taken up in the previous sections and some conclusions. Two additional annexes are also included. The first (annex II) reviews the major political conflicts that arose around national population censuses in two countries. The second (annex III) reviews the experience of several international agencies in dealing with the issues raised in this study. Because this is a subject that is usually addressed in terms of the experience of individual countries, but the issues involved concern all countries, a full multinational list of references is provided.

II. Areas of political threat and controversy

A. Overview

It is useful to begin by examining the various ways in which the professional integrity and credibility of statistical agencies can be undermined. In broad terms, threats to the integrity of a statistical service operate directly on the data themselves; on the concepts used in their collection and presentation; on the methods of measurement; on the mission, operations and administration of the statistical service, including its budget and staff; and on the public's perception of the statistical service. A more detailed framework of such threats is presented in table 1.

The framework is offered as a tool to help disentangle the various issues and concerns embodied in the nebulous term 'political manipulation of statistics' and not as a research finding. In reality, efforts aimed at political manipulation often employ several modalities simultaneously. Furthermore, fair-minded observers might disagree about how a specific governmental action might best be classified among the framework categories.

Table 1. Modes of undermining statistical integrity: A framework

1. Mission of the statistical service
2. Financial resources and controls
3. Staff
4. Statistical fields or series targeted for expansion or suppression
5. Definitions and concepts
6. Terms and nomenclature
7. Altering specific numbers
8. The extent and timing of the release of data
9. Threats to data confidentiality
10. Use of the statistical agency for political analysis or other political work
11. Active campaign to discredit statistical service outputs, methods, or staff

All the modes listed in table 1 are real in the sense that they have been used at one time or another to undermine the credibility of a national statistical service as an impartial source of data. Many of these modes are also avenues of legitimate policy or technical discussion and valid instruments of change. Accordingly, it is important to examine each of these areas in turn to help better understand the borderline between proper policy direction or methodological improvement and improper manipulation of either statistics or the statistical system. Complicating the matter further, governmental authorities often cite the highest motivations for their political interference. These may include such virtues as producing more policy-relevant statistics, reducing waste, inefficiency and respondent burden or the elimination of politically-biased staff. Alternatively, interference may be justified in terms of such political cynicism as "I would like to continue the statistical series on X but Y (for example, the members of Parliament from the coal region) consider the numbers unhelpful. Therefore, most reluctantly, I must instruct you to stop publishing that series."

The point of reference here is threats to independence and integrity operating from or through official governmental structures, whether civil or military. Of course, not all threats to integrity arise from the government itself. Fears of the press, powerful private interests, population subgroups, or regional interests all arising from within a country or fears of external private interests, other governments or international agencies can each serve to undermine the integrity of a statistical service. In many situations, these forces operate through and influence governmental authorities. In such circumstances, their influence is encompassed within the framework of this study. However, there can be other occasions where the influence of these non-governmental forces operates di-

rectly on a statistical service. Such forces may not even be supported by the governmental authorities at all. On these occasions, the governmental authorities are likely to be weak or focussed on other issues and the statistical service is basically left to sink or swim on its own. Most problems, however, arise in situations where the governmental authorities, executive, legislative, or judicial, are initiators or active accomplices in the process. The balance of this report focuses on this, the more common situation.

B. Discussion of specific threats to statistics

1. Mission of the statistical service

Is the primary aim of a statistical service to provide the data the government (that is, the current political leadership) requires or is its mission broader? The question is a real one. Although the traditional view, reaffirmed in the first of the Fundamental Principles, is a broad one covering both public and private uses of data for policy-making, operations and research [Als, 1992: 220; Fellegi, 1991; Øien, 1991; Slater, 1982: 59], it is sometimes challenged. For example, in the recent past, the government of Margaret Thatcher made an explicit policy decision to alter the mission of the UK statistical service to a narrower and what appeared to many as a more partisan mission [Ward and Doggett, 1991: 81-104], a decision that was recently reversed [Maclean, 1994].[1] For a period in the 1980's, the United States also seemed to be moving in that direction [Bonnen, 1984: 15-16; Fienberg, 1991: 11]. However, the decision was never as clear-cut as in the UK and by 1989 the broader approach was explicitly reaffirmed [Habermann, 1989: 47-48].[2] The narrow approach could certainly be said to have characterized the mission of the statistical services of the former USSR and the other command economies of Eastern Europe.[3]

Clearly, a statistical system whose primary aim is to provide data that the current political leadership want is running the risk of being so identified with specific political policies that long-term credibility will be lost [Als, 1992: 122-127]. On the other hand, a statistical service must find ways of being responsive to new or altered needs for data. At times such needs are explicitly articulated. At other times they must be inferred from current or anticipated policy debates. One quite legitimate source of inspiration for new data needs is the policy concerns of the current political leadership. (After all, in a democracy, this leadership has been given its responsibilities by a free choice of the electorate.) However, finding the proper balance between responsiveness to the political debate and independence from politics can present problems for a statistical agency. One approach is to ensure that an agency's statistical outputs are designed to serve the needs of (a) all the major actors in any given policy debate, not just those of the current government, [Fellegi, 1991] and (b) multiple policy debates and agendas. In this way, the relevance and credibility of the statistical service can be maintained for both the current political leadership and the body politic in general [United Nations, 1980: 3].

2. Financial resources and controls

It is clear that a government or an international organization unhappy with the performance of its statistical service may endeavor to punish the service by reducing its budget or adding additional constraints to the expenditure of already budgeted resources. As de Vries [1994: 317] has stated and Walczak [1994:273-274] has emphasized, "Without resources, most of the Fundamental Principles are but a dead letter." Financial or expenditure constraints can be directed at the entire statistical program or some specific component. Pressure can develop from either executive or legislative actions. Again there can be a problem in distinguishing between proper executive and legislative control and oversight, and the use of these same tools for partisan or private ends.

Currently, one area of debate is the degree to which a national statistical program should be self-financing [Als, 1992: 181]. The traditional view is that statistics are a public good, paid for largely out of tax revenues and with users charged nothing or at most the marginal costs of reproduction for statistical outputs [Habermann, 1991]. In these circumstances, any money received from the sale of publications usually is treated as revenue to the central, rather than the statistical budget. More recently, there has been a shift in some countries to use self-financing approaches of one kind or another [Cook, 1992]. Most of these self-financing approaches endeavor to introduce market incentives and foster a client orientation in the work of a statistical agency and have been limited to about 20 to 25 of the over-all agency budget [Fellegi, 1994]. However, a few countries have considered far more extensive self-financing approaches. There is also some concern that once the concept of statistics as a public good is abandoned, there will be less and less core budgetary support for statistical programs, particularly infrastructure and capacity-building activities.

Both methods of finance involve distinct potential threats to a statistical agency's independence: under the traditional approach the statistical agency is subject to the control of the political process of budgetary approval, while the self-financing approach can make the agency, at least at the margin, subject to the agendas of those

ministries or private-sector users who have the most resources. An additional potential conflict arises in the case of statistical outputs not financed through the budget of the statistical agency. Does the product become the property of the funder or can the statistical agency disseminate it more widely? To help ensure that marketed services do not damage the confidence the public accords the agency, Statistics Netherlands retains the autonomy to publish results from any special survey it conducts for an outside sponsor. However, it is recognized that this policy may narrow the market for its services [Begeer, 1994]. Clearly, it becomes more difficult to follow such a policy as the share of an agency's core activities that are funded by revenues from its marketed services grows.

3. Staff

A relatively common method of threatening the integrity and professional independence of a statistical service, is to attack those staff members who seem to symbolize this integrity and independence most strongly. In its most extreme forms, this has led to the death, disappearance or arrest of senior staff members of national statistical agencies.[4] More commonly, the attack takes the form of dismissing or forcing the resignation of statistical office staff.[5] Actually, the diversity of staff in terms of views and backgrounds contributes, in itself, to safeguarding the integrity and professionalism of statistical work.

In situations in which most staff are protected from arbitrary dismissal by a strong civil service tradition or law, the attacks most often focus on the most senior staff. Senior personnel often are more vulnerable than their more junior colleagues under civil service rules. Moreover, they are more visible to political leaders, and their associates, than working-level staff.

Complementing the efforts against certain staff are actions taken in support of existing staff considered to be "friendly" or the recruitment of new, politically more acceptable staff. Because most work in a national or international statistical agency is technical in nature, the professional qualifications and experience of an existing or new staff member, regardless of the nature of their political views, are the key determinant of a staff member's performance. Accordingly, assuming a person is technically well-qualified, a "political" appointment to a technical position in statistical agency is far less likely to pose a real threat to an agency's technical independence than a "political" dismissal. Such appointments may, however, reduce the public's perception of an agency's professional independence, at least in the short run. Moreover, if political appointments to technical posts become a common practice, the danger of compromising on qualifications grows.

Particularly in small statistical agencies the price, in terms of reduced effectiveness and efficiency, of wasting even one or two positions on technical incompetents can be high. In agencies of any size, the appointment of unqualified persons to posts with major technical responsibilities can have a major adverse impact on the public image of the agency as well as undermine staff morale. In addition, efforts to appoint even one or two technically unqualified persons to a statistical agency has often led to very unfavorable publicity for those making the appointment.

A more indirect form of political interference in the work of a statistical agency is the use of quotas in hiring and promotion. At the national level such quotas are designed to ensure that a sought for balance in terms of gender, ethnicity, region, or language is achieved within the national civil service. Such a policy, of course, goes well beyond statistical agencies and is designed to achieve nationally defined policy goals on employment. At the international level these quotas are usually expressed in terms of nationality and gender. In some cases, such quotas can be accommodated with relative ease. In other cases, statistical agencies may face a very difficult dilemma in terms of finding candidates for recruitment or promotion with the proper technical experience and qualifications.

Finally, there is the special case of the head of a statistical agency. The head of the statistical service often plays a critical role in the success of the statistical program for which he or she is responsible. More than any one else in the statistical service, the head of the service must personally confront the political issues that arise in the course of the agency's work. Indeed, one role of the chief statistician is to serve as a buffer between the technical staff of the statistical agency and the political world, including the current government and its priorities. The ideal director would be strong technically, be an effective leader and manager, have outstanding communication skills and be well-respected professionally and politically. This political respect would not be particularly as a partisan of one party or another, but rather as someone who is known and well-regarded by a range of politicians and political journalists. Rarely does a country have many candidates meeting all these characteristics equally well. In these circumstances, the choice of the chief statistician will often involve trade-offs.

In a small country, with a small national statistical office, it would be important not to compromise on technical strength. In such offices the chief statistician will often have to double up as a subject-matter expert. Moreover, in small countries it is generally easier for a chief statistician to have relatively direct access to key decision-makers in government and parliament.

On the other hand, in large countries with large statistical offices, the trade-offs can be more complex. In

a large office the subject-matter specialists in most fields will be more expert than the head of the office in their respective fields of competence. In these circumstances, the other criteria specified above can emerge as critically important. Indeed, in several countries, a division between the head of technical service and the political-administrative head of the agency is maintained, with the latter responsible for most of the non-technical outreach by the agency.

Saying this, and also saying that some outstanding heads of statistical services had no prior professional experience or came with heavy political baggage, does not negate the point that persons with weak technical qualifications will be viewed with great suspicion by their staff, by the knowledgeable public and, in a democracy, by the press and the political opposition. To succeed under these circumstances generally requires having and using a strong staff. Motivation is also critical. Too often, those without qualifications who are given a political appointment as head of a statistical agency actually were interested in some other job. In this situation, they frequently spend much of their time trying to get a "better" job, often the one they originally wanted. It is much more likely that a person with technical qualifications would be pleased by the appointment than someone lacking such qualifications.

4. Statistical fields or series targeted for expansion or suppression

If a new President declares a 'War on Poverty' the statisticians in the units of the statistical agency responsible for income statistics and social statistics have a reasonable expectation that they will start receiving a wave of new requests for poverty-related data from other government departments or ministries, the academic and research community, the press, and the general public. Indeed, in response to these new requests for data, the statistical agency may well decide to expand its existing programs of data collection and dissemination in these fields. Most would consider such an expansion a proper response to evolving user needs. The same would be the case if such an expansion were funded by curtailing work on production statistics for a series of clearly obsolete products such as buggy whips or mechanical desk-top calculators. On the other hand, should the statistical agency decide or the new government direct that this work on poverty statistics be funded by across-the-board cuts in data series used by farmers and small businesses, the impartiality of first the statistical agency, and then its outputs, will begin to be questioned. Indeed, both in the United Kingdom and the United States, serious charges were raised in the 1980's that social statistics were being targeted for curtailment by Governments with other political priorities [Rockwell, 1990; Royal Statistical Society Working Party on Official Statistics in the UK, 1991; Ward and Doggett, 1991]. Although in both instances the formal verdict on these charges appears to be 'not proven', the credibility of the statistical systems suffered. Contributing to the apparent plausibility of these charges at the time was that in both countries there had been efforts to restrict the mission of the national statistical service as discussed earlier.

More commonly political pressures are very narrowly focussed and are often hard to distinguish from the ongoing dialogue any statistical agency should be having with its users. A business trade group or a labor union unhappy with the decision of the statistical agency to cancel, alter, or initiate a specific statistical series may attempt to bring political pressure on the agency to change its decision. In a democratic society people certainly do have the right to invoke the political process to redress a perceived governmental mistake. On the other hand, a statistical agency can quickly become paralyzed if decisions on every series become the subject of political debate. As discussed in section III below, there are steps that can be taken to protect the statistical agency's political impartiality in this debate. An important element of these steps is the ability of the statistical service to anticipate evolving trends in user concerns. Correctly forecasting evolving user needs can reduce the time lag in producing new kinds of data and thereby lessen user frustrations.

5. Definitions, concepts, and methodology

The definitions and concepts used in the collection, compilation, and dissemination of statistics are the rocks on which the statistical contour of a country are built. Although they are largely unseen by the casual or unsophisticated user of statistics, they often determine whether the statistical picture is rosy or bleak. For this reason, these definitions, concepts, and methods are sometimes the target of political manipulation. In a good statistical system, however, these same concepts and methods are the subject of continuing professional review and debate. As a result of this review and debate, concepts and definitions evolve and change for valid reasons: the phenomena being measured change or a revised concept or definition would better measure the phenomena. Because political manipulation can and sometimes does occur, frequently those on one or another side of an issue charge that the technically based changes were 'politically motivated'. In other words, the cry "wolf, wolf" frequently is heard when it is only the sheep dog trying to bring its flock into better order. And, of course, when the wolf of political manipulation of concepts really does appear, it may take a while for it to be perceived as such and not as another hard-working sheep dog.

From time to time efforts to use concepts to manipulate data for political purposes are overt. For example, in

the 1980's the government of the former USSR had an active campaign against alcohol. As a result of this effort, the production activities related to alcohol declined sharply and, as a consequence, the overall index of industrial production fell. However, the latter fact was hidden by the political decision to remove activities related to alcohol production from the index. Similarly, in the early 1990's, as a result of lobbying by a group of physicians, the French Parliament forbade the calculation of any consumer price index that included tobacco within its scope. Fortunately, before the law went into effect, the head of the national statistical agency, INSEE, was able to conduct a successful counter-lobbying effort. As a result, the law was changed to focus on the use of the index (i.e., the definition of the scope of the index to be used, for example, in adjusting wages and salaries for inflation), leaving INSEE free to continue to be able to construct a variety of indices in light of generally accepted scientific standards and a range of user needs. Even more reprehensible is the introduction of concepts or definitions into statistical activities designed to target individual persons or enterprises for repressive or investigatory actions. For example, in the 1940's the Vichy government in France added questions on race to a number of statistical enquiries.

Methodologies for structuring and analyzing statistics can also can become politicized. For example, as Kenessey [1992] recounts, in the 1920's in the former USSR national accounts methods and results became associated with Bukharin. When Stalin turned against Bukharin, work on national accounts was suppressed. Ironically, there was misplaced echo of this sort of behavior in the United States during the height of the cold war, although the consequences in both intellectual and human terms were far less severe. In 1953, apparently some in the in-coming Eisenhower administration discovered that the Bureau of Labor Statistics (BLS) had a research activity begun in 1941 related to input-output tables, that work on input-output methodology had its start in the Soviet Union as a tool of state planning, and that one Professor Leontief, a Russian emigre, was a major intellectual force behind this work. The obvious conclusions were drawn and the BLS project was quickly cancelled [Kenessey, 1994]. Before the Eisenhower administration left office, however, governmental work on input-output tables was resumed, this time in the Office of Business Economics of the Department of Commerce [Duncan and Shelton, 1978: 111-112].

Often the issues are more complex. For example, two widely quoted economic indicators, compiled and released monthly in many countries, are the inflation rate and the unemployment rate. Much public policy, many private contracts, and a considerable number of political careers depend on these monthly measurements. As a result, economists and statisticians spend considerable time in trying to refine definitions and concepts used in measuring these variables. Such research may and should yield proposals for improved ways of collecting, processing, analyzing or disseminating data on these subjects. For instance, as the median age at labor force entry rises, should the lower age boundary of the labor force and hence of the unemployed rise? Should the "discouraged unemployed" be counted as "unemployed" or "not in the labor force"? Decisions on issues like these will change the reported unemployment rate, which can have important political implications.

To take an example from another field of statistics, much social policy, including legal remedies, focusses on the treatment of minorities or other specially disadvantaged groups. Over the years this has sparked considerable interest in the measurement of the numbers and characteristics of minorities. These subjects frequently present statistical complexities and draw political attention at the same time so that it is often difficult to determine to what degree a specific decision was based on 'political' as distinct from 'scientific' considerations (see, for example, the studies by Choldin [1986] and Farley [1990] on the identification of the Hispanic population in recent United States population censuses).

Indeed, the range of definitions, concepts, or methods subject to political dispute, and on occasion political intervention or even manipulation, is as diverse as the field of statistics itself. For instance, in addition to the examples just cited, one may note the choice of the base year for comparisons over time of economic, social or environmental data, the formulas used to construct indexes or to estimate missing or inaccurate data, methods for valuing stocks (historic versus current prices), or methods making international comparisons of economic statistics (exchange rates versus purchasing power parities). Again each of these topics is also a subject of intense scholarly debate and proponents for one or another approach may find themselves used by one side or the other in the political debate. At times individual scholars may also attempt to use the participants in the political debate to advance their own technical solutions to problems. During this process the statistical agency can find itself caught in the middle of a complex mixture of political and scientific controversy.

Political or other extraneous pressures may also arise because of non-statistical uses of statistical definitions and classifications. Here, the pressure focusses on the classification scheme itself or on the assignment of a specific entity to a particular category in a given classification. Those attempting to apply pressure are not interested in influencing statistics as such but only a very narrow aspect of work on statistical classifications. The problem arises in the first place when operating, regulatory or taxing agencies incorporate an existing statistical

classification or definition into their administrative procedures. Numerous examples can be cited. Statistics Netherlands (SN) came under pressure when one Ministry established a governmental subsidy scheme open only to enterprises with a specific SN activity code. The pressure was removed only after the SN persuaded the Ministry not to use the activity classification in this manner [de Vries, 1994: 326]. In Poland, Walczak [1994: 274] notes that the CSO activity and product classifications "were widely used for granting specific privileges to particular branches and are still used especially in the tax policy." He also observed it was the CSO's policy that the purpose of these classifications is to provide consistent national data and "not to settle administrative or fiscal controversies." At the international level, several countries approached UNSTAT for reclassification from developed to developing. At least in some cases the motivation for these requested reclassifications appeared to be related to presumed eligibility criteria for receiving technical assistance. As a result all United Nations statistical publications carry a disclaimer to the effect that the groupings of countries according to development status are for statistical and not administrative purposes. Despite the disclaimer, appeals for reclassifications continued.

Regardless of the source of input, decisions must be made on a myriad of conceptual and definitional issues as part of the continuing work of any national or international statistical agency. On many issues at least a few data users and their political friends are likely to object to whatever decision is taken. Basically, three options are available to the statistical agency for dealing with these disputes: (1) go along with the views of the residual minority, and risk contravening the larger body of technical opinion and the unhappiness of the majority of users; (2) satisfy everyone by making data available in terms of multiple concepts, quite feasible unless multiple concepts means adding unreasonably to the costs and respondent burden of data collection; or (3) follow the broad consensus of technical and user views, again quite feasible if adequate consultations took place prior to the decision so as to be confident that a clear consensus does exist. A critical element in being able to form such a consensus is the availability of data on how well alternative concepts function, which in turn usually requires research and testing, at times highly innovative in character [Norwood, 1993]. Also important is a tradition of professionalism, impartiality, and responsiveness to a wide range of user communities.

On the other hand where statistics are generated as the by-products of an administrative system, changes in concepts and definitions are usually at the mercy of changes in the administrative system itself. Changes occur for administrative or policy reasons with little or no regard for their statistical impact. The unemployment figures derived from the reports of labour exchanges in the UK are an example of this, where a series of such administrative changes during the 1980's damaged public perceptions of the UK government statistical service [Calder, 1994].

6. Terms and nomenclature

Public and political concerns about specific definitions and concepts usually emerge rather slowly after researchers, sophisticated users, and statisticians themselves have argued about the pros and cons of an issue for a period of time. On the other hand, the general public, the press, and politicians often become immediately aroused over issues related to the terms and nomenclature used in the collection, storage, and dissemination of data. Moreover, while the correct treatment of many conceptual issues is not intuitively obvious, many people are convinced they know the correct answer to nomenclature questions.

At the national level the names used for various civil sub-divisions of a country, for various ethnic, linguistic, racial or tribal groups or for certain job titles or industries can give rise to great sensitivities. At the international level the most politically sensitive issue, at least at the United Nations, is the nomenclature used for individual countries and areas, and the related question of the boundaries associated with each name.

Often the issues of nomenclature are so sensitive that they are decided at the political level. Statisticians simply have to use the currently approved name-tags. Problems arise when the political process changes the approved nomenclature too close in time to a major statistical operation or too often. A more serious problem arises when the political process imposes a nomenclature which is conceptually, linguistically, or legally "purer" but is misleading or unfamiliar to respondents or users.

Sorting out whether a particular pressure relates to nomenclature or to an underlying conceptual issue is not always easy. Indeed, it can be a highly charged matter itself. From the view-point of a statistical agency trying to cope with these issues, the distinction is not that important. Attention should focus on the concepts and definitions required to obtain the data or analyses users want and on the nomenclature that respondents and users are comfortable with. Devising satisfactory and durable solutions, however, is not always easy. For example, Farley [1990: 11] in writing about questions on race in United States censuses observes, "twenty-six different nouns have been listed in this century as racial titles, and only three categories . . . appeared in all Twentieth Century enumerations. Five different terms have been used for the African-origin population, and seven for Native Americans."

Another serious difficulty occurs when an issue is

considered so sensitive that the statistical agency is barred by the political process from separately identifying some group or region in the data. For example, Mexico has, as a matter of policy, not identified the mestizo or Indian population separately in its official statistics, Turkey has not permitted the collection or dissemination of data on its Kurdish population, and complete data from the March 1957 United States Current Population Survey by religion was only released after an action by scholars under the Freedom of Information Act [Peterson, 1987: 221-222].

7. Altering specific numbers

Deliberate altering or falsification of official statistical data by governments can and has occurred [Morgenstern, 1965: 19-21; Vernon, 1987: 71-72; Wu, 1989: 277]. A few other examples can be cited. Each is highly deplorable, and would be identified as deplorable by statisticians working in national and international agencies around the world. However, the main point to observe is that, in fact, governments rarely 'cook' the statistics coming from the official statistical agencies. This is also an observation made by Bonnen [1984: 22]. Similarly, reviewing the situation in Eastern Europe over the past four to five decades, Blades noted that

> the statistical offices in these countries were under continuous pressure to present social and economic developments in the best possible light. Sometimes this led to outright falsification of data; more generally . . . to the suppression of unwelcome statistics or to the presentation of data in misleading or uninformative ways [1991: 16].

There are probably two reasons for this state of affairs. First, such fabrication runs counter to the very heart of the professional ethos of statistics and statisticians. In the case of each of the other threats set out in the framework, some shred of professional rationalization is possible. Fabrication, however, allows no scope for such rationalization.

Second, because of the interrelatedness of statistics, fabrication can easily be detected or is expensive to produce. For example, in accordance with the wishes of the then ruler, President Bokassa, the population census results for the Central African Republic in the 1970's were inflated after they left the census office but before they were released to the press. Initially, only the total population figure was increased. When it became apparent that this meant that the totals for males and females were now over a million persons less than the total for both sexes combined, an effort was made to inflate the separate totals for males and females also. Unfortunately, data in the preliminary census release also presented a breakdown of the numbers in terms of certain major categories (household population, forest population, etc.). Very quickly non-statisticians discovered some of the complexities involved in estimating entries in table cells to correspond to new marginals. At that point further processing of the census was stopped (i.e., a shift from mode 7 to mode 4 in table 1). Processing was resumed after Emperor Bokassa was deposed. Similarly, Vernon [1987: 71] points out some of the complexities governments must face when fabricating economic statistics.

Falsification of data can, of course, occur earlier in the collection and compilation process. To save time and effort census or survey interviewers can complete questionnaires at home on the basis of fictitious respondents or establishments can return fabricated reports, either to save time or out of fear of disclosing sensitive information. Such fabrication can usually be detected by the normal supervisory and quality-control procedures of a statistical agency. More rarely, the motivation for unit-level fabrications is a desire to alter aggregated census or survey results. In such cases, supervisory staff may also be involved. Unit-level fabrications, whatever their source or motivation, generally produce results that are far too uniform.

Indeed, given the many possible sources of error and variability to which economic and social data are subject, if one has doubts concerning the quality of a set of official statistics, it is usually more productive to look first to factors other than political manipulation. If one suspects political manipulation of official statistics look first to modes of manipulation other than data falsification.

The same generalities do not necessarily apply to the statistics produced by operating programs of governments or international organizations.[6] The data generated by these programs, whether aimed at measuring the on-time performance of trains, the safety of nuclear power plants or the success of a literacy campaign, are often used by the programs' managers primarily to document progress or justify resource needs. Unfortunately, the toleration of fabricated statistics, or even their generation, tends to be more common in these programs than in statistical agencies. Statistics generated by operating programs are more likely to be produced exclusively as the by-products of administrative processes, and administrative data are generally more subject to manipulation than those derived from operations, such as sample surveys or censuses, explicitly designed for statistical purposes. Moreover, the statistical ethos is often far lower in operating programs and in the ministries in which they are located than in a statistical agency. Indeed, these programs and ministries may not employ any statisticians. In these circumstances, the priority of program delivery and program success can permeate an agency from top to bottom, quickly pushing aside the technical and cost requirements of sound measurement and then, with time, eroding basic honesty.

It must be stressed that many operating programs do generate data free from manipulation. Operating programs can retain integrity in their statistical work by making use of the same factors used by statistical agencies

(see section III below). In particular, it is important that a separate unit be established within the operating agency with a clearly defined statistical mission and with appropriate staff and funds. In addition, it is useful if this unit is responsible for both survey- and administrative-based data, since it may be more difficult to ensure the integrity of the latter. Finally, even sound statistical programs in operating agencies will tend to be highly insular, engaging in duplicative activities and producing noncomparable outputs, unless properly coordinated.

8. The extent and timing of the release of data

Politically-motivated suppression of data that has already been collected generally arise in two kinds of situations: first, when the results of one or more statistical series are viewed as threatening state security, or second, when particular results are seen as politically damaging to those in power. Among those political leaders without a strong commitment to the democratic process, the second rational quickly is subsumed under the umbrella of the first.

In the most extreme cases, all official statistical outputs are suppressed or are released only through the statements of political leaders. For example, in describing the 'tortuous' history of the release of official statistics in China, Wu [1989: 276-277] observes that:

> In the early years of the new People's Republic official statistics were disclosed through the working reports of the people's governments of various levels. Starting in 1953, [an] annual statistical communique . . . [was released] through newspapers and radio stations. . . . In 1959, the State Statistical Bureau published a book . . . contain[ing] important statistics of national economic and social development over the period. However, the annual statistical communique was cancelled . . . in 1960. During the 'cultural revolution (1966-1976)' people seldom read or heard of any statistical reports in the newspapers or over the radio. Even if there were some figures, they were relative ones only. . . . More often than not, there were not any statistical figures in economic and sociological essays.

Wu goes on to note that the abnormal situation changed after 1978. The publication of the statistical communique was resumed in 1979. Subsequently, monthly and quarterly statistics gradually became available, and in 1982 the State Statistical Bureau published its first Statistical Yearbook. In 1984, an 'open system' was introduced whereby the media would have access to a large body of statistical data and "the official statistical agencies . . . would publish all the economic, social, and scientific and technological statistics, except for a small number of series which [were] considered confidential [Wu, 1989: 277]."

Similarly, the Russian historian Medvedev notes that from its outset a ban was placed on all information about the 1932-33 famine in the former USSR, in which several million persons died, and that "for the years 1933-1938 the yearbooks of the Central Statistical Agency repeat the same figure for the population of the Soviet Union that was recorded as of January 1, 1933" [1989: 240-241; 244]. The ban, which did not begin to be relaxed until after 1956, encompassed the total suppression of the results of the 1937 Population Census and the arrest of the head of the census (see note 4 below). During most of its existence, the German Democratic Republic published very little data and during the latter part of the 1980's the statistical office in Romania abandoned the publication of virtually all data [Blades, 1991: 16].

In these examples it is often difficult to disentangle whether the primary motivation for not releasing data was embarrassment over what the data revealed or a genuine, if misplaced, belief that the public dissemination of data was akin to publishing state secrets. To minimize the likelihood that either becomes the justification for not publicly disseminating statistics, there should be a clear policy that data collection requires data release, subject only to safeguards related to quality standards and preventing the identification of individual respondents.

More common than the outright falsification of data emanating from statistical agencies or their total suppression are efforts to blunt the impact of unfavorable data, or turn random fluctuations into significant improvements. These efforts have involved the manner, extent and timing of the release of official statistics. Examples related to the manner and extent of release include, the order to the United States Bureau of the Census in the early 1970's to remove the word "poverty" from its reports presenting income statistics for families and persons below the poverty-threshold [Hauser, 1973], the common practice in the former USSR and other Eastern European countries of statistical agencies publishing rates of change using carefully selected base periods to produce "true" but nevertheless exaggerated impressions of growth [Blades, 1991: 16], and the decision to issue the summary report of the 1985 five percent micro-census of Estonia in only 56 copies [Anderson, Katus, and Silver, 1994: 5].

Issues related to the timing of the release of data have arisen in many countries. When running for re-election, political leaders around the world like to announce good news before election day, and postpone bad news until after election day. Left alone, incumbents would probably treat the release of official statistics (for example, the inflation rate, the level of unemployment, the balance of trade figures) in a similar way. If the release date of official government statistics becomes merely a campaign decision by the party in power, it is easy for the question to move from when the data should be released to whether, if ever, unfavorable data should be released. Furthermore, manipulation as to the timing of the release of data, quickly raises questions about manipulation of the data themselves, undermining the credibility of all government

statistics, including those favorable to the current government. Facing a joint problem of credibility, statisticians and politicians in many countries have worked out a reasonably effective solution to this problem (see the discussion of 'pre-announced schedule of release dates' in section III below).

In addition to politicians, others may attempt to influence the timing of the release of official data. For example, the timing of the release of certain economic series can have a major impact on financial and commodities markets so that unscrupulous traders or their friends have at times tried to delay the release of these data or to obtain critical results prior to their general release. Because these markets can be so volatile, and so sensitive to new information, even a few minutes advance word or delay can sometimes permit large profits to be made. Whether such manipulation takes place or is only believed to occur, serious questions about the credibility of the statistical agency and its staff can arise. Again, it is important to have safeguards in place as discussed in section III below.

In general, in countries where the professional integrity and independence of the official statistical system is clearly established, decisions about the release of statistics are solely the responsibility of the statistical agency itself either as a matter of law or firmly established policy [Castles, 1991b: 8-9; Fellegi, 1991; Øien, 1991:18]. This certainly is the view point embodied in the Fundamental Principles, the United Nations *Handbook on Statistical Organization* [1980: 22], and the Royal Statistical Society Working Party on Official Statistics in the UK [1991: 33-34].

Exceptionally, appeals to a statistical agency to delay the release of specific results for a well-defined state purpose, as distinct from a domestic political one, are sometimes accepted by the agency. For example, de Vries [1994: 323] cites the decision of Statistics Netherlands to delay the publication of certain data on oil imports during the 1973 energy crisis and Keyfitz [1978: 422] refers to "a regrettable necessity in the United States and Canada during World War II . . . [to keep secret] for instance, detailed trade statistics." On the other hand, Moser [1980] cites a number of instances when official data were released on time despite the problems caused. Certainly, the very existence of a pre-announced schedule of release dates (see section III below) can deter a government from manipulating the timing of the release of data even for so-called 'patriotic' reasons. For example, the Japanese government withdrew its request to delay the release of price index data in the 1973 energy crisis after those making the request were reminded by the national statistical service that any delay could be politically costly because the timetable for data release was widely-known. It may be noted that in 1973 such a timetable was a feature of statistical policy in Japan, but not in the Netherlands.

Occasionally, a national statistical agency may decide on its own initiative to suppress a set of results because it considers the data hopelessly flawed or misleading from a technical viewpoint. However, in the interest of promoting credibility and professionalism, it is usually better to find a way to release defective results, possibly as a special methodological study describing how the data are defective and what went wrong. Any report containing such flawed results should have a clear statement about the problems in the methods used and the limitations of the data.

9. Threats to data confidentiality

Practically and symbolically the protection which statistical agencies strive to provide to their respondents, the ultimate providers of most data, is perhaps the clearest demonstration that statistical agencies are different from other parts of the government. The principle of confidentiality is set out clearly in the United Nations Handbook on Statistical Organization [1980: 36-38], the Fundamental Principles of Official Statistics, various codes of ethics [ISI, 1986; Royal Statistical Society, 1993], and in the laws of many countries [Als, 1992: 163-169; Congressional Research Service, 1980: 195-196, 212; Martin, 1974]. The rational for this special treatment is alleged to be simple: if governments have the power to coerce census and survey responses from people and enterprises, they must provide respondents with protection from governmental action (for example, bills for unpaid taxes or criminal indictment) to obtain truthful responses [Als, 1992: 161].

Actually the situation is somewhat more complex. Governments often request information from their natural and corporate citizens for the purposes of taxation, regulation or criminal investigation. In these cases, also, the state expects truthful responses. The law usually requires truthful answers in these situations and lies can be punished by fines and imprisonment. One might term this the adversarial model of information gathering.

In the case of purely statistical enquiries, government interest in attempting to legally enforce truthful responses to each question asked of each respondent is so low and the costs of enforcement would be so high that historically a cooperative approach to promoting full and truthful response has evolved.[7] It is not surprising, therefore, that Duncan [1976: 54] uses only the language and rational of the cooperative approach: "the statistician has long asserted the protection of data confidentiality is essential to assure the accuracy of statistical programs. Such protection provides an environment in which a high level of voluntary participation of respondents is assured." One essential element of this cooperative approach is that law exists to support the protection offered by statisticians.

Violations of confidentiality assurances are of great concern to statistical agencies and to all data users who have an interest in the continued success of the cooperative model. For example, in Germany in the 1930's population census information was used in rounding up Jews, Gypsies and others for transportation to death camps. Recollections of this earlier misuse of census materials appeared to have contributed to a court-ordered postponement of the 1983 census in Germany. Other examples, with far less severe consequences, can be cited [Congressional Research Service, 1980: 116; Walczak, 1994: 295]. These examples have as a common element that government authorities, explicitly or implicitly, balanced the principle of response confidentiality against other principles and decided that the other principles prevailed.

Many government statisticians, along with their academic and business colleagues, consider the principle of response confidentiality to be paramount. For example, one recent Director of the United States Bureau of the Census was prepared to be cited for contempt of court rather than turn over to the court confidential census materials [Mitroff et al, 1983: 15]. Other examples of the refusal by statisticians to give in to pressures for the release of confidential data include de Vries' examples from the Netherlands [1994: 320-323] and Duncan and Shelton's example from the 1920's of a US Commissioner of Labor Statistics defying a threatened Congressional subpoena [1978: 168]. In the last example, the official concerned successfully defended the principle of the confidentiality of responses despite the fact that the individual responses in question did not have specific statutory protection.[8]

Confidentiality is usually taken to refer to individual responses of persons or firms and not to aggregated data covering more than a specified threshold. A special problem can arise, however, when data aggregated from responses provided under the protection of a pledge of confidentiality is used to target the same individual respondents for harmful governmental acts such as investigation, audit or detention. For example, in 1942 special tabulations of the 1940 United States Population Census were made to help identify small geographic areas in California and some other western states with concentrations of persons reported as Japanese in the census. These tabulations played a very important role in assisting the US War Department in planning and carrying out the forced evacuation and detention of many Japanese-Americans shortly after the outbreak of World War II [Choldin, 1994: 239-240]. Begeer, deVries and Dukker [1986] developed the concept of a "potentially censurable or vulnerable entity" to describe this type of situation where individuals can be directly harmed by the aggregated results of a statistical enquiry in which they cooperated. Traditionally, this type of problem is not addressed by legislation or policies on statistical confidentiality. However, Begeer and his colleagues [142] argue that:

> whenever the question of a potentially censurable entity can arise, it is necessary to be very reserved in supplying statistical information. . . . Above all, an official office of statistics must ensure that confidence in its independence and integrity is maintained. It provides statistical information on behalf of all echelons of society, and can do so only if it avoids any appearance whatever of participation in the administrative . . . system. This may mean that certain detailed statistical information cannot be made available.

10. Use of an agency for political analysis or other political work

Over the years there has been a lively debate among senior officials in national statistical offices about the extent to which statistical agencies should carry out analytical work and the nature and scope of such analysis. In the words of Keyfitz [1978: 422]:

> If one thinks of the continuum, from the collection of raw statistical data to its final use as an ingredient either in scientific investigation or in the making of decisions, then there is room for differences of opinion as to where the role of the government statistical office ends and that of the user begins. . . . Notwithstanding all this, a certain abstemiousness is forced on the official statistician by his [or her] position . . .

In reviewing the Norwegian experience Øien [1991: 18] observes that the Central Bureau of Statistics (CBS):

> tries to avoid provocative comments relating to issues which are hotly debated between our political parties. However, the CBS will (as a policy) not refrain from putting its statistics in a relevant social or economic context, irrespective of how this will be interpreted by various parties. . . . The CBS will show circumspection, while Ministries and Ministers occasionally will have to live with some statements from the CBS that they do not like; extreme caution would lead to a reduction in the social usefulness of the CBS.

Certainly many statistical agencies do carry out analytical activities, finding that analytical work improves their capacity to collect and compile data [United Nations, 1980: 56-58]. Fellegi [1991: 4-5] advances the idea that well-done analytical work can itself make an important contribution to a statistical agency's reputation for impartiality. However, from time to time, failure to observe the requirement of "a certain abstemiousness" or "circumspection" has led to dire consequences for the credibility of official statistical activities. The threat posed by policy-relevant analysis that carries a statistical agency across the unmarked border into policy advocacy can arise either from external pressures on the statistical agency or from a certain eagerness by those in the statistical agency to be at the center of things. The latter is particularly troublesome when senior officials of the statistical agency are themselves involved. It is certainly best for the statistical system for those called to political or Ministerial duties to sever their ties to the statistical agency.

For senior junior staff, a mixture of training and pro-

fessional review within the agency can help maintain the proper balance. For example, Øien [1991: 18] quotes from a CBS poster reminding the staff that "it is not a task of the CBS to grade the performance of the cabinet and ministries." The failure to provide adequate training and professional review can place the agency in a very difficult position. First, it can result in outputs that go well the agency's mandate, are technically weak, or both. Second, faced with an embarrassing public controversy, the agency may be tempted or forced to react vindictively with respect to the staff involved. A development likely to produce additional unfavorable publicity.

Although most national statistical services permit at least some types of analytical work by statistical agency staff, considerable differences exist as to whether agency staff are permitted in their official capacity, or indeed obligated, to draw the public's attention to the misuse of official statistics. Padieu [1994; 332-333] provides instances when INSEE (the French national statistical office) staff considered themselves obligated to correct the record. The Royal Statistical Society Working Party on Official Statistics in the UK [1991: 31] also recommended that "if . . . public comment is so selective as to distort the overall conclusions from the analysis, then the Government Statistical Service should be able and ready to comment." By contrast, Duncan and Shelton [1978: 167] cite procedures introduced in the 1970's in the United States to minimize the possibility of conflict between technical and political commentary concerning newly released data and Hibbert [1990] considered it "quite wrong" to look to the statistical service to pass judgements on political interpretations. There is, however, full agreement that a clear statement of methods and qualifications should accompany the release of data. Such a statement should cover the methods used to collect and compile the data as well as information about errors effecting the data, including limitations and qualifications in the use of the data.

From time to time statistical agencies also become involved in various sorts of non-statistical activities, sometimes of a political character. In reviewing the experience in the European region de Vries [1987: 16] cited the examples of

> Switzerland, where the director of the Federal Statistical Office is responsible for the government computer centre; the Federal Republic of Germany, where the president of the Statistisches Bundesamt is responsible for the national registers of the electorate; and Denmark and Iceland, where the responsibility for the national registers of enterprises and establishments is attached to the statistical office. . . . It may also be noted that a number . . . offices are to some extent entrusted with tasks in the area of economic forecasting and planning (France, Luxembourg).

Sometimes such activities are widely recognized as non-partisan, at other times the activity can be more problematical. For example, work on the establishment of a register of qualified voters could place a statistical agency at the center of political controversy when aspects of the registration procedure are hotly disputed. Recognizing the organizational strength of the statistical agency and its field force, governments, at times, will assign the agency other high visibility, high priority non-statistical projects. Although such requests may appear to be an opportunity for the agency, since added prestige or resources may be involved, they also can divert the agency's attention from its primary statistical functions and threaten its perceived neutrality.

Often the problems engendered by such activities are experienced not by the strong and politically well-connected agency heads who initiated them, but by their weaker successors. For example, in one highly regarded national statistical agency a strong and activist chief statistician brought a number of the outputs and activities of the agency closer to the policy makers, getting close to but not necessarily crossing the unmarked border between policy relevance and policy advice described earlier. Unfortunately, under a less politically-adept successor, the agency was left exposed to politically-inspired attacks which greatly reduced its public credibility for several years.

Another type of political involvement can occur when the field force and regional offices of the statistical agency are used by local political leaders for basically political tasks. For example, interviewers may be asked, bribed or threatened by a local politician to provide a list of eligible voters, or the head of the regional office may provide special, non-statistical services for the local governor. Such direct involvement in political activities can certainly hurt the image of the statistical program locally and may adversely effect response rates and response errors. It also has the potential of becoming a national scandal to the detriment of the overall image of the agency. Normally such activities will not occur if the statistical agency is determined that they do not occur. It is a matter of training, supervision, and vigilance.

11. Active campaign to discredit statistical service outputs, methods, or staff

The power of numbers to describe, persuade and clarify has been long-recognized. In the words of George Washington, "I do not mean that Number alone is sufficient to produce conviction in the Mind, but I think it is enough to produce some change in the conduct of any man who entertains a doubt of his infallibility. [Miller, 1992: 189]" However, when official statistics convey an uncomfortable message for those with policies to enact or elections to win, the first reaction is sometimes to discredit the messenger. From Benjamin Disraeli's "lies, damn lies, and statistics" response to Gladstone's use of data to Ronald Reagan's "statisticians have funny ways of count

ing" reaction to a persistent rise in the seasonally adjusted unemployment rate [Fienberg, 1982: 6-7], the emphasis is the same: statistics and statisticians are not to be trusted. Traditionally, statisticians and statistics have been easy targets for such attacks since most people around the world think of statistics as dull and uninformative and its terminology and methods arcane. Of course, statisticians have too often contributed to this image by not accompanying their more detailed and technical outputs with public-friendly information about data, methods, and problems. As pointed out in section III.B(3) below, the press and other news media can play a critical role in either fueling or extinguishing such a campaign.

III. Factors tending to strengthen statistical integrity

A. General

Just as it is useful to enumerate the various ways in which statistics and statistical systems may be improperly influenced, it is also helpful to list factors that tend to strengthen the statistical system's ability to withstand threats to political impartiality and credibility. Such a listing is presented in table 2.

It should be emphasized that threats to statistical integrity can arise from the left, from the center, and from the right and in the name of democracy and authoritarianism. Moreover, the factors listed in table 2 are neither necessary nor sufficient, either individually or collectively, to ensure the maintenance of the integrity of a national or international statistical program. However, each of them at one time or another has helped to prevent abuses or to restore a proper balance between the statistical and political functions. In part, the effectiveness of any safeguard will be a function of the nature and strength of the threat. Additional factors may also be involved. For example, other things being equal, those working in a decentralized statistical system may find it more difficult than those in a more centralized one to strengthen integrity or resist pressures.[9]

Table 2. Factors contributing to maintaining statistical integrity

1. Long tradition of statistical integrity
2. Strong links between statistical user and producer community
3. Uncensored and active journalism (newspapers, magazines, TV, and radio)
4. Pre-announced schedule of release dates
5. Active professional statistical society encompassing statisticians in government, academia, and industry
6. Sound civil service system
7. Laws relating to the independent status of statistical information and operations
8. Location of statistical service within the governmental structure
9. Stature and contractual status of the head of the statistical service
10. International support

Indeed, there would seem to be two broad approaches, one positive and one negative, that underlie the various factors listed in table 2. The positive approach involves fostering interest in and use of reliable and impartial statistics in policy making and hence of a politically neutral statistical system. The second approach involves raising the political costs of efforts to abuse or tamper with the statistical system to such a level that the perceived benefits of such manipulation are less than the costs.

One set of issues—those related to the governance of the national statistical agencies—cuts across several of the specific factors listed in table 2. These broader governance issues are addressed separately in section III.C below, after the individual factors are discussed.

B. Discussion of specific factors

1. Long tradition of statistical integrity

Statisticians can often invoke historical precedent to help educate their new political masters that, for reasons of policy, law, and practice, statistics and statistical agencies need special treatment [Fellegi, 1991: 3]. If the tradition is long enough examples of good and bad behavior across the political spectrum can be found. Clearly, the new Socialist minster will be less impressed by the virtues of his Conservative predecessor than by those of the last Socialist government. That both the Socialist and the Conservative governments accorded the statistical agency appropriate independence is also a strong argument.

This tradition also serves to foster the norms of integrity and professionalism within the statistical agency itself. For example, a new chief statistician can gain strength by learning about the tradition. And an experienced chief statistician can cite the staff's commitment to the tradition to deter efforts by ministerial assistants and others that might compromise integrity.

To make use of this tradition it is important that it be well documented. Such documentation needs to cover both the benefits of the good and the costs of the bad. As Padieu [1994: 330] observes, "Our failures might be as good [an] introduction as our successes." It is also helpful if the historical record is updated from time to time. This updating and republication serves the twin function of educating young statistical agency staff in the norms of the profession and ensuring that the historical record is available, when needed, to as wide an audience as possible. Indeed, one of the motivations for the present report is to have available in one document a record of relevant experience from around the world.

2. Strong links between statistical user and producer community

If a wide range of public and private sector users see a statistical agency as serving a socially useful function, the likelihood of politicians mounting, or even contemplating, a serious attack on the agency is greatly reduced. Moreover, if an attack is launched this broad-based group of users is ideally situated to attempt to counter the attack in political and media fora. Several prerequisites must be satisfied if users are to serve effectively in this fashion. First, the statistical agency must be producing a body of timely and reliable data that users see as relevant to their needs. Second, the statistical agency must have a means of regularly consulting with a broad range of users. Such consultations provide the agency with timely information about new or evolving user needs, feed-back on existing agency products and services, and an opportunity to provide users with up-to-date information on relevant technical, policy or administrative developments. Third, users must be sufficiently organized to enable them to recognize their common stake in an effective and impartial statistical service and to respond in a timely manner to potential or actual threats.

Strong links between users and producers take time to develop and once developed must be maintained. Of course, the day to day contacts between individual users and the staff of the statistical agency are an important element in developing and maintaining these links, particularly when the agency recognizes that such contacts are a key element in defining both the substance and image of its performance. However, beyond these day to day contacts, there must be opportunities for broader and more organized consultations with users. Various approaches are possible: user councils of one form or another may be established under the statistical law or by regulation; they may be organized by the statistical agency on its own initiative; or they may be organized under the auspices of an existing or new user-sponsored organization.

More than one approach can certainly be followed by an agency, and multiple groups are sometimes desirable to address the focussed interests of sets of users with particular subject-matter concerns. However, it is important that there be at least one group that has a view of the agency as a whole. (At this point the subject of user-producer links can overlap with issues of governance discussed in section III.C below.) It is also very important that participation in these user groups encompass the political spectrum significantly represented in the body politic. At times special efforts will be required to identify suitable participants. A network of user contacts established by these means can often be mobilized to cope with a potential threat before it becomes a public attack.

3. Uncensored and active journalism (newspapers, magazines, TV, and radio)

One set of users who deserve special attention are the press and other media. Both the general public and many political leaders get the bulk of their information about the outputs of the national statistical system from newspapers, television and other forms of journalism. On the other hand, journalists have specialized needs for data which traditional statistical agency outputs do not usually serve well. Failure to understand and be responsive to these special needs encourages journalists to turn from the statistical agency to intermediary sources for the data and information they need. As a consequence, the likelihood increases that the data are distorted or their main qualifications are ignored. Moreover, the role of the official statistical system in providing important information is apt to be down played. In these circumstances, undertaking special efforts to adapt outputs to serve journalistic needs is not only a basic obligation of a statistical agency, but it is also an important means by which the visibility and credibility of an agency can be promoted [Fellegi, 1991: 5-6].

In addition, the media can play a major role in defending an agency when its impartiality is being questioned [Vukovich, 1994: 337] or in publicizing attempts at political manipulation. Even more importantly, journalism can also be a major factor in deterring manipulation in the first place by raising the perceived political costs for those contemplating interference. For journalists to be able and willing to serve this function, they must see the statistical system as useful, reliable and impartial. This, in turn, implies a consistent flow of relevant outputs, an easy access to working-level staff to answer questions about data, and an ongoing dialogue with senior staff on policy issues.

On the other hand, statistical agency staff are sometimes encouraged by journalists to provide not only data and data analysis, but also the policy conclusions that should be drawn from them. Staff succumbing to this encouragement, or assuming this role on their own initiative, can place themselves and their agency in a vulnerable position at the center of a political storm. Accordingly, it is important for staff providing data and other information to journalists, including those responding to the questions of journalists, to be as clear as possible about agency policies on the release of data and analysis as well as what is considered to be appropriate or inappropriate commentary. This implies that such policies should be developed and staff adequately trained.

As discussed in section II.B(11) above, the public often views statistics with a degree of suspicion, a suspicion sometimes fanned by the winds of political debate. This sense of mistrust and doubt is also easily taken up journalists who, in most democracies, start off with a healthy skepticism about any governmental operation. Thus, in recent years statisticians in several countries have complained about what they considered as unfair attacks in the media. For example, in writing about media criticism of the Government Statistical Service in the United Kingdom, Jack Hibbert [1992: 12], then its head, observed "I have made a number of references to the media from which you will have already inferred that I am not always satisfied with the way in which they do their job. . . . We have a very good relationship with the specialist journalists who write reports on our figures. . . . It is the political and non-specialist journalists who are liable to give us a bad Press." Similarly, Choldin [1994: 237], in his study of recent census experience in the United States, concluded "applying unrealistic standards as to the conduct of a census, newspapers . . . have publicized every glitch in the conduct of the 1980 and 1990 censuses and have given voice to the [US Census] Bureau's adversaries."

It is clear from these experiences that statistical agencies must not only do the right thing but that they must be perceived as doing the right thing. In the words of the head of one statistical agency in the United States, reflecting on a series of stories in the press that raised questions about whether her agency's GDP estimates were affected by political considerations, "the 1992 episode, painful as it was, raised my awareness of the need to make it more evident to the news media, and through them the public, that the GDP process and safeguards provide strong assurance of the integrity of the estimate. More specifically, it made me more aware of the role that rebuttals to allegations may play in maintaining perceived integrity [Carson, 1993: 21]".[10] Equally important are continuing efforts at outreach directed toward the news media more generally. A press or media unit in the statistical agency can facilitate a smooth working relationship with the media. However, insisting that journalists have access to agency outputs and staff only through this unit will generally not contribute to the credibility of the statistical system.

4. Pre-announced schedule of release dates

A simple step that statistical agencies can take in promoting the professional credibility of the national statistical system and its outputs is to establish the practice of publicly announcing a schedule of release dates for regularly issued official statistical series and data bases. Such a schedule serves the twin goal of promoting the dependability of statistical outputs, which enables users to plan ahead and encourages statistical office staff to give attention to timeliness, and making the suppression of unfavorable data a public, political event rather than a private, bureaucratically-hidden act. The public availability of a schedule of future release dates can, with time, evolve from a practice into a policy and then into a formal procedure with legal standing. Such schedules are used by statistical agencies in many parts of the world [Castles, 1991b: 9; Duncan and Shelton, 1978: 157; Fellegi, 1991: 4; UK Office of Population Censuses and Surveys, 1993:12].

Such schedules also contribute to the orderly and even-handed use of statistics as a public good in making market decisions. Thus, the schedules may specify not only the date of planned release but the exact time of release as well. In addition, a number of national statistical services have instituted special procedures including, for example, those completing final releases "working under lock-up conditions [involving] physical separation of the nearly day-long operation in a lock-up suite, stand-alone computers, and no voice or other contact with the outside [Carson, 1993: 20]," to prevent both actual or rumored leaks prior to the pre-announced time for release.

In order for a statistical agency to be able to make effective use of these practices, it must be capable of meeting the announced schedule in all but the most special of circumstances. Indeed, these practices, once established, are likely to continue indefinitely, unless the statistical agency's own persistent inability to produce outputs on schedule or to prevent leaks of critical series, undermines the validity of the entire process. Another barrier to instituting this practice is a requirement, in some countries, for ministerial clearance before the statistical agency can publicly release results. Of course, such a policy of advance ministerial clearance of statistical results is not consistent with the Fundamental Principles.[11]

Implicit in the idea of a pre-announced schedule of release dates, is that statistics are collected by a statistical agency for public use and not solely for the benefit of the current government in power. In other words, statistical programs carried out by public agencies should produce

public goods that are available to both Ministers and the public at large. Indeed, Fellegi [1994] considers that the obligation to publicly disseminate data is important enough to be listed as a separate factor in table 2.

5. Active professional statistical society encompassing statisticians in government, academia, and industry

National professional societies can also play a vital role in helping to promote statistical integrity and the credibility of the government statistical service. This is most true when the statistical society brings together statisticians working in government, academia, and industry. The contributions of national statistical societies to the maintenance of a sound and impartial government statistical service are of two sorts. First, the society gives individual statisticians a professional identity and fosters the scientific and normative values of the profession. Second, it provides numerous public and private opportunities, outside of the government's bureaucratic setting, for the consideration of issues ranging from potential threats to alleged political manipulation as well as methodological questions related to official statistics (see, for example, American Statistical Association—Federal Statistics User's Conference, 1973 and Duncan, 1993). The ability to address threats and methodology at the same time is important. As pointed out earlier (section II.B(5)), it is often difficult to distinguish initial efforts at political manipulation from the promotion of ordinary methodological research and development. The issues involved are likely to be quite technical and a statistical society is well suited to address them.

The usual scientific meetings and journals, the routine services, such as providing a membership directory, and the special scientific advisory functions or codes of ethics, all can, and have, contributed to the ability of government statisticians to maintain high standards of professionalism and integrity in their work. The several references in this study to reports of committees and working groups of the American Statistical Association and the Royal Statistical Society are concrete examples of this contribution.

In the early stages of a national statistical society either government or academic statisticians are apt to take the lead, perhaps to the exclusion of the other group. Indeed, sometimes two rival societies develop. It is in their common interest, however, that the two groups be brought together. Accordingly, in those countries where government statisticians are taking the lead in establishing or developing the society, they should make every effort to involve all statisticians, including those working in the Universities and the private sector. In some countries the contacts established in the statistical society can help in broadening the political base of the user groups described earlier. By the same token, sometimes user group contacts can suggest statisticians in their institutions who might join the statistical association.

6. Sound civil service system

Clearly the establishment of a modern civil service system is beyond the scope of this study or the authority of a chief statistician. Such a system provides some protection to statistical agency staff against political harassment and can promote improved professionalism. However, to ensure that it serves this second purpose, the operation of system with regard to selecting candidates for statistical posts must be the responsibility of the statistical agency itself, either directly or by delegation. In fact, this is the mode of operation in most national statistical systems for all but the most senior posts [United Nations, 1988: para. 32], although not in the United Nations Secretariat.

A sound civil service system will also mean that there are others in the governmental administrative service who understand the statistical agency's concern with safeguarding its political neutrality. Moreover, these civil servants may often see the wisdom in investing in infrastructure activities, such as statistics, that have a long-term benefit. Accordingly, senior civil servants in other parts of the bureaucracy, once they become familiar with some of the special features and requirements of a statistical agency, are often in a position to provide important support to the statistical program.

7. Laws relating to the independent status of statistical information and operations

Effective statistical legislation provides durable assurances to respondents, the general public, opposition parties and statisticians that the responses provided to the statistical agency are not used for non-statistical purposes and that the operations and organization of the government statistical service have legal standing and force. Legislation can also contribute to the longer-term stability of the statistical service by removing certain issues from the daily political decision-making process. It also can deter the current government and its political appointees from acting, deliberately or inadvertently, in ways that undermine the credibility of the statistical service and its outputs.

Both the United Nations Handbook [1980: 36-38] and the study by Als of statistical organization issues in the member states of the European Union [1992] provide good overviews of the main requirements and patterns of statistical legislation. Als [1992: 149] distinguishes three major components in basic national statistical legislation: administrative provisions; provisions concerning the mission of the national statistical service; and rules for effecting statistical inquiries. Among the twelve community

member countries he found that, with two exceptions, the legislation contained provisions covering: the establishment of the national statistical agency; the designation of the supervising ministry; the title of the agency head and that of its various managing bodies; the definition of the agency mission; a statement on the exercise of statistical authority; the arrangements for centralization, decentralization, and statistical coordination; the establishment of a high council on statistics or similar bodies; the basis for compliance of response; and the authorization of confidentiality; as well as, in some cases, an explicit confirmation of the scientific independence of statistics. Similarly, Castles [1991b] describes the main elements of the legislative framework for the Australian Bureau of Statistics in terms of: creation of a statutory authority; creation of the office of Statistician; accountability to parliament; requirement to publish statistics; creation of an advisory council; the Statistician's responsibility for deciding on statistical collection activities; and charges for services.

In considering the ideal statistical law, Als recommends that its first article should state that "the compilation of statistics is based on the principles of impartiality, objectivity, and scientific neutrality [1992: 220]." Nevertheless, as the United Nations *Handbook of Statistical Organization* points out, statistical legislation cannot "legislate competence in producing statistics, tact in approaching the respondent and moderation in asking sensitive questions [1980: 36]." In other words legislation provides an important framework for statistical operations and statistics itself, but is only one contributing factor. For example, it is important that the statistical law have strong language to protect the confidentiality of individual responses. However, even the strongest legal language can have little practical impact if the concept of confidentiality is not reflected in an agency's orientation and operations. Possible ways in which this can be achieved are also described in the United Nations *Handbook* [1980: 31-32].

Accordingly, while a statistical agency should not ignore the need or opportunity to strengthen the laws governing its operations, it should realize that once one enters the legislative process the outcome is largely in the hands of people who know little about the requirements of sound statistical policy. Efforts spent on the legislative and legal aspects of the statistical system can distract the senior staff from efforts directed at the functional improvement of the statistical service. They also become involved in a field in which they have little expertise. Moreover, it is probably unwise for the statistical agency to promote frequent initiatives to improve statistical legislation. Leaving aside the effort involved, rapid changes in legal structures may look like or turn into politically-motivated tinkering with the statistical system. A perception of some measure of immutability concerning the statistical law is probably healthy. If, however, legislation affecting basic statistical operations is being considered by the government or the parliament the entire statistical community, including the senior management of the statistical service, must involve itself.

Statisticians, or at least those interested in promoting the availability of statistics, are almost always consulted at some stage in the drafting of basic statistical legislation. The same can also be said about laws relating to statistical activities in individual sectorial fields as well as laws required in some countries before any surveys can be launched. However, the latter two kinds of legislation sometimes cause political bodies to become enmeshed in the details of either statistical coordination or survey methodology to the frustration of both legislators and statisticians.

In addition, a number of other laws may directly affect statistical operations. For example, in recent years laws relating to the protection of privacy [Øien, 1991], the reduction of government bureaucracy and paperwork [Rockwell, 1990] or the further integration of the European Community [Commission of the European Communities, 1991] have had a major impact on governmental statistical activities in different countries. Unfortunately, at times, this type of legislation is drafted without any consultations with those knowledgeable about statistical policy issues. Indeed, at times, it is drafted by persons who view the statistical service as an activity of government that in one way or another needs to be legislated against. A possible consequence of such legislation is that data collection or dissemination can become more difficult or more expensive. Even more troubling is that such legislation may threaten the credibility and professional integrity of the statistical service, particularly its ability to safeguard the confidentiality of individual responses.

Accordingly, it is useful for those interested in government statistical activities to keep some sort of "watching brief" on legislative developments. In this way, statistical agencies, statisticians more broadly, and knowledgeable users may be able to intervene in the legislative process early enough to have a constructive impact. In a country with a centralized statistical system, the national statistical office itself usually assumes the responsibility for monitoring these legislative developments. In countries with more decentralized systems, other organizations will need to perform this function. In the United States, for example, the Council of Professional Association on Federal Statistics plays an active role in monitoring legislative developments and keeping both users and producers informed about them. The National Research Council's Committee on National Statistics also provides oversight and expert advise on the subject.

It is sometimes difficult to oppose those legislative initiatives that have negative consequences for statistics outright because such initiatives have their own constitu-

encies. Instead, it is often better to see how the backers of the legislation can achieve their objectives with minimum damage to the statistical program. One strategy that a statistical agency is particularly well-suited to use is to run a field test of the proposed legislative solution to see its actual impact on statistical operations or results. The advantage of this approach is that it puts both sides in a common search for an answer.

Some years ago in Sierra Leone, for example, there was a proposal to combine voter registration with the population census field work, with a goal of increasing the quality and reducing the costs of both operations. The Central Statistical Office, which was responsible for the census, was highly skeptical about both the quality and cost aspects of the proposal as well as the advisability of directly linking the census to an activity so different in character. The proposal, however, had strong political backing. Rather than continuing a war of words that had little likelihood of success, the CSO organized, cooperatively with the electoral officials, field tests of the proposed operation in several local areas. After the tests, both sides agreed that combining the two operations had yielded unacceptably high error rates and costs. As a result the proposal was dropped.

8. Location of statistical service within the governmental structure

The location and status of the national statistical agency is an important, but not determining, element in its ability to function without undue interference in its operations and the release of its outputs. Location here means to which agency, office or ministry is the statistical agency administratively attached. For wherever it is placed administratively, it must be able to function with a considerable degree of autonomy if it is to maintain professional credibility, both in appearance and in reality. From a variety of viewpoints, including that of promoting integrity, there is considerable advantage of having the statistical agency placed as high as possible in whatever entity it is located. If there are two or three civil servants between the head of the statistical agency and a politically accountable minister or similar political figure, it is harder to prevent intended or unintended efforts at political manipulation from taking place, document that they did in fact occur, or correct the situation. In other words, the more civil servants there are between the head of the statistical agency and the concerned minister, the harder it is to establish political responsibility or make use of the deterrents to manipulation described in this report.

National statistical agencies have been attached to the office of the President or Prime Minister, Departments or Ministries of Finance, Planning, or Economics, or, less frequently, other entities. As the UN *Handbook on Statistical Organization* [1980: 22] points out, however, the interest and understanding of the minister in question and senior officials is more important than the actual location. The *Handbook* also emphasizes that "wherever the statistical office is located, it should be seen to serve the legitimate needs of all users [22]." In describing the special reporting relationship between the head of the statistical service and the minister, the *Handbook* indicates that the former

> should report to the minister, directly or indirectly, primarily on budget and administrative matters; but . . . should be . . . independent on professional matters. This means, *inter alia*, that the head of the national statistical service should issue publications on his [or her] own responsibility without submitting them to a minister for approval. The professional independence of the national statistical service is the same as for the judiciary. . . . To make this clear it may be preferable that the . . . office . . . be physically located outside the ministerial buildings [1980: 22].

Given the relatively large amount of office space a national statistical agency requires for its operations, the location of the agency outside the ministerial buildings is usually easy to achieve. In fact, in a number of cases the operational center of the national statistical agency is outside the capital city itself. Als' caution that "cohabitation with a ministry and its policy departments can raise the problem of statistical independence [1992: 122]", while probably meant symbolically, reflects a literal truth.

There are, of course, trade-offs on the issues of location and status, whether in physical or organizational terms. Numerous intermediate arrangements have been developed to cope with the various trade-offs involved. For example, in Brazil, Germany, and Mexico the national statistical agency is not located in the capital city. However, to ensure the agency has a presence and identity, the head of the agency maintains a small second office in the capital city with a few full-time staff to deal with legislative, legal, and liaison duties. The United Nations *Handbook on Statistical Organization* [1980] describes other examples. However, location and status are best seen, as is the case with statistical legislation, as simply a means to an end. In the words of the *Handbook:*

> Even if an agency is granted the highest possible legal status, it is not likely to enjoy high professional and administrative esteem if it provides data that cannot be transformed into meaningful information, publishes the results of censuses and surveys late, prepares statistics that are inconsistent or incompatible with related data, performs the dissemination function poorly, or, even worse disseminates in favor of particular users [1980: 21].

9. Stature and contractual status of the head of the statistical service

The critical role of the head of the statistical service in dealing with the political issues facing the statistical system were summarized in section II.B(3) above. In

countries where political opposition to the government is virtually non-existent, the independent political power base of the chief statistician may be among the strongest factors in preserving whatever impartiality the agency can maintain. In other circumstances, the trust accorded to the head of the statistical service depends far more on his or her professional strength, leadership abilities, and communication skills. Certainly, the stature of the chief statistician in terms of professionalism and independence can have a major impact on the public perception of the statistical service and its outputs.

Over and above what an individual chief statistician brings to the post in terms of professional competence, managerial ability or political strength, is the formal structure of the position, particularly its expected tenure and the appointment process. At one extreme, the head of the statistical agency is seen as a political appointment. Thus, when the government changes, the agency head changes. In the United States, for example, the director of the US Bureau of the Census is appointed by the President, confirmed by the Senate, and is almost always replaced when a new President is elected. In some countries the tenure of the chief statistician is even more uncertain: when the Minister specifically responsible for the national statistical offices changes, the head of the statistical office must also resign. Such an arrangement, while it ensures the chief statistician some entree with the party in power, or the current Minister in office, does not give a clear message of politically impartial service to all users.

Moreover, political appointments can often mean a high turn-over rate in the chief statistician post which, in turn, implies short tenures. While short tenure in office can be damaging to many public and private sector efforts, a succession of chief statisticians each serving one or two years at the most is particularly damaging to the work of a statistical agency. This is because most major improvement efforts in a statistical agency (for example, a new labor force survey, the development of a new sample frame for establishment enquiries, or the creation of a major new data base) have very long gestation periods.

In many countries the selection of the chief statistician is treated as an appointment to a senior civil service position. This is the case in Canada or the United Kingdom, for example. As such, there is often a competition based on qualifications and experience, possibly with an advertised post, with final political approval or clearance of the outcome. Frequently, the appointment is indefinite in duration, limited only by the normal retirement age of the civil service. In a Japan and a few other countries, such senior-level appointments are made, as a matter of practice, within two or three years of the normal retirement age. As a result, the turn-over rate is very high. In a few countries, although most senior civil servants usually rotate among the senior civil service posts, posts considered highly technical, such as the chief statistician post, are normally excluded from the rotation scheme. Thus indefinite tenure is the normal expectation. However, a government unhappy with a chief statistician, can with an administrative action reassign the incumbent to a different post, although perhaps at some political cost. In those countries where the chief statistician post is included in the normal rotation for senior civil servants, the tenure is usually short and the occupant is rarely able or willing to become engaged in issues of statistical policy.

Finally, there are some countries where the appointment is for a fixed period of years, often a period that goes past the next national election. In such cases removal from office may require legislative or parliamentary action. Clearly, chief statisticians with such appointments are in a strong position to resist political pressures. It is important, in the words of one chief statistician, "to provide security of tenure to the chief executive of the agency, thereby maximizing the chance that he or she can in fact act independently if the need arises. In Australia, the chief executive is appointed for a seven-year term and can only be removed upon a vote of both houses of Parliament [Castles, 1991a: 473]." Similarly, in the United States, the head of the US Bureau of Labor Statistics is appointed by the President and confirmed by the Senate for a four-year term, specifically designed to be different from the President's term. A recent report of the Committee on National Statistics of the US National Academy of Sciences/National Research Council argues that "it is desirable that the term [of an agency head] not coincide with the presidential term so that incumbents need not resign with changes of administration and professional considerations more easily predominate over political aims in the appointment process [1992: 14]." The experience of Australia and the United States in this matter may be useful for other countries to consider.

10. International support

Beyond the national community of users, the national tradition of statistical integrity, and the support of the national statistical society is an international support network consisting of documentation, experts, and experience that can be invoked to help a national statistical service that is under political assault. In very closed societies, the international support network may be of limited direct help, except to statisticians in their individual capacities. (For individual statistician the network can provide valuable professional contacts and some degree of human rights support.)

In other societies, the international network often provides evidence that there are norms, accepted internationally and practiced in many countries, on the treatment of official statistics by responsible governments. For example, the report of the Royal Statistical Society Working

Party on Official Statistics in the UK [1991: 26] observes:

> The international community has demonstrated to us their anxieties about the organizational framework in which UK official statistics are produced, and the apparent lack of control which the Government Statistical Service has over its product. . . . Additionally, in terms of formal constitutional arrangements, the autonomy of the UK system is poorly protected by statute and practice compared with that in most other developed countries.

Subsequently, the same report cites examples drawn from the *Handbook of Official Statistics in ECE Member Countries* [ECE, 1988] and contains two appendices devoted to international experience.

At times, the international support network may be invoked directly by a national statistical service. For example, in describing its efforts to launch a new census after the 1983 German Population Census had been cancelled, the President of the Federal Statistical Office emphasized how much the "Office could be helped by stressing that its efforts had to be viewed in a European and an international context [Commission of the European Communities, 1991:170]." Similarly, one of the main arguments used to overturn the restrictions placed on the French national statistical office's calculation of the consumer price index (see section II.B(5) above) was that the politically-mandated procedures were not in accord with international and regional norms and practices. To help counter the political controversies that surrounded unemployment statistics in the United Kingdom, also referred to in section II.B(5) above, the official UK unemployment estimates derived from that country's labor force survey are now consistently labelled as the "ILO measure of unemployment" or the "ILO unemployment rate" when released by the government (see, for example, Woolford and Denman [1993]).

International support, particularly in terms of United Nations documents, the work of the United Nations Statistical Commission and the regional statistical conferences, and the professional contacts fostered by the International Statistical Institute, has had a definite supporting role for statisticians working even in repressive and undemocratic societies. For example, during the Cold War, statisticians in the Hungarian Central Statistical Office were able persuade the authorities to do the right thing by citing United Nations census recommendations.

In their specialized fields of competence the analogous work of other international agencies has been equally supportive. The recommendations, standards, technical documentation and advise of the Food and Agricultural Organization in agricultural statistics, the International Labor Organization (ILO) in labor and price statistics, and the International Monetary Fund in balance of payments and government finance statistics, to cite only three examples, have fostered not only sound national statistical practices but also the professionalism and credibility of national statistical operations and results. Furthermore, in some specific fields a tradition has developed for countries to call on international agencies to help resolve domestic disputes about national statistical practices. For example, the ILO from time to time is invited by a government to examine whether their current practices, or proposals for change, are in line with international standards for labor force or consumer price statistics [Mehran, 1994].

On the other hand, the international support network is best seen as just that and not as an international strike-force for statistical correctness. From time to time, proposals are made for "an international agency to come in and do the census" or for "an international group of experts to be formed to monitor the adherence of countries performance in terms of the Fundamental Principles of Official Statistics" or some other set of norms. Such an approach is likely to be unworkable. What is worse, such unsolicited externally-led efforts are usually counter-productive.

The Fundamental Principles, United Nations handbooks and similar materials were designed to aid statisticians, politicians, and the public in each country to build a useful, impartial, and reliable statistical system. It is difficult enough for those within a country, at times, to sort out political manipulation from methodological refinement or improved management. Moreover, although individual national statisticians might themselves invoke the language of the Fundamental Principles or a United Nations handbook to protect the integrity of the statistical system when it is subject to domestic threats, these same statisticians may well react defensively if they are seen as the subject of some sort of international investigation. Certainly, those charged with initiating political manipulation will challenge foreigners who, uninvited, involve themselves in essentially domestic matters. In most countries, such a development is likely to switch the focus of national debate from the political manipulation of statistics to foreign meddling. (By contrast, responsible action in support of individual statisticians suffering from human rights violations appears to be helpful.)

C. Promoting sound governance

Cutting across several of the individual factors discussed in the previous sub-section is is the broad topic of the governance of a statistical agency. Proper governance of a statistical agency should provide guidance and over

sight in three distinct, but equally important, areas: (1) the relevance, timeliness, and quality of outputs, (2) the efficiency and cost-effectiveness activities and programs, and (3) the professional and technical capacity of the agency. Expressed in this way no political issues arise. However, each of these legitimate aspects of governance has the potential to be exploited for political ends, in both democratic and totalitarian countries. Certainly, there is considerable variation among countries on the degree to which, amid the politics of government, the statistical service is provided nonpartisan governance. There is also great variation on the means by which this governance is provided.

One approach is to give an independent, nonpartisan body the responsibility for a major share of governance. This approach might be called the statistical council approach. Both de Vries [1989] and Als [1992] have reviewed experience in many countries with statistical councils. Both give special attention to the Central Commission on Statistics in the Netherlands and the very constructive role it played in strengthening the Dutch statistical system. Indeed, the establishment of a national statistical council was one the proposals for strengthening United Kingdom statistical system made by the Royal Statistical Society Working Party on Official Statistics [1991]. It must also be noted that de Vries and Als found that statistical councils in some other countries played a very marginal role.

Another approach to governance is to provide, by law, the agency head, that is, the chief statistician, with very broad authority. In effect, this can give the agency a quasi-judicial status in terms of administration. As discussed in section III.B(9) above at a minimum the agency should have the authority, unfettered by political decision, to determine the methods used in data collection, processing, and estimation, which data are to be released, and the timing of their release. The problem of placing sole reliance on this approach is that it leaves the agency very exposed to heavy political, and possibly politicized, governance when something does go wrong. For example, as a result of the domestic political crises in Germany surrounding the population census in the early 1980's, no field survey can be carried out by the German statistical office without explicit review and clearance by parliament [Als, 1992].

Many countries use a combination of both approaches. For example, in the Netherlands, as de Vries [1989: 14] stresses

> Although the Central Commission decides on which statistics are to be compiled, the . . . professional responsibility for how the work is to be carried out lies solely with the Director-General of [Statistics Netherlands]. Moreover, [the Director-General] alone decides which results are published. Neither the government nor the Commission can suppress the publication of statistical results.

Indeed, without some sort of statistical council, an alternative method of providing independent, non-partisan review must be found, if partisan oversight and interference is to be minimized. For example, in Canada, senior civil servants working in different ministries throughout the government perform some of these review functions for Statistics Canada. In addition, the independent status of the chief statistician is reinforced by instructions that are now routinely given to the Minister who has responsibility for the agency that the traditional arm's length relationship should be maintained between the ministry and Statistics Canada.

It should be emphasized that the goal is non-partisanship and not independence from the government per se. For example, shortly after the USSR dissolved, the responsibility for the central statistical service in the Russian Federation was transferred from the government to parliament. Although such an arrangement may protect statistics from possible politically-inspired ministerial interference, it has serious short-comings of its own. First, it separates the statistical agency from most users in government. Second, it does nothing to protect the statistical service from partisanship. More recently, the statistical service was transferred back from the parliament to the government.

In a decentralized statistical system special problems of governance arise. Thus, under a decentralized system it is often difficult for any single group to assume over-all governing or oversight responsibilities and the "chief statistician" may have quite limited authority in many fields, including several important ones. In these circumstances, integrity and professionalism can be threatened not only by centralized decisions that may undermine the entire statistical system, but also by a series of decisions taken in individual ministries or departments.

Several approaches have been used to try to cope with the special problems faced in a decentralized system. For example, in the United States, the National Research Council of the National Academy of Sciences established the Committee on National Statistics to help provide independent guidance for government statistical programs, several independent review commissions and task forces were created, and the concerned professional associations have actively participated, either directly or through the Council of Professional Associations on Federal Statistics, in technical review panels organized by statistical agencies or by the Congress. However, the need to rely on so many different methods probably underscores the problems faced in providing sound, effective and non-partisan governance in a decentralized setting.

IV. Discussion and some conclusions

This paper has been written by an applied statistician as an exposition of and reflection on a set of issues in official statistics. A paper with the same title could easily have been written by an historian or a political scientist, perhaps also by a lawyer or an ethicist. Whether the over-all conclusions would have differed is unclear, certainly the perspective would have been different. For example, see some of the useful work by the social historian Anderson [1987, 1988] on United States population censuses. Reflecting the priority they attach to statistical activities, few contemporary political leaders, or their aides, have addressed the matter.[12] By contrast, these issues have been the concern of statisticians in many different countries and, as the many references cited here indicate, they have frequently written about them.

Some would question whether the threats reviewed in this paper address 'the real underlying threats to political impartiality'. Starting from the point made by Myrdal [1969], among others, that at one level political biases underlie all social research, it has been argued that objective, politically neutral data gathering and research is a contradiction in terms. In one sense it is difficult to disagree with this view if one considers objectivity in some highly idealized sense. Clearly, our history, culture, experience, society and yes our politics, may influence our research interests and methods. However, granting that social researchers have biases (perhaps the word perspectives is more neutral), in practice, one can surely distinguish degrees of objectivity and impartiality. In other words, it can be said that one piece of social research is freer of the preconceived notions of those who carried it out than is some other piece of social research. If no such distinctions are possible and political bias is a significant factor everywhere, then it would seem that all social research, and that includes all official statistics, leads nowhere. There is, however, ample evidence that social research and official statistics have made useful contributions in all parts of the world. In any case, an implicit bias of this paper is that statistical measurement, that is, quantification under controlled conditions, can be a useful step toward objectivity and political neutrality. In other words, the Fundamental Principles and various Codes of Ethics for statisticians do have something useful to say.

Having reviewed in section II of this study some of the ways in which political leaders, and their allies, have endeavored to direct statistics and in section III how statisticians, and their allies, have strived to keep the statistical system and statistics free of improper political interference, it is possible to examine in more general terms the issues underlying the Fundamental Principles of Official Statistics.

The starting point is the title of the present paper: Somewhere between the ideal of a statistical agency fully independent from the world of politics and the specter of an agency totally dependent on political decisions on how it is to collect data and what it will publish, is the reality of continual interaction between statistics and politics. This interaction can hardly be avoided if the statistical agency is to be successful in its mission of producing timely, reliable and relevant data, and only somewhat less likely, if it is not. The central issue is how best to deal with the interaction, avoiding the threats of dependency, political manipulation, and loss of credibility. In thinking about this, it is helpful to consider the matter from the perspective of each of the two parties to the interaction: the political and the statistical.

In broad terms, we can classify the uses that politicians and the political process make of statistics under three headings.[13] First, statistics can be used to justify a policy or a decision. In this use, the decision is essentially made wholly on the basis of non-statistical considerations and favorable data are simply invoked as evidence supporting the decision. Second, at the other extreme, the political process can decide to let statistics make the decision. This happens, most commonly, through the use of data-driven formulas to allocate resources, political power, or burden-sharing. Third, statistics can be used as an input to the political decision-making process. Here the quantitative information and analysis generated by the statistical system is used, along with other sources of information and belief, to reach a political decision.

It would certainly oversimplify the matter to say that the first two ways of using statistics always undermine the statistical system or lead to the political manipulation of its outputs. After all, in an open society, the improper use of statistics to support a case by one politician is always subject to correction by another politician or the press.[14] Equally, some use of numerical formulas is probably inherent in a complex, modern society. (Few would question that it is more equitable to have tax laws structured in terms of tax rates applicable to all citizens in a certain category, than a tax system in which taxpayers are individually assessed on political grounds by the sovereign or some parliamentary committee.) Thus, it has been pointed out that "a statistical rule is a device for making decisions impersonal . . . In this regard, statistics represent resources for politics, . . . providing a means for reducing the fear of unchecked power [Starr, 1987: 56-57]." Taking James Madison's lead, a soundly-constructed formula will have: (a) a degree of operational unbiasedness, that is, the pressures on the data collection and compilation processes will be roughly balanced; and (b) a provision for some sort of political oversight so that if the formula yields results that are politically unacceptable, they can be

addressed in the political process as a political issue rather overwhelming the statistical system.

Accepting that the statistical system can carry the burden of some use of statistics as either a political justifier or a political decision-maker, nevertheless, it seems clear that if these two uses predominate, the statistical system will suffer. The first approach contributes to cynicism, first about numbers and then about the statistical system and agencies that produced them. The second approach if carried too far, transforms genuine political debates into proxy wars over statistical methods.

Turning to the statistical side of the interaction, statisticians and others concerned with strengthening professionalism and credibility in official statistics— in other words, all those interested in implementing the ideals embodied in the Fundamental Principles— are advised to follow a dual strategy: First, attempt to achieve the highest possible standards in terms of the relevance, timeliness and reliability of statistical outputs; and second, foster laws, regulations, policies, practices and arrangements that raise the political costs of efforts aimed at manipulating official statistics. The first approach really comes down to doing better at the kinds of things official statisticians should be doing all along. In the words of Fellegi, "high quality official statistics are a necessary condition for public confidence . . .[1991: 6]." The objective of the second approach is not to win political wars, but to avoid them, with avoidance achieved by deterrence and not surrender. Some ways of implementing this strategy are outlined above, primarily in section III.

Both arms of this dual strategy have to be viewed as long-term institutional commitments. If they are to succeed, long-term efforts need to be identified as such so that practical implementation can begin and there can be consistent follow-through. The specific ways of proceeding in any given country or agency will depend on history and circumstances. It is worth noting that in table 2 factors 1, 2, 4, 5 and 10 are essentially functional in nature and the remaining factors (3 and 6 through 9) are basically structural. Although, the structural factors usually require legal activity of one kind or another, the development of initiatives with respect to the functional approaches is largely in the hands of the statistical agency itself. Of course, over time, several of the functional approaches can also be reinforced by law or regulation.

It is clear that national statistical agencies, even in repressive societies, have found ways to improve the professionalism and integrity of their statistical service and outputs, laying the ground for longer-term improvements of a more fundamental nature. It is also clear that no statistical system can consider itself forever free from the dangers of serious political manipulation. National statistical systems with long traditions of relative independence have suddenly found the basic ground rules altered. However, countries with sound traditions have usually been able to return to them, even after several years of floundering.

Given that interaction between politics and statistics is a never-ending reality, it seems obvious that those responsible for official statistical work, whether at the national or international level, have to steer a course with an eye to the twin stars of principle and pragmatism. Compromises are inevitable, but principles cannot be abandoned. Under these circumstances long-term strategies are helpful, whether or not they are structured. Formal and informal networks are also helpful for advice, support and perspective. If, as argued earlier, the general strategy is to improve the statistical system and its outputs, while at the same time raising the costs of political manipulation, then there is much that can be done, even in difficult circumstances.

Nevertheless, there can come a point that a statistician is forced into a position between choosing to holding to the basic values of the profession as set out in various codes of ethics or the Fundamental Principles or obeying a contrary executive, legislative, or judicial instruction.[15] The issue is long-standing, and is analogous to that raised by Sophocles' *Antigone* or the teachings of Jesus about conflicts between duty to the central authority of the state and other duties. Certainly in a democracy, a government statistician, like any other civil servant or citizen, can not lightly set aside or ignore the democratic decision-making process on the ground that it produces a technically undesirable or incorrect result. However, even in democracies, the clash of fundamental values with legally constituted authority occurs from time to time. This has led heads of national statistical agencies in the United States to defy legislative or judicial authorities over matters of principle, one Chief Statistician in the United Kingdom to twice write resignation letters over integrity issues and another to indicate his readiness to resign on an issue of principle, and the actual resignation of senior technical staff of the United States Bureau of the Census on at least two occasions over the last 60 years over matters of principle.[16]

To reduce the likelihood that statisticians and the statistical system will be placed in such jeopardy, it important for attention be given to developing support for an impartial statistical system among users and the general statistical community well before any crisis is reached. The Fundamental Principles of Official Statistics is an important tool toward that end, both in its own right and for the awareness and discussion it engenders. Like statistics itself, it is a means to an end, not an end in itself.

Finally, in a study such as this, which focusses on politically-inspired threats to impartial statistics, there is a risk of casting politicians solely in the role of villains in a melodrama of statistical and political interactions. History does not support such a conclusion. In addition to the

villains among the politicians, there are many heroes, mostly unsung. Over the past 200 years, enlightened political leaders have supported sound statistical policies, including the impartiality of official statistics, in many countries. Some took this stand because they believed that objective statistics were in their long-term interests, others because they thought it was correct as a matter of principle. A few seemed to have reached this view on their own,[17] while others were able to benefit from the sound advice of their own country's statistical leadership. Regardless of how they reached their understanding of the value of an impartial statistical system, it is clear that statistically-wise politicians have been important partners with politically-wise statisticians in fostering integrity in official statistics.

Notes

1 In April 1981 the UK Government issued a White Paper, *Government statistical services.* In the words of this report "In January 1980 the Minister for the Civil Service asked Sir Derek Rayner to . . . oversee . . . a general review of statistical services throughout Government. The Government's aim was to sift all existing statistical work to establish what was essential and what was less so, to simplify administration, to look for ways of improving efficiency and value for money, and to decide on the best arrangements for the efficient future management of statistical work [UK, 1981: 1]." Sir Derek's report was completed and submitted to the Prime Minister at the end of 1980. Among his policy recommendations, several dealt with the mission of the statistical service. For example, "when reviewing statistical work generalized arguments for preserving the status quo need to be challenged. Particular attention needs to be paid to all information collected or costs incurred primarily to meet demands outside central government. There will be exceptions . . ., but in general there is no more reason for Government to act as universal provider in the statistical field as in any other [UK, 1981: 13-14]." Similarly, "information should not be collected primarily for publication. It should be collected primarily because government needs it for its own business [15]." In the words of the Head of the government statistical service (GSS) who initially was responsible for carrying out this policy, "the GSS now concentrates heavily on serving Government. This is a shift of emphasis since 1981; before that, serving 'society' . . . received more weight; it still gets some weight, but less than before 1981. The reason for the shift was that the Government decided that it is not an appropriate use of tax revenues to provide a heavily subsidized national statistical service, i.e. one for 'customers' outside Government [Boreham, 1983]." As a result of the 1980 review, the Government announced a reduction of about one-fourth in the size of the government statistical service. The return of the United Kingdom to the concept of a broader mission for the statistical service is clearly demonstrated in a section on official statistics in a recent White Paper on open government: "Official statistics contain a vast range of information about the economy and society. They are collected by government to inform debate, decision-making and research both within government and by the wider community. . . . Reliable social and economic statistics are fundamental to . . . open government. It is the responsibility of government to provide them and to maintain public confidence in them [UK, 1993: 12-13]."

2 Mr. Christopher DeMuth, then Administrator for Information and Regulatory Affairs of the Office of Management and the Budget (OMB), was quoted as stating in mid-1982 that "in the past, agencies collected much greater detail than was needed for national policy-making purposes. It is understood now that agencies justify their data collection programs to OMB on terms of the needs of the federal agencies alone, not of states, local governments, or private firms [Wallman, 1988: 11]." In September 1982 OMB announced that it was developing instructions on federal information resources management and in March 1985 sought comments on a draft of these instructions that reflected a narrow definition of the mission of the federal statistical system in line with DeMuth's 1982 statement. For example, in section 7 on basic considerations and assumptions, the draft asserted "the value of government information to the government is solely a function of the degree to which the information contributes to achieving agencies' missions." As a result of some 350 letters OMB received commenting on the draft, a number of changes were introduced to reflect a somewhat less restrictive policy and the language just quoted was deleted. The circular was issued in December 1985 as OMB Circular A-130 [US Office of Management and Budget, 1985]. The final document contains a lengthy review of the circular's development [52730-52735]. The circular was revised in 1993 and then more extensively in 1994 [US OMB, 1994]. Although the primary reasons for these revisions were not directly related to the mission of the federal statistical system [Sprehe, 1994], the most recent version of Circular A-130 introduces language that further reinforces the wider view of this mission. However, already by 1989, the then chief statistician of the United States, was able to write "a democracy is absolutely dependent on the free (that is, unhindered) flow of unbiased, timely information. To inform our electorate, then, is one of the principal reasons that we call on the federal government to collect, process, and disseminate information about ourselves. Another is the need for accurate, reliable information for public policy. . . . Both the general public and policy makers—both congressional and executive—are best served by statistical information that is accurate, timely, and unbiased. . . . A third reason for the federal government to collect data is to produce "public goods". . . . The provision of such goods is a legitimate function of government because they benefit society, but are not likely to be provided by the private sector [Habermann, 1989: 47-48]."

3 For example, Anderson, Katus, and Silver [1994: 5], in discussing the role of the statistical offices in the former USSR in connection with population statistics, observed that "data

were primarily collected and processed based on the ideological and political motives of those at the very top of society. . . . It was generally accepted that the publication or distribution of real data could be dangerous for the Communist regime. Hence, one of the major responsibilities of the statistical offices was actually to limit access to data. . . . A great deal more data were collected and made available for internal use by government or party officials or by approved specialists, than were published for general use by the scholarly community or the public at large." They also noted these closed data were often far more detailed than the published data or "contained information that was regarded as a state secret or that revealed inconvenient facts about Soviet reality or the performance of political leaders."

4 At this stage a few examples can cited. In Argentina in the 1970's Carlos Noriega, Director-General of that country's Census and Statistics Office was abducted and disappeared as part of the State terror then prevalent. In the former USSR, Olimpiy Arisarkhovic Kvitkin, head of the population census bureau, and others on his staff were arrested soon after the 1937 census yielded results that contradicted population figures previously announced by Stalin. Kvitkin, an eminent statistician at the time of his arrest, died in 1939. Among the charges against him and his colleagues were that the census was carried out in gross violation of the elementary principles of statistics and that its results were false [Tolts, 1987; Volkov, 1992]. Similarly, Kenessey [1992: 186] refers to the "tragic moment in the lives and careers" of those statisticians in the former USSR who were seen by Stalin as allied with his political enemies for their early work on the compilation of national accounts for the country.

5 For example, in the United States, shortly after the 1972 presidential election several senior career statisticians, including Conrad Taeuber, an Associate Director of the US Bureau of the Census, were forced out of government service [Hauser, 1973; Choldin, 1994: 34-35].

6 Private sector enterprises and programs can also be affected by the same problems of obtaining reasonably objective data.

7 The evolution over time of the use of the cooperative model over the adversarial model is worthy of study. Legal compulsion of response was formerly an important element of a number of governmental statistical activities. Indeed, today, many governments still make response to the population census mandatory under penalty of law. In practice, however, statistical agencies have generally abandoned using the authority of the law, even in test cases, to force response.

8 In decentralized statistical systems, such as those in the United States or the United Kingdom, it can be substantially harder to protect the confidentiality of individual responses, if as usually is the case, separate legislation and policies have to be put in place for each agency.

9 In a centralized system, a single statistical law usually suffices. Thus, introducing legislative improvements involves only the amendment of one law. In a more decentralized system, comparable improvements would require changes in many laws. Indeed, a number of statistical programs may not have any statutory basis. When it comes to resisting ministerial or similar pressures, a chief statistician in charge of single central statistical service will usually be in a far stronger position than his or her counterparts in charge of comparatively smaller statistical programs in individual ministries, agencies, or boards spread across the entire government.

10 For a full review of the 1992 incident referred to by Carson, see Johnson and Rectanus [1993].

11 It is relatively common for the statistical agency to provide the Government with a copy of the results, for information only, several hours in advance of their official release.

12 For example, I could not find any references to the controversies discussed in this report in a quick review of the memoirs and similar books of recent political leaders in the United Kingdom and the United States. The one exception that I am aware of is former UK Prime Minister Harold Wilson [1973], but he was a statistician before he was a Prime Minister.

13 In fact there are several other ways of classifying uses, see, for example, Kelman [1987], Prewitt [1987], and Starr [1987]. In this connection, we may note that the very act of governmental counting, regardless of the results, may serve to legitimize, in a political sense, the group or activity being counted. For example, the first population census of a country after independence is often seen by the government and the public alike as an important nation-building activity.

14 It is assumed here that, in an open society and consistent with the Fundamental Principles of Official Statistics, all those involved in a political debate have equal access to the data and information about related methods and qualifications. In other words, the statistical agency releases data for all to use, not just the current government. The time just prior to a national election is one that can give rise to special concerns about the credibility and impartiality of a national statistical service. Because this period can be highly charged politically, even the normal activities of the statistical service may become suspect. To protect a statistical agency and its staff in the pre-election period from accusations of partisan behavior, whether justified or not, it useful to have clear guidelines covering this period (see Boreham [1985], for example).

15 The sometimes delicate balance that statisticians working in government face between a general duty to serve and the specific principles and responsibilities of their profession may be clearly seen in the United Kingdom. There, statisticians working for the government, as civil servants, are bound by the "Duties and Responsibilities of Civil Servants in relation to Ministers" of the Civil Service Management Code which says in part "the duty of the individual civil servant is first and foremost to the Minister of the Crown who is in charge of the Department in which he or she is serving" [Calder, 1994]. In this context, the countervailing influence and authority of the new Code of Practice for Official Statistics [UK Government Statistical Service, 1994] has special importance. Nevertheless, even in a country with an unquestioned tradition of professional autonomy for the statistical service, a former Director-General of Statistics Netherlands recalls that on several occasions colleagues from ministries and executive agencies were not able to understand the special code of behavior that seemed to govern the work of Statistics Netherlands [Begeer, 1994]. Moreover, while the principles of professional behavior pertaining to medical doctors, lawyers and journalists are given specific legal recognition in a number of countries, this is rarely the case for statisticians.

16 The specific instances referred to are: (1) in the 1920's the refusal by Ethelbert Stewart, US Commissioner of Labor Statistics, to provide a Congressional Committee, despite the threat of a subpoena, with company-specific data that had been obtained under a pledge of confidentiality [Duncan and Shelton, 1978: 168]; (2) in 1990 the refusal by Vincent Barabba, the Director of the US Bureau of the Census to comply with a court order to provide address registers because they contained confidential materials [Mitroff et al, 1983: 15]; (3) in 1984 Claus Moser, recalling aspects of his tenure as Chief Statistician in the United Kingdom from 1967 to 1978 [Griffin, 1985: 16]; (4) in 1989 Jack Hibbert providing assurances about the continued integrity of the UK Government Statistical Service [Ward and Doggett, 1991: 104]; and (5) in 1930 the resignation of Charles S. Persons, the official in charge of unemployment tabulations in the 1930 Population Census when instructed to exclude "laid-off workers" from the figure on "total unemployed" in the planned census tabulations [Duncan and Shelton, 1978: 24] and in 1987 the resignations of Barbara Bailar, Associate Director for Standards and Methodology, and Kirk Wolter, Chief of the Statistical Research Division, after the Under Secretary of Commerce, a political appointee, refused to allow the Bureau of the Census to proceed with its plans for dealing with underenumeration in the 1990 Population Census. (In the words of Bailar "I was prevented from responsibly performing my duties by a 1987 order of the Commerce Department.") [Anderson, 1988: 165; Choldin, 1994: 152]

17 For example, see in annex II the observations of James Madison, a framer of the United States constitution and the fourth President of that country.

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Annex I. Text of the Fundamental Principles of Official Statistics

The Statistical Commission,

Bearing in mind that official statistical information is an essential basis for development in the economic, demographic, social and environmental fields and for mutual knowledge and trade among the States and peoples of the world,

Bearing in mind that the essential trust of the public in official statistical information depends to a large extent on respect for the fundamental values and principles which are the basis of any democratic society which seeks to understand itself and to respect the rights of its members,

Bearing in mind that the quality of official statistics, and thus the quality of the information available to the Government, the economy and public depends largely on the cooperation of citizens, enterprises and other respondents in providing appropriate and reliable data needed for necessary statistical compilations and on the cooperation between users and producers of statistics to meet users' needs,

Recalling the efforts of governmental and non-governmental organizations active in statistics to establish standards and concepts to allow comparisons among countries,

Recalling also the International Statistical Institute Declaration of Professional Ethics,

Having expressed the opinion that resolution C (47), adopted by the Economic Commission for Europe on 15 April 1992, is of universal significance,

Noting that, at its eighth session, held at Bangkok in November 1993, the Working Group of Statistical Experts, assigned by the Committee on Statistics of the Economic and Social Commission for Asia and the Pacific to examine the Fundamental Principles, had agreed in principle to the ECE version and had emphasized that those principles were applicable to all nations,

Noting also that, at its eighth session held in Addis Ababa in March 1994, the Joint Conference African Planners, Statisticians and Demography considered that the Fundamental Principles of Official Statistics are of universal significance,

Adopts the present principles of official statistics:

1. Official statistics provide an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information.

2. To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.

3. To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.

4. The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.

5. Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.

6. Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.

7. The laws, regulations and measures under which the statistical systems operate are to be made public.

8. Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.

9. The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.

10. Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

Annex II. Politics and census-taking: experience from two countries

The threats discussed in section II above can usually be prevented or contained using the approaches outlined in section III of this report. From time to time however, in one country or another, a statistical agency or a major operation can itself become the center of political debate. When this happens statistics, statisticians, and statistical agencies are usually too fragile to survive without serious damage and the problems engendered are likely to last a long time. As Stolzenberg [1990, 33] has observed "statistical types are poorly suited to imposing peace on warring politicians."

Two recent examples can be cited: The thirty-year struggle to carry out an acceptable population census in Nigeria and the growing political hostility in the United States to the population census and the United States Bureau of the Census. It is not mere coincidence that both examples relate to population censuses. Population censuses are undoubtedly the largest and most visible statistical activities in a country. Thus problems, real or perceived, with the census easily become highly public problems. Also the results of population censuses often play an important role in the public and political life of a country, by providing a basis for dividing resources, identifying important minorities, and charting long-term trends.

(1) Nigeria

In 1982, about 10 years after Nigeria's 1972/73 census, the country's National Population Commission, the agency responsible for taking the next census, organized the National Conference on the Philosophy of Population Census at the University of Ibadan. The rationale for this candid and open discussion of sensitive issues is stated in the Vice Chancellor's welcoming address [Arowolo and Daramola, 1982: xi]:

> It is common knowledge that the issue of generating reliable and acceptable population census data has eluded every government effort in this country. The colonial population censuses were no more than gross estimates . . . and authorities believe that population figures thus generated underrated the numerical strength of Nigeria. The post-independence population censuses on the other hand, have suffered from political manipulation. . . . Your Commission, therefore, has the very difficult task of providing a politically acceptable and statistically valid answer to this question: How many Nigerians. By organizing this conference in which experts from our universities, policy makers, politicians and people with varying degrees of professional interest in the subject . . . are to participate in discussing the census issue, your Commission has taken a step in the right direction.

Although the Conference also touched on some of the technical problems involved, many participants gave primary attention to political factors. Indeed, the view of Katcha [1982: 188] that "unless something is done to depoliticize the Nigerian census, there may be no hope of having successful censuses in the country" was held by other participants [Falodun, 1982: 13; Oleru, 1982: 79].

Several features of the Nigerian situation were identified as contributing to the politicalization of the census: (1) "the allocation of parliamentary representation and seats . . . are presented as the real essence of census taking [Okore, 1982: 34]"; (2) "the prominence accorded to the population factor in various revenue sharing schemes . . . has become one of the most explosive political issues in Nigeria since independence [Katcha, 1982: 188]"; and (3) "the census is often viewed as a weapon in the hands of the central government used to reward friendly states and punish hostile ones. Thus, it is a common belief that the census is a sham aimed at fooling the general public, while the . . . figures released . . . are those presented by the government [Duze, 1982: 50]." Reflecting the longstanding nature of many of these issues, several participants at the Conference considered that the problems identified by Udo [1968] and Yesufu [1968] concerning the 1962 and 1963 Nigerian censuses remained valid in 1982. The depth of the problem, moreover, can be grasped from Udo's assertion that these two censuses "engendered so much internal friction that the very survival of the Federation was threatened [1968: 97]." Perhaps the Nigerian experience is best summarized in the words of Duze [1982: 53] "when too much emphasis is placed on the census, there tends to be [a] problem", words that carry a message of universal significance for politicians and census-takers alike.

A number of proposals were offered at the 1982 Conference to improve the next census. These included: removing or reducing "the impact of the census on revenue allocation among states (and local governments within states) [Okorafor, 1982: 62]"; introducing a range of constitutional changes; addressing the attitudes and behavior of politicians, civil servants, and the press; carrying out communications, publicity, and educational efforts; and making several technical changes in census procedures.

The actual census was carried out in November 1991, after four years of technical preparations and a public education effort that was launched by the Nigerian President in May 1990. Preliminary results were released in March 1992. It appears that, over-all, the enumeration went far better than in previous censuses. However, major problems did occur in selected, identifiable areas. At this point the National Population Commission is attempting to deal with these

problems and to complete the processing and review of the final census results. In view of the history of suspicion concerning censuses in Nigeria, the Commission's task is not a simple one.

While it is difficult for an outsider to assess the pros and cons of each point made at the Conference, it is clear that the observations made by one participant:

> Nigeria is not the only country with a federal system of government nor with diverse ethnic groups within her borders. The United States of America has both characteristics. That country has fifty states and perhaps as many ethnic groups as Nigeria. But owing to the political development of the country and the maturity and patriotism of her leaders, that country's constitution has not only proven workable, but has also been a great source of national unity. It has been amended only a few times over a period of two hundred years. One may therefore conclude that the difficulty in depoliticizing the census issue in Nigeria lies not so much in the political structure and constitution of Nigeria as the immaturity, lack of patriotism and selfishness of our political leaders [Arowolo and Daramola, 1982: 82].

somewhat over-simplify the situation. As the next several paragraphs make clear the parallels between the recent experiences of Nigeria and the United States with respect to certain issues of statistical policy are perhaps closer than the citizens, politicians, and census-takers of either country are aware.

(2) United States

Over the past two decades there has been increasing political dissatisfaction with the federal statistical system and particularly with the US Bureau of the Census. Initial dissatisfaction within the US Congress and among local political officials contributed to unhappiness among the wider public, particularly around each recent decennial census. In time, this political criticism of the Census Bureau was also fueled by the public's unhappiness. Undoubtedly, some of the problem relates to broader dissatisfactions by the public in the United States with governmental activities in general. However, it is clear that there are several aspects of the dissatisfaction with the Bureau of the Census that arose specifically because of statistical policy issues and from the interaction between statistics and politics in the United States.

A major source of the problem as it exists today was the increased use in the 1970's of statistically-driven formulas to allocate federal funds among states, localities and other population sub-groups. The additional burden placed on the statistical system was enormous. As de Neufville [1987: 349] noted, although congressional representation always had depended on census data, "the allocation formulas added significantly to their consequences, putting them in vivid and comprehensible form. Every person not counted would mean dollars lost from the community." Over 39,000 local jurisdictions had a stake in the allocation process for the revenue sharing program alone [Nathan, 1987: 335]. Congress and local officials were abruptly made aware of the intricacies and uncertainties of large-scale statistical operations, when they discovered that the final formula allocations for about one-third of these jurisdictions were changed from those used to write the legislation just months earlier because of revisions in 1970 census results that arose as part of the normal processing of the census [Anderson, 1988: 224].

In commenting on the developments of the 1970's and early 1980's Bonnen [1984: 21] argues that:

> It is worth asking why politicians have chosen to move half to three-quarters of the federal budget into automatic, or nearly automatic, statistically determined allocation processes . . . The annual allocation of federal expenditures has become so politically costly that politicians attempt to push these decisions away from themselves by establishing "automatic" statistical procedures for making political decisions. It is politically safer and more expedient to use statistical formulas and indexes to avoid annual brawls. Once the formula or index is established by law, this flight from political responsibility dumps many political conflicts onto the statistics and the statistical agency involved.

Although the words are strong, others have come to similar conclusions.

Simultaneously, a series of court decisions and successive amendments to the 1965 Voting Rights Act focussed attention on another aspect of census results. As Thernstrom [1987] relates, reliable counts of the population classified by ethnicity down to the city block level were required by State and local governments as well as by the courts to carry out mandated redistricting at state and local levels across the United States. Of course, the only source for such data was the 1970 Census. Here again the issue quickly became one of the accuracy of the census, particularly in light of well-established differential census coverage rates by ethnicity.

The political attention and heat put on the census results and on the US Bureau of the Census and its staff were intense. Because it was too late to do much about the 1970 Census when the political storm broke, attention focussed on preparations for the 1980 Census [Anderson, 1987: 176]. The ensuing controversies had some positive impacts, although it is doubtful that they were recognized at the time, particularly by Census Bureau officials caught up in trying to carry out their technical and logistical functions in the rough ocean of politics. These positive developments included

improved efforts at census coverage, resulting improvement in overall census completeness, improved data on minority populations, and a number of important books by participants and observers (see, for example, Alonso and Starr [1987], Anderson [1988], Choldin [1994], Congressional Research Service [1980], and Mitroff et al [1983]).

However, the costs were heavy also. Among these was the creation of a deep and enduring mistrust by many, including key Congressional leaders, of the competence and in some cases the integrity of the Census Bureau staff and the statistical system itself. This mistrust was a significant factor during preparations for the 1980 and 1990 Censuses and during the first phases of preparations for the 2000 Census [Choldin, 1994: 237-238]. Another inevitable consequence of carrying out census tests and preparations under close and heavy political review was a degree of legislative micro-management, leading to sudden policy changes and added costs.

As has been pointed out by others [Congressional Research Service, 1980 and Anderson, 1988], the US census has been at the subject of political controversy in the past. With a few exceptions, these controversies focussed on the results obtained rather than the methods used to achieve them. At the same time, it may be recalled that the Census Bureau made its most stunning advances in improved quality and efficiency when the executive, legislative, and judicial branches were willing to accord its operations a greater degree of independence than that given in the past quarter century. After all, a watchmaker attempting to repair a watch will probably perform the job better and more economically if even a justifiably irate customer allows the repair to proceed in an atmosphere of relative peace and quiet.

The recent experience in the United States is in marked contrast to the events leading up to its first population census in 1790. At that point the country was facing challenges potentially as divisive as those facing the country today or many newly independent countries in the 1970's. A central issue at the constitutional convention was how to reach a political compromise on power-sharing among the 13 former colonies, a few large and most small, that comprised the newly independent nation. A compromise was reached: states given equal representation in the Senate and representation in proportion to population in the House of Representatives; approval by both bodies needed to enact laws; and the President elected by a method that gave power to the states in proportion to an appropriately weighted mean of the results of the two allocation systems. The census results would determine a state's relative power in the House of Representatives, but as Moynihan [Mitroff et al, 1983: xxi] points out, the constitutional compromise provided that both "representatives and direct taxes" would be apportioned according to these results. He also reminds us that this linking of representatives and taxes was deliberate, quoting James Madison in Federalist No. 54:

> It is of great importance that the States should feel as little bias as possible to swell or reduce the amount of their numbers. . . . By extending the rule to both, . . . the States will have opposite interests which will control and balance each other and produce the requisite impartiality.

(One may note two other conclusion that can be drawn from Federalist No. 54: first, that the framers of the United States Constitution were aware that census enumerations were subject to error, and second, that it was possible to do something to compensate for these errors.)

If the basic political compromises had not been reached, it is quite possible that the early census experience in the United States might have evolved much like Nigeria's. Indeed, in connection with planning for the next population census in Nigeria, Oleru [1982: 85] suggested "one way of making population numbers less of an asset for any state or group is to share responsibilities, as well as privileges to the various components on the basis of their population." Also, as Starr [1987: 33] and de Neufville [1987: 349] have pointed out, in the United States today there are few incentives to have a small population enumerated and many to have a large one. Formally, this was the case after 1913 when an amendment to the US Constitution repealed the provision for allocating tax burden according to census results. However, as noted earlier, the problem did not have a major impact until the early 1970's when the allocation formulas appeared to establish that it was clearly more advantageous to have a large population than a small one.

Despite the reliance the US Constitution places on the population census and hence on statistics, it seems clear that the original intention was that statistics should be an input to informed political decision-making and not a substitute for it. As Cassedy [1969: 214] points out, James Madison, in Federalist No. 55, warned that "nothing can be more fallacious than to found our political calculations on arithmetical principles." Furthermore, the actual reapportionment was the responsibility of Congress on the basis of census results [Anderson, 1988: 15-17] and not that of those responsible for conducting the census itself. Indeed, from 1790 to 1910 Congress itself was the final arbiter of the census figures used for the purposes of reapportionment [Congressional Research Service, 1980: 3]. However, after the 1920 census the difficulties of reaching a political compromise were such that Congress shifted the basic responsibility for reapportionment to the executive branch [Anderson, 1988: 149-157].

To my mind the basic lesson of these two examples is clear: once the lion of politicalization is loose in the streets, it is difficult to return it to the forest. In Nigeria, the census problem has not been resolved fully, although overall the

1991 census was far better than its predecessors. In the United States, political hostility to the census and the Bureau of the Census remain and the Census Bureau has become increasingly subject to the control of political appointees in the US Department of Commerce, even though the recent censuses have had improved coverage and the role of the statistically-driven allocation formulas has been reduced. In both cases, an important initial source of the problem was the over-reliance on population census results to resolve issues of power-sharing and resource-sharing within the country, particularly when these same issues were not resolved directly by normal political processes. How quickly each country can achieve a state of statistical normalcy is unclear, although both countries appear to have made at least some progress.

Annex III. Selected international agency experience [a]

An examination of the relationship between statistics and politics in the work of international agencies is important in its own right and, by providing some indication of the similarities and differences between factors operative at the international and national levels, it can help us better understand the issue in both contexts.

Perhaps the two biggest differences between official statistical work at the national and international level is the nature of governance and the number and nature of respondents. International organizations basically have at most about 200 respondents (in other words reporting countries), although some organizations such as OECD and Eurostat have many fewer. These respondents are very unequal in power and in the ability to provide sound, reliable and timely statistics. At the same time, this relatively small number of respondents constitutes both the "electorate" and governing body of these organizations. In fact, the difference in governance at the national and international level is more than the size of the electorate. At the national level, members of legislative bodies are elected, at the international the members of the legislative and other governing bodies are appointed, usually from the diplomatic corps.

Statistical work at the international level is highly decentralized, both sectorially and geographically. Among the international organizations, great variations exist in terms of main mission, uses being made of data, statistical and analytical capabilities, breadth of subject-matter and geographic coverage, and whether the adversarial or cooperative model of data collection is used. These variations, of course, influence how each agency deals with political and statistical activities and their interaction.

Despite the highly political character of the United Nations as a forum for international debate and decision-making and much of the work of its Secretariat related to these tasks, UNSTAT and its staff have been able to collect, compile, and disseminate data largely free from political interference and controversy [Seltzer, 1994]. Over the nearly fifty years of its existence, UNSTAT has had to deal with basically four major types of political concerns raised by Member States or by Secretariat authorities: (1) names used to refer to countries or areas, including the designation of national capitals; (2) territorial scope of countries, areas or cities; (3) data shown or not shown; and (4) hiring and promotion of staff.

Given that the Member States are represented at the United Nations largely by diplomats and that most senior officials in the Secretariat were diplomats at some point in their career, it is not surprising that the first two areas of concern predominate by far. Understandably, these concerns have concentrated on those issues of nomenclature and territory over which there is an international dispute. Over the years UNSTAT has sought and received guidance from the Organization's Legal Council as well as other competent authorities in the Secretariat on such matters. UNSTAT has never claimed to be the competent authority on nomenclature and territorial issues. Its sole concern in this matter has always been to obtain a prompt agreement on concise and intelligible names and footnotes.

Far more rarely, an Ambassador has written to the Secretariat objecting to the numbers shown in an UNSTAT publication. At least for the past two decades, the decisions of the Director of UNSTAT on how to respond to such complaints have always been supported by the Under-Secretary-General responsible for UNSTAT. There was only one instance when a Senior Official from another part of the Secretariat threatened political retribution against UNSTAT if it did not respond to his (reasonably well-founded) complaint that data published by UNSTAT in the mid 1980's for Namibia uncritically accepted the population figures provided by South African authorities.

Despite this over-all positive assessment, on a few occasions issues have arisen in connection with UNSTAT's ongoing compilation and dissemination work which had or were perceived by some to have had an adverse impact on its ability to carry on its responsibilities. Over the last twenty-five years there have been three notable examples. After the Peoples Republic of China was accepted into the United Nations in 1972, data for Taiwan were as a general rule not shown separately, a practice strongly denounced by the *New York Times*.[b] Second, at one point in the early 1970's the release of the United Nations *Demographic Yearbook* was held up for several months while a solution was sought for the treatment of data for the then divided city of Berlin. Finally, at another point toward the end of that decade the release of an early issue *World Statistics in Brief* was delayed for several weeks while the treatment of Jerusalem was reviewed. In addition, because of the potentially divisive issue of national boundaries for United Nations Member States, UNSTAT has generally refrained from the use of maps to present statistical data.

The factors contributing to the relative freedom of UNSTAT from political controversy are similar to those operative at the national level. In the case of UNSTAT, the primary factors are: (1) the definition of its mission; (2) its location in the Secretariat; (3) the high regard for the professionalism of its work within the Secretariat; (4) the existence of the Statistical Commission, and (5) the ability to invoke examples from good national practices.

From the start, UNSTAT was seen as "necessarily be[ing] the central unit in the world statistical system. . . .There

should be an effective central statistical organization in the Department of Economic Affairs. . .[which] should serve all organizations and Departments of the United Nations" [Rice, 1946: 26]. This formulation simultaneously placed UNSTAT in an analytically—rather than a politically-oriented Department and it emphasized that UNSTAT was providing services to a broader set of users than its host Department. Over the years, UNSTAT's basic mission and location have remained unchanged, although the Department in which it has been located has changed, at least in name, five times. Indeed, one of the major challenges facing the Director and staff of UNSTAT in recent years has been to help the series of Under-Secretaries-General who had administrative responsibility for UNSTAT to become aware that this responsibility entailed the maintenance of a distinct and professionally independent statistical function. Three out of the last four of these Under-Secretaries-General came to the post with a diplomatic background, and it is to their credit that they recognized the special nature of UNSTAT's status thereby ensuring the continued credibility of the organization's statistical service. The fourth Under-Secretary-General, as a former chief statistician, was fully aware of the policy issues involved.

Although UNSTAT is committed to publishing official data provided by countries, it checks these data for internal inconsistencies within the limits of available resources. At times, UNSTAT will delay publishing certain data until such inconsistencies or major methodological uncertainties are resolved. Where appropriate, official national data are accompanied by estimates (where sound methodologies for developing such estimates exist), by footnotes, and by data-quality flags of one sort or another. These practices evolved over many years and were endorsed as a formal policy by the Statistical Commission's Working Group on International Statistical Programmes and Coordination in 1992 [United Nations, 1993: paras. 77-80] and recognized by the Commission itself in 1993, albeit with a reservation expressed by one member [United Nations Economic and Social Council, 1993: para. 30b].

Although most correspondence between member states and the United Nations Secretariat is carried out through formal diplomatic channels, the Director of UNSTAT has always been able to write directly to the national statistical services of governments. The Director has also been able to write directly to the statistical services of other international and regional agencies and users of its statistical and methodological outputs as well as to technical advisers in country or regional projects. Equally important, statistical outputs have always been issued in the name of UNSTAT, without any sort of external pre-publication review of the statistics and estimates contained therein. Any other practice would clearly be inconsistent with the original and continuing mission of UNSTAT as well as the ideas embodied in the Fundamental Principles of Official Statistics. With regard to the hiring and promotion of staff the situation is far more complicated since the authority of the Director is limited to making recommendations, which must be supported by the Under-Secretary-General and approved by the central personnel administration [United Nations, 1988: paras. 81-116].

The situation with regard to the statistical activities in the United Nations specialized agencies is roughly parallel to that in UNSTAT, although except for the ILO, statistical work is more decentralized. A number of the operational agencies and programs of the United Nations also carry out statistical activities, including data compilation and dissemination. As observed in connection with similar activities at the national level, in some cases this work is treated as a quasi-independent statistical function, in others as something indistinct from the agency's policy, advocacy, and promotional functions. Consequently, there are great variations in the professional credibility of this work.

With regard to the World Bank and the International Monetary Fund, some other factors are also involved. Both require that countries provide certain data to them, in the case of IMF as a condition of membership, in the case of the Bank as condition for receiving loans. Otherwise, however, the arrangements in the two organizations are quite distinct. In the IMF there is a full-fledged statistical service headed by a statistician reporting to the Managing Director and with an experienced professional staff. Thus, in the case of the Fund its central statistical operation is committed and able to place a high emphasis on statistical integrity. In the World Bank, there is no central statistical service. While there are a number of staff members with ability and commitment to normal standards of professional statistical integrity and credibility, the organization as a whole does not appear to assign special priority to this aspect of data. Certainly, there is no organizational unit within the Bank with central responsibility for data and statistical integrity.

Currently, there are two additional major actors in international statistics: OECD and Eurostat. With regard to OECD, a major reorganization of its statistical operations took place about two years ago, with a view to improving coordination of statistical activities within the organization and with other international agencies. This reorganization also involved the establishment of a senior-level Chief Statistician post. The primary mission of the OECD is policy research, analysis and recommendations. Moreover, it proclaims professional excellence one of its distinguishing institutional virtues. Indeed, unlike a number of other international organizations, OECD uses no explicit nationality quotas in the hiring of its professional staff. Accordingly, OECD appears, at least in theory, to be less subject to many of the threats to statistical integrity that affect international organizations of a more political or operational character

The case of Eurostat, the central statistical service of the European Commission, is of special interest both because of its importance and its new and evolving nature. Eurostat is headed, like UNSTAT and most other international statistical organizations, by a professional statistician. Although nationality quota requirements were waived for the appointment of the current chief statistician of Eurostat, the appointment of his immediate deputies has been subject to these requirements, as were the appointments of all his predecessors.

Eurostat's Director-General and staff have always expressed a commitment to the ideals of professional integrity and credibility. For example, De Michelis in the introduction to Als [1992: 2] writes that:

> It is Eurostat's task to prepare the ground for the development . . . of high quality Community statistics that are scientifically unquestionable, meet user's requirements, are free of any political pressure from interest groups and use well established methods and sources.

However, at times in the past, they appeared not to be fully aware what this commitment entailed. Part of this may be related to the imperative of community integration which appears to motivate both the political leaders and staff of the Commission. In the words of Als, "European statistics still has to win its independence from mainstream European administration [1992: 151]." In addition, because of the rigid, politically-mandated national quota system, over the years a number of senior staff below the Director-General level had little or no experience in dealing with threats to statistical integrity.[c] Statisticians need to be able to quickly identify and reject ideas and proposals, whether advanced in the name of Euro-patriotism or national patriotism, that pose potential threats to statistical integrity or credibility.

Two examples of failures to internalize some of the normative values of official statistics and the Fundamental Principles can be cited. Problems of confidentiality were characterized by Eurostat in 1980 as "irreconcilable" with user requirements [Commission of the European Communities, 1991:7] and in 1985 as "hampering the production of statistical data [247]", rather than a public trust of singular importance to the profession. Eurostat appeared to be willing to begin to address the issue at the Community level only after strong, persistent, and unanimous efforts by the heads of the national statistical offices of the twelve Community member countries in their regular meetings organized by Eurostat [24; 119; 227; 237; 261-262; 272; 282-283]. It should be understood that no one in these discussions ever accused Eurostat of actually divulging or otherwise compromising the individual responses obtained by a national statistical office a under pledge of confidentiality. The problem was that Eurostat did not seriously address, or even appear to really understand, the concerns of the national statistical offices on the subject.

Similarly, the minutes of these same meetings during the period 1980-1989 give a picture of Eurostat as a statistical agency with insufficient distance from the Community's political center for the long-term health of both policy and statistics. Whether the issue was the statistical implications of the single market, particularly, intra-community trade [1991: 34, 47-48, 120, 137-138, 258-259; 268; 272-275; 295-296; etc.], the statistical implications of the common agricultural policy [248-252], or the use of the GNP as a basis for assessing Member Countries [1991: 379-381], there was an appearance, if not the reality, of an unusually dependent statistical service in the context of Western Europe.

With the growing maturity of Eurostat and the Commission on issues of statistical policy we would expect that the Director-General of Eurostat will more frequently be emphasizing the applicability of the Fundamental Principles of Official Statistics to all, not just to "decision makers in transition countries [Franchet, 1994: 256]." We should also expect to see Eurostat, as the statistical service of the European Union, define its role as serving the statistical needs not only of the central administrative and political leadership of the Union, but also of the various 'opposition parties', to borrow a phrase from the national context.

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a The present annex provides an extensive review of on the experience of UNSTAT and only a highly selective review of the comparable experience of other international or regional agencies working in statistics. The reason for this unbalanced treatment is simple. The author has more direct experience with UNSTAT.

b Despite this editorial denunciation, it is difficult to consider that, in the context of official statistics, this is really a violation of political impartiality. Successive Directors of UNSTAT have seen it as essentially a legal matter, likening it to the way a national statistical office would respond to constitutionally correct changes in its own country's internal boundaries.

c As mentioned earlier, a politically-mandated national quota system also has an adverse impact on the filling of professional-level statistical posts in the United Nations Secretariat. In recent years, the impact on Eurostat appeared to be more damaging because the pool of under-represented countries in the Community was smaller than in the United Nations.

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