

**UNITED NATIONS STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE**

CONFERENCE OF EUROPEAN STATISTICIANS

Work Session on Dissemination of Statistical Commentary
(Geneva, Switzerland, 4-5 December 2003)

Topic (ii): How to decide which stories to tell and to ensure they are of high quality

The Selection and Vetting of Statistical Stories

Invited Paper

Submitted by Statistics Canada¹

I. Introduction

National statistics offices (NSOs) generally have very broad mandates to report on economic and social conditions and so potential topics for statistical commentary are almost limitless. On the other hand, NSOs operate with a number of internal and external constraints that affect the selection of statistical stories, the manner in which they are told and the medium of communication.

The main goal of this paper is to identify the environmental, organizational and human factors that determine the selection and vetting of statistical stories disseminated by national statistical agencies. These will be illustrated mainly with examples drawn from Statistics Canada.

The paper begins by defining the scope of the information products considered and differentiating them from other products of statistical agencies. This is followed by the motivations behind the broad dissemination of statistical stories by statistical agencies. The next section looks at the story selection process, including: a simple model of the process, the players involved and the principles and practices of story selection at Statistics Canada. A section covering processes for vetting stories and maintaining institutional values follows. The concluding discussion focuses on the applicability of these observations to other statistical offices.

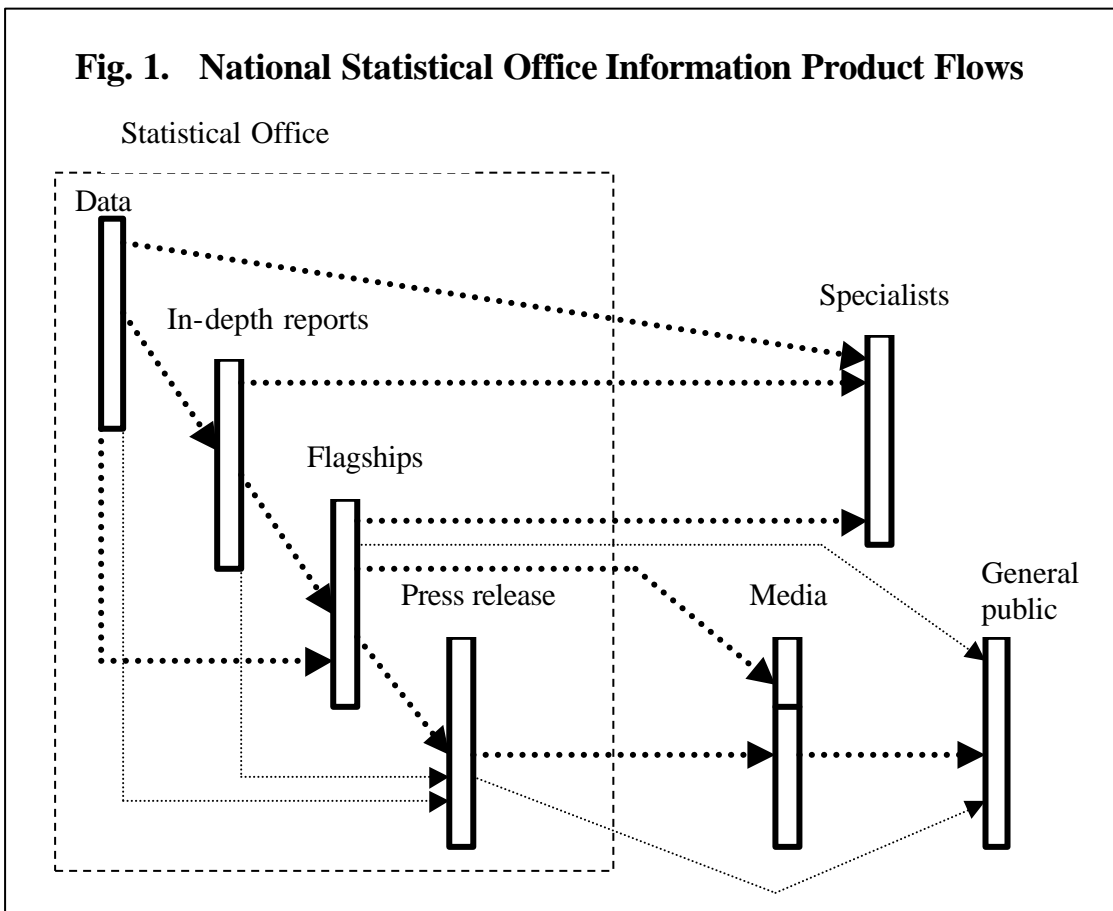
¹ Prepared by Ted Wannell (wannell@statcan.ca).

II. Defining Popular Statistical Stories

Statistical agencies can produce four broadly defined layers of information products.

The first layer consists of raw data and tabular data. Examples from this layer would include Census public use data files and traditional tabular publications of, say, the national income and expenditure accounts. These products have very small, specialized audiences: academic researchers, special interest groups, economic forecasters, financial institutions, etc.

The second layer is comprised of in-depth analytical papers and monographs produced by statistical agencies. Within this layer, there is also a division between statistical and logistics research and subject matter research. Although both types of research are essential to the functioning of a statistical agency, statistical and logistics research have, with few exceptions, very small audiences. Subject matter papers, on the other hand, often cover topics of interest to a broad audience but in a manner that may not be accessible to general readers. These papers, too, will have a small specialist audience, but will also feed into the subsequent layers of more broadly disseminated products.



The next layer includes what we would generally think of as the popular publications of statistical agencies. In Statistics Canada this layer includes flagship periodicals – covering subject matter such as labour and income, education, social affairs, justice, etc. – and themed monographs and compendia. As a general principle, this layer broadens the target audience from post-graduate specialists to a well-informed interdisciplinary audience. For example, an in-depth paper accessible mainly to someone with a post-graduate degree in labour economics might be re-written to appeal to labour policy analysts, human resource professionals and union researchers. This layer is covered by the media: mainly columnists or specialized beat reporters with subject matter expertise in line with the content of the publication.

The final layer of information is the news release. News releases directly target the media since they represent the most efficient means to communicate statistical stories to the broadest audience. In the past 25 years, news releases in Statistics Canada have evolved from what is referred to as elevator reporting² (e.g. ‘x’ went up and ‘y’ went down) to a range of descriptive, integrative and interpretive articles. Depending on the release, the stories may be picked up by general news reporters, columnists or special beat reporters. In some cases, all types of reporters will cover the same story.

The focus of this paper is the latter two types of products -- those which benefit from frequent media coverage: popular statistical periodicals (flagship publications) and news releases.³ However, to cover the full story it is necessary to step back and look at the broad picture.

III. Why do we tell statistical stories?

The reasons for telling statistical stories touch upon fundamental justifications for collecting and disseminating any statistical data. These have been elaborated in such works as Fellegi (1995), Ray (1984) and the UN (2003) and will not be covered in great depth here. However, among the many reasons for the existence of official statistics, there are some particularly strong motivations that apply very aptly to popular statistical stories.

Primary among these reasons is the contribution to the democratic process. Official statistics comprise a primary source for the monitoring of economic and societal performance – societies can generally govern themselves better with better information. The broad dissemination of statistical stories enhances this process by extending statistical knowledge beyond the realm of the experts and into the popular conscience.

² A notorious example, frequently cited by my first director, Hans Adler, was a consumer price index release that stated flatly “Women’s skirts were up and men’s trousers were down.”

³ Although compendia and themed monographs target similar audiences to the flagships, they mainly consist of previously published material and so do not usually generate news releases (other than product announcements) and subsequent media coverage.

The second point has to do with the “we”– why should statistical offices be doing this interpretive work as opposed to someone else? The answer here is comparative advantage, particularly with respect to sample survey and modelled data. Even among outside experts, there is only a handful who fully understands, for example, the contribution of sampling error to the unemployment rate time series or calibration techniques used to balance the national income and expenditure accounts. These are indeed esoteric subjects but are integral to the accurate interpretation of two of the most widely followed news releases. By combining this type of expertise with that of communications professionals, statistical agencies add incredible value to the raw data they collect.

By adding this value to data, we are also enhancing our relevance. This improves our relationships with both institutions and individuals. Our relationships with policy departments and other levels of governments, for instance, contribute far more to the goals of both organizations when we are viewed as partners in the production of useful information rather than as mere collectors and distributors of data. Consider too the perception of the individuals and businesses from whom we collect data. They are far more likely to be cooperative with interviewers if the statistical office has established a reputation (or ‘brand name’) as a provider of information relevant to their economic or social situation.

Finally, consider the impact on the employees of the statistical office themselves. Recruitment, retention and job satisfaction are enhanced when the statistical office is viewed as a place where interesting and important work takes place. These positive spin-offs extend well beyond the researchers and writers who actually write the statistical stories, since all those who participated in the production process share some sense of ownership in the published results.

IV. The Story Selection Process

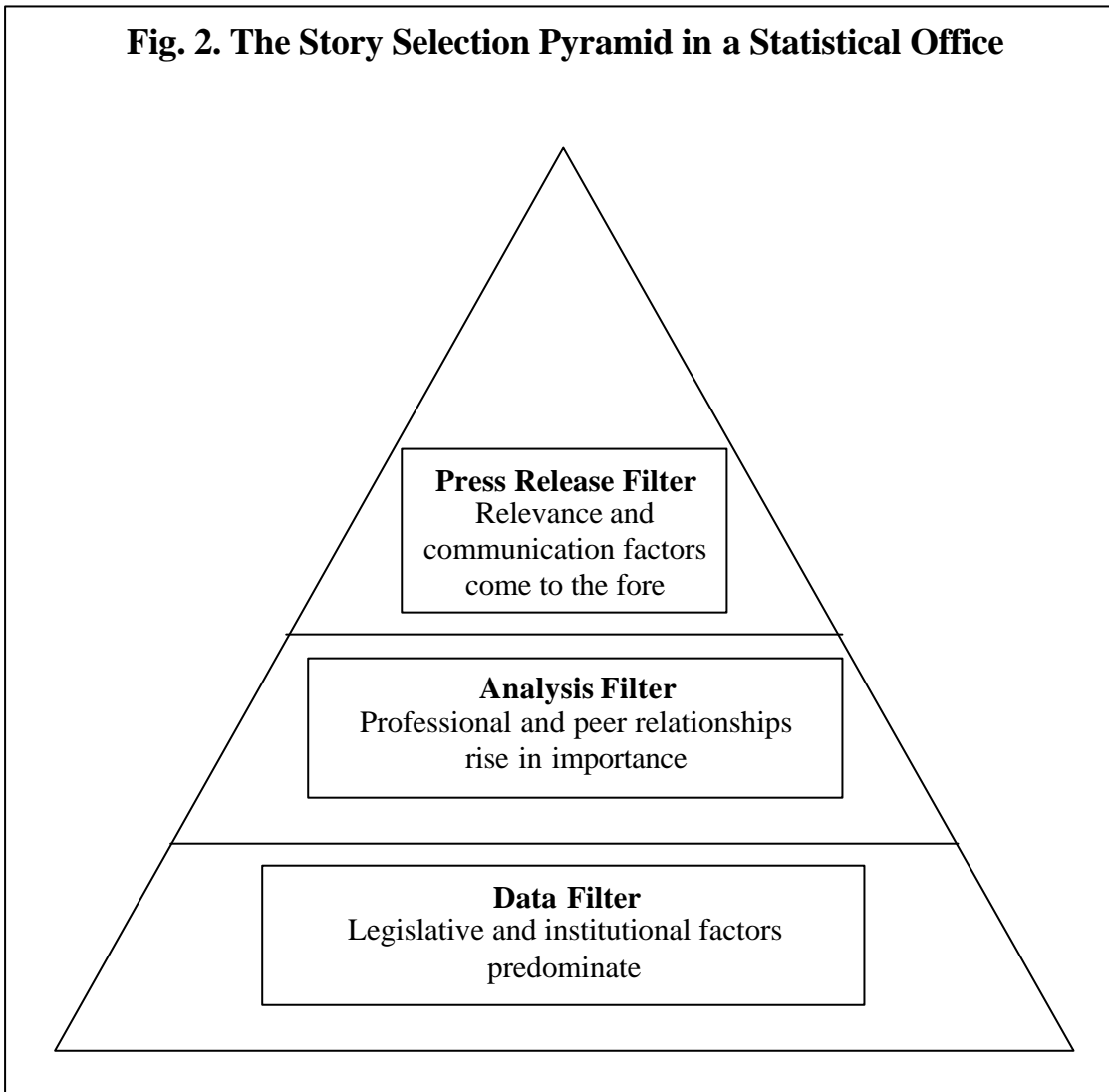
IV. i. A Simple Model of the Selection Process

The selection of statistical stories can be considered as a three-step pyramid.

The base of the pyramid represents the collection of census, survey and administration data by the statistical office. Data analysis and interpretation first requires data so the primary filter is at the data level. It may be argued that many of the best stories integrate data from outside the organization, but the kernel of nearly every story relies on internally-generated data.

The next step in the pyramid represents the selection of topics for in-depth analysis. The selection of analysis topics is a varied process influenced by a number of factors: the availability of new data, recognition of an important economic or social issue, analysts’ professional interests, quality control considerations, survey sponsors’ interests,

recommendations by expert advisers, surveillance of the academic and popular press, and so on.



The top of the pyramid represents the selection of stories from the in-depth analyses to convert into popular statistical stories. Within this layer, the selection process may differ between popular periodicals and news releases. However, it is clear that there are different selection criteria (or at least different weighting of criteria) when selecting stories for a broad audience.

This schematic does not fit every case—it can be compressed, extended or more circuitous. Some analysis is conducted specifically for press releases, as is commonly the case with new census information. Quality considerations discovered through analysis may dictate the suppression of some information at the data level. Horizontal chains may

arise within the analysis layer as research papers are selected for popular periodicals which then may be reprinted or adapted for other periodicals or compendia.

IV.ii. The Actors Involved in the Selection Process

Legislature: Although statistical offices can best fulfill their role by maintaining a strong policy and culture of political neutrality, this is not to say they should ignore the political process. Awareness of the legislative agenda and provision of impartial information to assess the associated social and economic conditions is one key to the relevance of a statistical office.

Central government policy departments/ministries: Policy departments require quality information to assess current policy or the need for new policies. Therefore, they are often the main partners of statistical offices in the development and assessment of statistical programs or may run their own statistical programs in a decentralized statistical system.

Other levels of government, especially in a federal system, may have information demands similar to the central government agencies for the policy areas within their purview.

Expert advisers can provide independent opinions on statistical, analytical and communications activities either through formal or informal channels.

Media: The media can be both an active and passive source for story ideas. Journalists may ask for information for specific stories or they may prompt researchers to look into an unexplored topic. On the other side, the statistical office may note the lack of coverage of important issues or poor information related to other issues.

Special interest groups may request information relevant to their constituents or lobby for more information products relevant to their agenda.

The general public, including respondents to our surveys, can affect the selection process, either through direct contact or through special interest groups. Several grass-roots campaigns have affected statistical programs in Canada in recent years.

Survey managers through the decisions they make in the survey design and collection process can affect the subject and type of analysis undertaken with the resultant data.

Researchers and writers obviously have a role in the selection of story topic. Experience, expertise and individual interests contribute to their agenda, but interactions with external and internal players also affect their decisions.

Research managers play a large role in the selection of statistical stories. They must balance input from all the other sources to guide a research agenda that is rewarding to

researchers, satisfies the needs of external players and enhances the relevance and professional reputation of the statistical office.

Communications officers work with researchers and research managers to ensure that messages are communicated clearly and are amenable to coverage by the intended media. They may affect story selection, but it is not their primary responsibility in Statistics Canada.

In general, the influence of external actors (especially ministries and other levels of government) is greatest at the data level of the pyramid since considerable resources must be marshalled to undertake statistical collection programs. The principle of statistical office independence also dictates that their influence should diminish once statistical programs are in place.

Professional and peer group influences tend to predominate at the middle level. Researchers interact with other researchers within and outside the statistical office. Research managers are usually researchers themselves and travel in the same circles. Expert advisers, by design, provide input to the analysis planning process. Policy analysts, industry associations, academics and special interest groups also exert some influence, simply by attending the same conferences or through direct contact.

At the press release level, communications considerations become more important. Is the topic relevant to a broad audience? Are the key findings easily communicated? Is there a good lead to the story? Are there novel or surprising results? In other words, newsworthiness and story values are key elements of story selection at this level. However, it is also essential to maintain the image of the pyramid when considering the selection of stories for news releases in a statistical agency. Data form the base and provide the raw material for analyses. Analyses transform the data into useable information. Press releases maximize the reach and impact of that information through attention to communications values.

IV.iii. Basic Story Selection Principles at Statistics Canada

Even though this process is diagrammatically simple, one can envisage a myriad of institutional structures and practices to manage the process of story selection. The key features of these structures and policies will vary from one statistical office to the next. This section describes two key institutional principles that set the stage for story selection in Statistics Canada, with more specific practices outlined in following section.

The first key factor is what can best be termed a sunshine policy. All data collected by Statistics Canada and subsequent analyses will be made available to the public. This policy is only constrained by confidentiality considerations (protecting the privacy of respondents) and quality considerations (see following section). All surveys conducted for public and private sector clients fall under this policy. This policy also bores upward through the selection pyramid. If data are collected, but not analyzed (a relatively rare

situation) their availability is still announced in the daily news release. Similarly, although an in-depth study may not be chosen for a flagship periodical or news story, there will still be an announcement of availability in the daily news release. Consequently, the daily news release has become an institutional record of data and information availability designed to give all users timely access to our products.

The second important feature of the story selection process in Statistics Canada is the breadth of responsibility placed on research managers by our dissemination policy. By research managers, we are referring to both the directors of research divisions and subject matter divisions, including those who produce flagship publications. At the level of the analysis filter, research managers are the focal points for both top down topic selection by undertaking themed research programs and bottom up topic selection by acting as the gatekeeper for proposals generated by researcher/writers. In practice, these responsibilities may be shared with senior staff but the final responsibility rests with the manager.

Similarly, research managers also bear the responsibility for the press release filter. Operationally, the selection of stories for the flagship periodicals and the daily news release is largely a result of the interplay among researchers/writers, flagship editors and professional writers in the news release section of Communications Division. However, dissemination policy places the responsibility for articles and news releases firmly on the desk of the research manager. Although good cooperative relations between subject matter divisions and Communications Division rarely result in disagreement, research managers could, for example, reject editorial changes suggested by Communications staff if they felt such changes compromised the integrity of the message. Similarly, research managers can insist that a news release story accompany the publication of a paper or release of data, even though Communications staff have suggested the topic might not be newsworthy.

Finally, it must be noted that there are checks and balances on research managers. Although they have the primary responsibility for the information released, they do not have the final say on whether the information will be published. Review and approval processes are highlighted in the section V.

IV.iv. Generating Story Ideas and Managing Output

Although the general principles provide a framework for story development, they do not automatically ensure that story ideas will be generated or that their development into articles and news releases will be effectively managed. The following list outlines some of the specific practices used in Statistics Canada to generate and manage story ideas.

Brainstorming sessions bring analysts together with outside experts to discuss potential analytical topics, often within the context of new data sources.

Survey presentations introduce analysts to the content of new surveys and often include insight into the information needs of survey sponsors.

Visiting lectures can be targeted to provide a good mix of subject matter and technique related talks. Both types of talks can inspire analysts to undertake new projects.

Conference attendance can expose analysts to intensive examinations of policy, economic or social issues or to extensive research at broader academic conferences. The contacts made at conferences can lead directly to new projects or partnerships that enhance the range of output of the statistical agency.

External advisory committees are an established part of statistical program management at Statistics Canada. Research managers routinely present overviews of output and future plans to these panels of outside experts. The advisers often note gaps in analysis plans and suggest new avenues of inquiry.

Subject matter committees are internal bodies comprised mainly of senior analysts, research managers and survey managers. They review in-progress survey and analysis programs and are often the forum through which additional or improved data are incorporated into ongoing studies.

Interdepartmental meetings between policy department researchers and Statistics Canada research groups can provide some new ideas for analysis. They have also been the impetus for exchanges of analysts which invariably results in new analysis ideas in both organizations.

Media surveillance takes place in both formally and informally. Communications Divisions provides a monitoring service which indicates the extent and type of coverage afforded to news releases, periodical articles and research papers. The monitoring of hits on the web site can provide similar information. Such feedback can lead to regular articles or products that update stories of interest to a large audience. Less formal monitoring by analysts and research managers can help to identify emerging issues or issues that are being addressed with poor information.

Analysis module system was developed in response to the demand for a continual stream of output for the flagship publications. The system is comprised of four modules designed to keep an inventory of ideas and draft stories in the pipeline for publication. The modules are:

1. New story ideas. These are proposed by analysts and the proposals are reviewed by senior analysts and research managers for feasibility and relevance.
2. Accepted story ideas. These ideas have passed review and are sufficiently well-defined to form the basis of a new analytical project. A surplus of accepted ideas helps to minimize time spent exploring dead ends.
3. Work-in-progress. This step begins with a more detailed road map of the analysis project and continues through the review process.

4. Completed projects. Here again, the ideal is to develop a surplus to deal with unforeseen circumstances that could potentially interrupt the publication schedule.

Work-in-progress database is a recently proposed, organization-wide tool that would track in-progress analysis projects in a common database. The tool will provide both a horizontal (among analysts) and vertical (within functional areas) information resource that will indirectly contribute to the story selection process through higher-level explicit analysis of the tacit research agenda.

V. Maintaining Institutional Values

There are three core values that Statistics Canada strives to maintain in every information product: relevance, quality and impartiality. Other factors, such as timeliness and newsworthiness, are frequently considerations, but if they were to come in conflict with the core values, there is no doubt about which would prevail.

Relevance is particularly important since our analytical resources are relatively scarce (comprising about 2% of our budget) and the resultant articles and news releases are our main channels of communication to the public. In fact, identifying and analyzing relevant issues is the primary function of the selection pyramid. But ensuring relevance is also an element of review processes.

The core value of quality manifests itself at each step of the selection pyramid. First, it refers to quality control measures built into the collection and processing of raw data. Second, it encompasses the appropriate use and interpretation of data in the analysis process, including explicit policies covering the inclusion of data quality statements in analytical products. Finally, it covers the quality and clarity of messages contained in news releases.

To ensure that these values are maintained in analytical products, peer and institutional reviews are mandated in dissemination policy. In practice, however, the review processes are both deeper and more extensive.

Review processes really begin at the project proposal stage. Analysts draft proposals for new projects that are subject to scrutiny by both their managers and peers. Accepted proposals must demonstrate relevance and a high likelihood of successful completion given data resources and analytical skills.

In-progress projects are almost always subjected to scrutiny through workshops, brown bag sessions and other forms of peer-to-peer contact. Supervisors also provide important input to early-stage analysis products.

Once a draft is completed, the analysis is subject to a formal peer review. The normal practice for peer review is to select two reviewers: one who is familiar with the data and can comment on its appropriate use and interpretation; and another who is more familiar

with the analytical techniques and literature cited in the analysis. Authors must be able to demonstrate how they've responded to the reviewers' comments in the final product.

Peer reviewed papers are then sent to institutional review. Institutional reviews are the responsibility of the analyst's director, although this responsibility may be delegated. The main function of the institutional review is to ensure that the values of relevance, quality and, particularly, impartiality are respected in the analysis.

In-depth analyses that are used as input for flagship articles and press releases have normally been through both review processes. If they haven't, then the article must be peer reviewed before it is published. In either case, the new article would be subject to another institutional review.

The flagship publications' institutional reviews are performed by senior editorial boards typically comprised of the divisional director, a director general and the responsible assistant chief statistician.

Similarly, news releases are reviewed by the source division director. On the day before their release they are also reviewed by the chief statistician and the subject matter assistant chief statistician responsible for the release.

It is important to note that the institutional reviews are not merely rubber stamps. Articles and news releases have been sent back from every level of reviewer. The responsibility of the director is also taken seriously, so it reflects badly on directors if products they have approved are sent back by higher ranking officials.

VI. Concluding Remarks

This paper has attempted to sketch out some structures related to the selection of statistical stories by national statistical offices. A model of information flows from statistical offices was proposed, limiting the scope of this exercise mainly to popular periodicals (flagships) and news releases. The actual selection processes were likened to a three level pyramid with a data filter at the base, an analysis filter in the middle and press release filter at the apex. The actors who contribute to story selection were listed, along with their contributions to the process. The rest of the paper concentrated on the Statistics Canada environment: the basic principle of story selection, common practices used to develop story ideas and the review processes used to ensure relevance, quality and impartiality.

The structures outlined in this paper are a function of the author's career in a particular statistical office: Statistics Canada. It is very legitimate to ask how applicable these structures might be for different statistical offices. Would the application be different in a decentralized statistical system? In an international statistical organization? In a sub-national statistical organization?

It seems to me that the fundamentals are relatively invariant. It is hard to imagine a statistical office that would strive for anything other than relevant, high quality, impartial stories. Nor a statistical office that would produce stories that didn't have some elements of a data filter, analysis filter and press release filter.

Also, at the level of the analyst/writer it doesn't seem likely that high quality, relevant stories can be developed in a vacuum. Interaction with professionals in other organizations, through whatever means, is essential to the development of an interesting and relevant agenda.

On the other hand, one can imagine a wide range of organizational structures and policies designed to ensure that basic principles are maintained in the stories produced by analyst writers. Even though the structures may vary, there would still seem to be some common requirements: a transparent review process, well-defined points of subject matter responsibility and an oversight body for news releases and other popular statistical vehicles. Without mechanisms to deal these processes, the credibility of the organization could be compromised. And credibility, once lost, is harder to regain.

References

Colledge, Michael and Mary March. 1993. "Quality Management: Development of a Framework for a Statistical Agency." *Journal of Business and Economic Statistics* 11, no. 2 (April): 157-165.

Fellegi, Ivan P. 1995. *Characteristics of an Effective Statistical System*. Morris Hansen Lecture, Washington Statistical Society. October 1995.

Fienberg, Stephen E. 1997. "Ethics, objectivity, and politics: statistics in a public policy context." *Statistics and Public Policy*. Bruce D. Spencer ed. Oxford: Clarendon Press.

Ray, Thomas. 1984. "Why have government statistics?" *Journal of Public Policy* 4, no. 2 (May): 85-102.

United Nations. 2003. *Handbook of Statistical Organization, Third Edition*. New York: United Nations Statistical Division.