

1. Introduction

First I would like to thank UNSD for hosting this forum and inviting me to participate. The importance of using the gathering of countries and international agencies on the occasion of the UNSC to discuss critical topics such as the one we are discussing today should be underscored. I cannot help but note in passing that unfortunately the previous Director of UNSD was not so imaginative in creating these kinds of events.

Trewin has written an excellent comprehensive review of the evolution of statistical offices. This is not surprising to anyone who knows of Trewin. The review is a personal view, and one cannot help but be impressed with the breadth and depth of Trewin's understanding of events. I have a few small disagreements with some of his observations -- but only a few. (One is that while both are innovative, I do not think the French and US approach to redesigning the population census are as similar as his text makes them appear to be.) Because of the breadth of the paper and the subject, I do not propose to go through the paper section by section. What I will do in my remaining time is, using Trewin's paper, discuss some areas that I believe will be exceptionally important for NSOs in the future, and offer some thoughts on the relevant roles and responsibilities of the UNSC and the international agencies. Specifically, I will discuss the issues of autonomy, innovation, capacity in statistics and information technology, and the role that the UNSC and the international agencies may play in improving the capacity of NSOs in these areas. Space and my own limitations will not allow me to address many other important areas such as increased geographic detail and modeling for small area estimates. However, I do believe these additional examples will only serve to reinforce the arguments I will make.

2. Autonomy

Trewin has written that the trend in National Statistical Offices is to greater autonomy and independence. I have not been directly involved in international statistics for the past four years and my observations may be too influenced by events in my own country, but while I hope he is correct, I wonder if that is indeed the case. In my own country the trend unfortunately seems to be to less independence and autonomy. Recent reports in the Wall Street Journal would seem to lend support to my gloomier view. It has always been difficult to define the extent of this autonomy, but the ability of statistical agencies to make decisions on scientific and technical criteria is fundamentally important to a credible, high-quality statistical system. The concept of autonomy is often looked at suspiciously by political appointees, particularly when they discover the statistical data may not support their political point of view. The very nature of the budget process itself, of course, involves a form of political control over the practices of statistical agencies. Few would argue that statistical agencies could or should be autonomous in the fullest sense of the word. What then are the limits of autonomy? Can they be reconciled with the not unrealistic view of political appointees that their party was elected while official statisticians were not? Is it necessary and possible to enshrine these limits in legislation? Some countries, such as Australia if I understand correctly, invest in their Chief Statistician more authority and autonomy than any agency head in the United

States enjoys. While this may seem to be desirable, critics may argue that it leaves the statistical agency without critical oversight. In the final analysis, an NSO is a part of the government and the parliament has final authority. (The same statement can be made for central banks although there seems to be more reluctance on the part of central bankers to agree to its validity.)

However we define the extent of autonomy, we all agree that it is important to preserve and if necessary expand, or guard against the erosion of, autonomy. Each country has its own legal and cultural traditions and each country must in the end reach its own decision on the extent of autonomy of the NSO. Is there a role then for the Statistical Commission and the international agencies in this regard? Certainly an affirmation of the importance of principles like autonomy as reflected in The Fundamental Principles of Official Statistics is vital. Can more be done?

While it is limited, perhaps the only tool that is available is to try to ensure that the practices that limit or impede necessary autonomy are exposed to the light of international review. From time to time there has been a call for the Statistical Commission to review how well a country implemented the Fundamental Principles – a report card on some aspects of the health of the system. I was one of those who were skeptical of this effort. Other efforts have included peer reviews, which often involved our Canadian colleagues. My own opinion is that the peer reviews may be a more effective option but it may be time for the international system, through the Statistical Commission to review the state of autonomy of NSOs around the world and, if found wanting, to consider some possible solutions.

3. Innovation

As Trewin correctly points out, the need for statistical agencies to be innovative is always present due to the rapidly evolving social and economic environment, changing public willingness to participate in surveys, and at times deteriorating budgets. Nevertheless this seems to be a time when that need is particularly urgent and it is far from apparent that the system is agile enough to meet future (and even current) needs. Tim Holt compares this to the Olympic challenge “Wider, Deeper, Quicker, Better, Cheaper” in his recent paper.¹ This need to strengthen capacity in these areas exists across the spectrum of NSOs but the need may be particularly severe in developing countries. Trewin discusses two areas where innovation is needed: problems with the traditional survey approach, and the need for improvements in statistical processing and dissemination models.

3.1 Integration of Survey and Administrative Data

At the same time that survey response rates are falling (not only in the government sector but also in surveys collected by non-federal entities), there is an increasing wealth of administrative and regulatory information being collected by local, regional, state and federal governments and in the private sector. Many statistical agencies, particularly in

¹ Holt, D. Tim, The Official Statistics Olympic Challenge: Wider, Deeper, Quicker, Better, Cheaper , The American Statistician, February,2007, Vol.61, No. 1

developed countries, combine statistical information with administrative data to provide information that is not provided directly through either source. In the U.S., for example, the Census Bureau combines unemployment and employment data obtained from local and regional authorities with its more traditional data to provide local information on jobs created by industrial type and the characteristics and commuting patterns of workers and potential workers. Significant capacity in information technology and understanding how to edit and harmonize data from many disparate sources, and the analytical power to produce the reports, are required. These are very substantial requirements. No one NSO will have the ability to move forward on this alone. The international system will be challenged to share knowledge so that all can move forward. The situation will be exacerbated by the relative lack of skills in developing countries. There is a real danger that the gap between the capacity of developed and developing NSOs will widen dramatically as this use of administrative records demands even more expertise in information technology and statistics. As Holt says in his paper:

“Thorough research over an extended period has resulted in a well-established framework for assessing the quality of survey data. An array of measure such as sampling errors, design effect, response rate, edit failure rates, frame bias, and so on are used to summarize the survey data and to provide information about quality. The corresponding framework for statistics derived from administrative sources is by no means as well developed and research is sorely needed to develop as robust a framework as we have for survey data.”

With respect to the use of administrative records Trewin states that “... administering agencies are often best placed to compile the statistics themselves but the NSO can provide a useful leadership and support role in several ways.” I think we disagree about the whether statistical agencies or administering agencies are best place to perform the integration in part because of the problems referred to above that must be solved. (However, if the administering agencies do perform the integration then I certainly agree that the statistical agencies should provide guidance.) Moreover, it is the combination of sources from many sets of administrative data that will result in the biggest payoff and so I believe the statistical agency will be in the best place – if it can do the job - to integrate these data sets. This sets up another problem, however, which goes beyond technical considerations.

To what extent will society accept the NSO becoming, in perception if not reality, the central repository of data on people living in that country? Would this be accepted? What safeguards would be required? Would errors have to be fixed? How is an error to be defined? Would other agencies be allowed to use the linked data? Are the existing institutional arrangements between statistical agencies adequate? Should we rethink the question of the definition of a statistical agency? Before the government moves ahead with the integration of survey and administrative data, a thorough examination of these and other questions would seem to be in order. While the legislative, executive and even judicial branches must be involved in this process it cannot be limited to them. Indeed academia, non-governmental organizations, the business community and others must also be involved.

3.2 Statistical Processing and Dissemination Models

It is not farfetched to describe statistical offices as factories. They collect data from people and businesses, process it and turn out finished products that provide valuable information about our society. The tools of production are not stamping machines but information technology. In fact the costs of information technology are becoming the single largest cost in many NSOs. Information technology (IT) solutions and approaches seem to have shorter lives than fruit flies. Nevertheless this world is maturing and there is a developing consensus in many areas. For example, for many years in the United States there have been efforts to develop standard processes in the production of software. Because each NSO acts as an independent node in the global statistical system, each NSO decides on its own approach to software development and to dissemination systems. Security and confidentiality protection varies by agency. In many, if not all NSOs, there exists a preponderance of legacy systems. The processing system for data collection and dissemination often has its own unique software for each part of the process.

I am not suggesting here that the goal should be one processing system for either collection or dissemination that would be used by every NSO. Even if that were desirable, there will remain unique differences in scale and application among these offices. In addition there will be political and technical barriers that make this impossible – at least today. I am suggesting, however, that the cost - measured in the availability of increasingly scarce statistical and information technology resources - of creating and maintaining these separate systems is becoming too expensive for most if not all countries.

There are moves to mitigate these costs. For example, as Trewin points out, Blaise has become a common software module for writing survey scripts. Moreover, Australia and the United States are cooperating in developing a new approach to linking data sets and helping users obtain useful information. One must also acknowledge the work of the international agencies in making it easier to link and share data through the implementation of SDMX. Of course the efforts of the private sector in this area must be incorporated into any plan. UNSD has recognized this with preliminary discussions with innovators such as Google, and these efforts should be encouraged. Certainly there are many questions that must be answered. A partial list includes: Is it possible to extend the Blaise model and develop a set of modules that could be used by all or most countries and would be unique only to part of the statistical process? What would this program cost and how should it be developed? How would it be implemented? Who would maintain the systems and how would new procedures be developed? What is the role of the international agencies at all of the stages of development and implementation?

Is there a role here for the Statistical Commission? Is it possible for international agencies to agree to harmonize their approaches in this area? Can the statistical commission develop a framework so that countries work more cooperatively?

4. Capacity in statistics and information technology

If NSOs are to successfully compete with others seeking to use public (and private) funds they will indeed find themselves continually striving to meet these statistical Olympic goals: wider, deeper, quicker, better, cheaper. The primary skills that will be needed are in the statistical and information technology fields. In developing countries these have been at a premium for many years. The reasons include low pay compared to the private sector, an inadequate pool of educated people, bureaucratic disincentives and instability in the national statistical office. Even if one were to argue that conditions have improved in some countries, I would assert that the future will demand even more resources in both statistics and information technology.

The situation in developed countries is better but one cannot look at the future with much optimism. While there may be exceptions, in the IT world most NSOs in developed countries have recognized for some time that the traditional model of hiring, training and then reaping the benefits of having talented IT professionals make a career with the NSO does not sufficiently represent reality. The reasons are similar to those given for developing countries: inadequate pay and more exciting professional experiences in the private sector. As a result statistical offices increasingly are outsourcing their requirements for IT professionals.

What has changed is the inability to create and maintain an adequate capacity of career government IT professionals is now spreading to the statistical sector. Perhaps, as I stated earlier, my experiences are too parochial and the case in the United States is peculiar but the Census Bureau has not been able to maintain its historically high caliber professional staff. I do not mean that there are not high caliber people there but that there are not sufficient numbers of them for the tasks at hand. What are the reasons for this? There are I believe three main ones.

First, the pay gap between the private sector – particularly the biostatistics sector – and the government clearly favors the private sector and has become a barrier to hiring. . Twenty years ago approximately thirty percent of the membership of the American Statistical Association was in the category of “government”; today it is less than 15 percent. Second, bureaucratic rules and unnecessary oversight make it very difficult for creative people to perform at their best.

Finally, the field of statistics at academia is changing. More major professors and hence more masters and doctorate students are gravitating to the biostatistics field. Although there are some noteworthy exceptions, it is often difficult to find, despite the wealth of statistics departments in the US, academics interested in the problems of government statistical agencies. The United States has taken some modest steps to address this – by establishing our Joint Program in Survey Methodology, and various fellowship programs to promote interest in government statistics careers, and in establishing Census Bureau fellowships to encourage students and their major professors to work on problems

important to official statistics. However, the “pipeline” problem will, in my estimation, continue to challenge us.

5. Summary

In sum, as we review the health of our national statistical offices around the world, I believe there is much to be said for progress that has been made – but I remain concerned that we have many fundamental challenges at our door. In the past 60 years there has been a significant increase in the number of international agencies that have statistical activities and in their importance. These agencies have and will continue to have a critical role in assisting developing as well as developed countries in meeting these challenges. Too often however, the actions of these agencies have not been sufficiently harmonious. The problem with coordination is that while most everyone may believe that coordination is a good thing few of us want to be coordinated. The challenge for the international agencies is to renew their efforts to pool their resources and speak, particularly on technical assistance, with more harmony. In that respect I believe there is a need to create a single portal where countries can go for knowledge based approach to managing a statistical office. Clearly these efforts should build on existing products such as the Handbook of Statistical Organization. The web based technology is sufficiently mature to provide for more in depth information as required. For example, a user may wish more information on seasonal adjustment and the various software packages that are available. More generally the single portal could be the place where all software provided by countries and international agencies is made available. Such an effort would have to be carefully defined and planned and must be transparent. Certainly this effort has to have legitimacy and I think the Statistical Commission has a major role to play here.

Finally I believe the international agencies should lead by being harmonious with respect to their own statistical standards. For example, the agencies within the United Nations could adopt the same standards on survey design, execution and on the release and dissemination of data. This includes informing the user of, for example, response rates and potential bias problems.