

The Role of Statistics in Educating the Public

A presentation to the conference on
“Statistics and Policymaking in Small Economies:
Developing Effective Statistical Systems”^[1]

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Introduction

Good day. It is a great pleasure to attend this conference and visit this beautiful land.

This wonderful place seems very different from Canada, where I come from, yet I think my homeland also bears some interesting similarities to the eastern Caribbean countries that are co-sponsoring this conference.

Ranked by geographical size, Canada is of course far larger than the combined area of the eight eastern Caribbean countries. My country has 10 million square kilometres of land and water area. Of all the countries in the world, only Russia has more territory than Canada.

Canada also has a much larger population, with 33 million people. Yet we often seem rather small compared to our neighbour, the United States, which has nine times our population, and compared to some of the European countries we deal with regularly. Moreover, we are tiny in relation to the biggest Asian countries. We rank as the 36th largest country in the world by population and we are, in many contexts, seen as a relatively small country.

We Canadians do, it seems to me, have more in common with our east Caribbean friends than might at first be apparent. We have a colonial past, like you do, with strong links back to Britain and France, and we have a parliamentary system of government. Perhaps you will be surprised to learn that our geography often seems linear to us, rather like the east Caribbean archipelago. Much of our vast territory is thinly populated and most Canadian citizens live within 200 kilometres of the

Canada-US border, which stretches 6400 kilometres from the Atlantic to the Pacific Ocean.

The great distances separating Canadians sometimes make national unity a challenge. Yet we have an effective federation, within which our ten provinces and three northern territories cooperate, while each maintains a significant degree of distinctiveness and freedom for local action. Indeed, our federal system defines us. Broadly speaking, the central government is responsible for maintaining 'peace, order and good government' while the provincial governments are responsible for matters relating to property and civil rights. In Canada, some governmental functions – notably defence, international affairs, criminal law, regulation of trade and commerce and, you may be interested to know, collecting statistics – are most effectively done within the central government jurisdiction while others – notably health care, education and the management of natural resources – are largely within the provincial domain. There are also many shared areas of jurisdiction, such as transportation, communication and the administration of justice.

So it is with this background that I come to this conference on "Statistics and Policymaking in Small Economies: Developing Effective Statistical Systems". I understand the conference objectives are to identify best statistical practices that recognize the special problems and needs of small economies and to promote awareness of the importance of statistics among key budget officials and financial secretaries in the Caribbean countries.

The conference organizers have asked me to comment on the role of statistical offices in educating the public, as part of the session on the case for investing in statistics. I shall do so under four headings. First, I will discuss briefly what we mean and who we are focusing on when we talk about 'educating the public'. Then I will discuss the question of what kinds of things the public might usefully be informed about by statisticians. From there I will go on to consider how statisticians might best accomplish this. Then I will consider why this role can best be filled by statisticians, rather than by other government or quasi-government bodies, or the private sector.

What do we mean by 'educating the public'?

National statisticians serve many different groups and must tailor their services to the varying needs and perspectives of these groups. It is important they be seen to serve all citizens, and all groups of citizens, equally and fairly, with impartiality. Among other things, this means any information made available to one group should also be freely available to any other. There must be no exclusivity.

National statistical institutions serve the general public first and foremost. It is, after all, the citizens who complete the census forms and various other questionnaires statisticians need to do their job. If it did not have the cooperation of citizens, the national statistical office could not fulfill its mandate. Moreover, it is the citizenry who pay the salaries of national statisticians, through their taxes. So clearly, there must be good and effective mechanisms for any citizen to get whatever information he or she requires back from the statistical office.

Within the citizenry, there are of course many sub-groups that deserve more specialized attention. For example students, both young and adult, form one important group. Elementary and secondary school students should be encouraged to draw upon reliable statistical sources as they learn about the world around them and university students and researchers obviously need good statistics upon which to base solid analysis and problem-solving.

In Canada, businesses, business groups and non-profit organizations are also big users of national statistics. Like the general citizen, they provide much of the raw material – completed questionnaires – that statisticians rely on to ply their trade. In Canada, our business statistics are based increasingly on corporate income tax, sales tax and Customs forms, and for these too we depend upon the cooperation of the companies who fill them out and let us use them for statistical purposes. Businesses want national and regional statistics to gauge the course of the economy, to explore new market potential and to compare themselves with other businesses.

Foreign investment plays a big role in Canada. Less than 1% of the businesses are foreign owned, but those businesses are typically among the largest in the country. Together they account for about 20% of corporate assets and around 30% of gross revenues and total corporation profits. We very much welcome new investment from outside the country and indeed, foreign capital has been a major factor in our economic growth since Canada became an independent country 140 years ago. Foreign investors make considerable use of our statistics when scouting for investment opportunities and developing plans.

Last but certainly not least, government ministers and officials are key users of national statistics. Good government policy should be based on solid evidence, which implies a need for reliable and timely statistical information. National statistical offices must be very attentive to the needs of the various government departments and agencies, including, of course, central banks. International organizations such as the International Monetary Fund, the Organization for

Economic Cooperation and Development and the United Nations are also keenly interested in our statistics.

What information is needed?

In a democracy, all citizens need access to timely and impartial information about the social and economic structure of their country. To hold their elected representatives accountable, they need independent report cards on recent developments. Statistical series like the consumer price index, the unemployment rate and the gross domestic product can play this role. So too can many other statistical products, depending on the nature of the particular issues facing a country.

For example, in Canada there has been much concern in recent years about wait times for diagnostic tests, medical specialist appointments and non-emergency surgical procedures (health care is publicly funded in Canada). Patients sometimes have to wait several months for such services. The federal and most provincial governments have all promised to take action in recent years to reduce wait times, but how much difference have their actions made? Statistics Canada began surveying Canadians a few years ago to shed light on this question. The Health Services Access Survey was launched specifically for this purpose. Based on a sample of about 17,500 individuals, the survey inquires about whether the respondent required surgery or a visit to a medical specialist and if so, how long he or she had to wait. Results from the survey, which has been conducted three times, at two-year intervals, show how much progress governments are making and make it possible to compare across jurisdictions.

Local communities also need information about themselves. The census is particularly valuable for this purpose, as it allows individual communities to understand the pace of development and change they are facing, and to compare themselves with other similar communities. Businesses also find local census data valuable for purposes of marketing studies.

Statisticians can be of service to citizens by investigating and reporting on the validity of common but unsubstantiated beliefs. For example, in Canada in the early 1990s the government introduced a new value added tax, called the goods and services tax. In the years following, a belief began to develop that there was a substantial and growing 'underground' or 'hidden' economy within Canada, where many Canadians escaped paying this new tax and other taxes. If true, this would imply serious erosion in the public trust and threaten the social consensus. It might also imply that the macroeconomic statistics produced by Statistics Canada were greatly flawed. We launched a study into this issue and after some careful analysis,

involving a review of the measurement methods for each of the principal components of the national accounts and a comparison of these estimates with data from tax files, concluded there was no factual basis for this belief. 'Underground' or 'hidden' economic activity was present to some degree, no doubt, but was a tiny percentage of national income. After this study was released further debate ensued and with the passage of another year or two, the misbelief faded from view.

How should the public be informed?

In this modern world, there are many effective ways for statisticians to get their message out. Perhaps the most important of these is via the various news media: television, radio, newspapers, magazines and increasingly the Internet.

Statistics Canada makes every effort to facilitate media access to the information it produces. All of our releases and databases are easily available to journalists through a special 'media room' on our Web site. When we release new statistics, we do so with a press release that is crafted with the news media's requirements very much in mind. Our specialists are always available for media interviews and we try to maintain good working relationships with key national journalists. And when a media outlet misreports our information, we always make a point of sending them a letter politely pointing out the error and requesting a correction.

Statistics Canada issues all of its statistical releases, without exception, through a publication known as **The Daily**. This publication is released at 8:30 a.m. Eastern time each working day. Everyone gets the latest information simultaneously, at the same predictable time. It has been published since 1932. **The Daily** was first posted on the Statistics Canada Web site in June 1995 and since then almost 3000 issues have been archived online for easy access. A typical issue may contain four or five statistical releases. For example, the issue for August 23, 2007 had releases for the second quarter 2007 survey of financial statistics of enterprises; national estimates of field crop production as of July 31, 2007; estimates of natural gas sales for the month of June 2007; results from the Canadian Vehicle Survey for the year 2006; and estimates of production by sawmills for the month of June 2007. This means Canadian researchers can find any of the many thousands of individual releases from Statistics Canada from the past twelve years, with little effort and no charge. If you wish to take a look at **The Daily**, it is displayed on the front page of the Web site, at: <http://www.statcan.ca>.

Users of Canadian statistics can count on the fact that any and all data releases will be announced in **The Daily** as soon as they are available. But there are several other ways to obtain statistical information aside from looking in that publication.

Statistics Canada's Web site is an enormous store of information. It includes a comprehensive online database, known as CANSIM, where anyone can download monthly, quarterly or annual time series from virtually any of the surveys conducted by the department. The Web site also includes an analytical studies module, where the many statistical studies that are carried out by Statistics Canada researchers are stored. Here users can easily search for and retrieve studies on whatever subject interests them, with searching by subject, date and/or author. Currently over 2000 studies are archived in this module and new ones are being added virtually every week. There is also a detailed national accounts module, with specialized facts for economists. And the Web site also contains definitions and information about data sources and methods, plus teaching resources such as lesson plans and learning activities. Last year we had 20 million visits to the Web site and 148 million page views.

Conferences and workshops provide another excellent means to convey information to the public. Statistics Canada hosts a number of conferences each year where socio-economic and health studies are discussed and new statistical methods and information technologies are presented. And of course we participate in many other conferences, seminars, symposia and workshops across the country and around the world.

Why not leave this role to others?

National statistical offices do not have a monopoly when it comes to presenting and interpreting the statistics they produce – nor should they. There are many others who can and do analyze the information and prepare their own interpretations. So why then is it useful at all for the statisticians to add their own presentational and analytical contributions? Would it not be more sensible and efficient for statisticians to “stick to their knitting”, that is, to focus on collecting, processing and tabulating data while leaving the presenting and interpreting to others?

There are a number of good reasons why, in my view, statisticians must be actively involved in the presentation and analytical interpretation of the statistics they produce. For one thing, they have a comparative advantage when it comes to understanding and working with the statistics. For another, as impartial and objective observers, statistical agencies bring a trustworthy, if perhaps less passionate or entertaining perspective to the reporting of socio-economic information. Finally, and equally importantly, the quality of the statistics themselves will improve significantly if those producing them are also involved in the analysis of their implications.

On the matter of statisticians' comparative advantage, it should be obvious that professionals employed within the national statistical office are particularly well placed to conduct analyses of their statistics. They are already familiar with the statistical concepts and definitions, methods to access the data and means through which to track down the answers to any questions that may arise. They should be familiar with the strengths and weaknesses of the data and will often be in a better position than others to take those into account as part of their analysis.

As for the second reason why statisticians should devote some of their resources to analyzing and presenting statistics to the public, this activity provides them with a means to demonstrate their political neutrality and objectivity. By tackling important topics which others may avoid, while doing so without either supporting or criticizing government policies, statisticians can provide the public with trustworthy and valuable insights into socio-economic developments. While staying out of the political debates need not imply shying away from controversy, in my experience it is most often the case that statisticians' analytical papers are rather dry and unexciting. Nevertheless if analytical efforts are well focused they can still produce very useful insights for society.

Finally, it has certainly been our experience at Statistics Canada that the presence of a strong analytical arm within our organization adds greatly to the quality of the statistics we produce. The analysts work directly with the data and in doing so they identify issues and raise questions that can lead to data quality improvements. Their involvement with other analysts outside the agency and their focus on analytical questions also puts them in a good position to advocate for relevance within our organization. Without them there would be much greater risk that our statistical programs would become less relevant over time, and our program priorities fail to adapt to changing circumstances.

Concluding remarks

To conclude, I would like to thank our hosts for inviting me to this conference. I hope my brief remarks in this session will prove to be of value and I appreciate this opportunity to dialogue with colleagues in the East Caribbean community of nations.