OPENING REMARKS

David Binder, Statistics Canada

Good Morning. On behalf of Statistics Canada, I would like to welcome you all to Symposium 2002.

This Symposium is the 19th in a series of Methodology Symposia that go back to 1984. Since that time, we have been pleased to see many returning again and again. A warm welcome to those of you who are new to the Symposium.

This year, we have over 400 registrants from 18 different countries, including Australia, Belgium, China, Finland, France, Germany, Greece, Italy, South Korea, Luxembourg, Mexico, New Zealand, Norway, Romania, Singapore, United Kingdom, and the US). We welcome all of our visitors to Ottawa and to the historic Fairmont Chateau Laurier hotel.

Over the years, we have covered a wide variety of topics related to survey taking and the methodological work of statistical agencies. In choosing a topic for this year we decided to return to the analysis of survey data as the focus of the Symposium. There were two reasons for our choice.

Firstly, Statistics Canada and other statistical agencies had become more and more aware of the fact that that placing information into the public domain does not mean disseminating only reams of tables. Rather, statistics become information only when they are effectively analyzed. It is the means by which we can make data more relevant for our users.

So, recently, our agency has been strengthening and balancing our analytical capacity. We have increased the analytical capacity associated for both our social longitudinal surveys and, for surveys Business and Trade statistics. We are also encouraging more analytical activities in our subject matter programs where analysis work has previously been more limited. It follows that the timing was right this year to invite prominent statisticians and researchers for a symposium on recent developments and thinking in the domain of survey data analysis.

Secondly, we knew that since our 1999 Symposium on Longitudinal Analysis of Survey Data there have been quite a few enough relevant and significant developments on survey data analysis.

For example:

- The longitudinal survey programs, that we had embarked on a few years ago, have been in existence long enough to have yielded an accumulation of data as well as providing us with several years of experience in developing models for their analysis.

- There has been a significant amount of very productive activity and developments in the modelling of and the analysis of health data.

- Researchers have come up with innovative ways of modelling Census and administrative data.

- There have been new developments in the ways of dealing with incomplete data and making inferences for small areas.

- There also continue to be new developments in and updates to software available for the analysis of survey data.

- And as economic and social researchers are challenged by the survey data that are becoming available and the many issues to be addressed with them, leading survey statisticians continue to advance the theory underlying sampling and estimation and analytical procedures to enable us to collect data more efficiently and to improve the quality of estimation and modelling to meet these needs.

Hence this Symposium has been entitled: "Modelling Survey Data for Social and Economic Research". We want to enable the building of models by researchers so that they can ultimately provide policy makers and the public with the useful information they need and want.

I am particularly grateful to Mary March as the lead organizer and to her very capable core organizing team: Milorad Kovacevic, Sylvain Perron, Joseph Duggan, and Xuelin Zhang. There were, of course, many others who have helped with the organization, but I would like to give special mention to Georgia Roberts, Adam Wronski, Denis Lemire, Annette Everett and Jean-François Bastien who have played important roles during the year. I offer my thanks to everyone in this group for the time and effort you have devoted to putting this conference together.

I sincerely hope that the conference that has been organized by this group will prove a rewarding experience for all of you.

To kick off the Symposium, we began yesterday with two interesting and well-attended daylong Workshops:

- Dr. Barry Graubard's presentation on "Analysis of Surveys with Applications to Health Data"; and

- The presentation of Professor's Roland Thomas and Bruno Zumbo on "Item Response Theory and Related Methods with Applications to Complex Surveys".

My sincere thanks to these three for the hard work they put in to specially developing delivering these presentations at Symposium 2002.

I now have the pleasure of introducing the Keynote Speaker at Symposium 2002.

I have known Prof. Cox for over thirty years now, since the time I spent at Imperial College doing my post-graduate work. Prof. Cox has a long and very illustrious career. He has been referred to as the greatest living statistician in the world. His remarkable career in statistical science is in its fifth decade, and is marked by work of fundamental importance. This work includes the introduction of widely applied methods such as the Box-Cox transformation and Cox's proportional hazards model. Tools and methods he has developed for the analysis of data have been used in as far ranging fields as medicine, engineering, economics and sociology.

Allow me to share three principles that I learned from Prof. Cox during my stay at Imperial College. These principles have guided me through my own professional career.

- Firstly, I learned that the best statistical theory is motivated by real and practical problems.

- Secondly, I learned that for every sound statistical principle, there is a counter-example that demonstrates when the principle can lead to absurd results. I refer you to Cox's book, entitled *Theoretcal Statistics*, co-authored with Hinckley, for many such counter-examples.

- Finally, I learned that when conducting research in any scientific discipline, one should focus on those problems that are important problems.

Prof. Cox's achievements and accolades are far too numerous to mention all of them. Some of these are:

- He is a Fellow of the Royal Society and was President of the International Statistical Institute from 1995 to 1997.

- He holds a number of awards, including honorary Fellowships at St John's College, Cambridge, and the British Academy, the Guy Medal from the Royal Statistical Society, and the degree of D.Sc. from about 17 universities.

- He is a Foreign Honorary Member of the US National Academy of Sciences.

- He was editor of *Biometrika* from 1966 to 1991.

- In 1985 he received his knighthood.

With the wide scope of Professor Cox's contributions and his interests and insights into furthering the role of statistics, and particularly its application to important societal problems, we are indeed honored that he has accepted our invitation to be our keynote speaker.