

## Book Review

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**Duncan, J.W. and Gross, A.C.**, Statistics for the 21st Century. Proposals for Improving Statistics for Better Decision Making. The Dun & Bradstreet Corporation, New York 1993. ISBN 1-56203-310-7, vi + 266pp., USD 14.95.

There is a constant concern among statistical users and producers that national data systems do not deliver the needed statistical information. This issue has been especially pronounced in recent years with tough budget cuts in many countries and general questioning of the main responsibilities of the public sector. A recent account of such planning and priority setting was offered at the Conference of European Statisticians (CES) session held in Paris in June 1994. Invited documents by, among others, the United Kingdom, Canada and France (CES 1994) discussed many of the issues facing national statistics offices.

Statistics production and dissemination are, though, by no means a new activity. In the *Chronology of the Modern World* (Williams 1975) the first genuine reference to statistics dates back to 1772. This reference concerns volume and value of textile trade in the U.K. Additional statistical figures from the 18th century cover population of main countries and cities, production, tonnage of merchant fleets and sizes of armies.

The book by Duncan and Gross can be considered as a contribution in the area of providing statistical information. The title *Statistics for the 21st Century*, indicates a broad perspective. According to the authors, the need for improvement of national and international statistical services is clear. “No less clear is the need for mechanisms and motivation to involve all of those interested in the statistics that define us and shape our hopes for the future. That is the reason for the book – to sound a sentinel’s early warning about the need for change and to invite others to join the process of reform.”

The authors are well placed to review and comment the current status of statistical

production and dissemination systems. Duncan has served as Statistical Commission Chairman and President of the National Association of Business Statistics. He has also served in senior capacities at the Office of Management and Budget with responsibility for policy oversight of the federal government's statistical agencies. He is now Vice President and Chief Statistician of the Dun & Bradstreet Corporation. Gross is currently Professor of Marketing and International Business at Cleveland State University. He has worked for Statistics Canada, and was also a funding partner of Pre-dicast, Inc.

The book consists of nine chapters, five appendices, and a comprehensive bibliography. In addition to the book, per se, a major bibliography (with more than 2,200 references) on the subject of improving U.S. official statistics has been compiled. This latter product is available from the authors on CD-ROM.

The dominant part of the text focuses on the current situation for economic statistics in the U.S.A. and specific proposals for improvement in that context. In Chapter 1, the nature of the problem is introduced in an interesting and informative way. The fact that economic and social systems tend to change rapidly is taken as the starting point for the discussion. This contrasts the protracted development of new statistical systems. Often, requested statistical series are only beginning to become available some 10 years after the need is identified. The conceptual net, the balance between stability for time series comparison and adaption to changes, and the radical changes in measurement systems are further elaborated. The long-term development of government decision-making about statistics is also reviewed here.

Chapter 2 includes a SWOT (Strength, Weakness, Opportunity, and Threat) analysis of some existing data. Four examples are discussed in this context, international agencies, national governments, business firms and what is labelled "statistical/information industry firms including nonprofit agencies." This discussion starts from the view that "statistics is news." In the section on international agencies the comparative advantages of such agencies as the United Nations, OECD, IMF, the World Bank and Eurostat are considered. On the whole, this discussion seems a bit thin. The emerging role of Eurostat as a focal point for statistical coordination among many of the European nations is, for example, not treated with sufficient thoroughness. Cooperation and sharing of responsibilities is touched upon, but the multitude of data collection by international agencies is not mentioned as a major problem, even though many nations see this as a great burden and to a large extent as a waste of resources. In the section on statistics from government bureaus, the discussion about centralization versus decentralization is briefly mentioned. The authors seem to have a preference for a certain degree of centralization in at least small economies, while they do not propose any further centralization of the production of U.S. government statistics.

Chapter 3 concerns elements of statistical systems – stakeholders and interactions. It starts from a review of users and uses of statistical data. Further on, producers and

production systems are discussed. A number of primary, secondary and tertiary statistics producers are listed in a separate table. It should be noted that this is merely an illustrative example, and not a systematic listing. The technical foundations for data collection through surveys as well as by use of administrative systems are rapidly changing the cost structure, and also affecting a number of quality aspects. This is, however, not salient in the text. Availability issues are discussed in the concluding section of the chapter. A plea is made for making data available in computer readable forms. CD-ROM access is indicated as crucial here, while on-line data bases are said to be primarily of interest for data series that change rapidly. At the same time, more visual and innovative display of data is called for.

In Chapter 4, an illustration of health care statistics is given. This is in particular to be seen as a case study related to current reform discussions concerning national health policy in the U.S.A. A list of 18 health indicators is cited. The balance between statistics on population health versus access to and use of health care is reviewed. The bias towards use of administrative information on utilization of facilities is commented. Further, the multitude of data sources is discussed. It is concluded that this is important as different views and perspectives have to be combined to produce composite indicators.

Chapter 5 includes a comprehensive survey of fundamentals in National Income Accounting. The authors state that statistical measures should be based on sound economic theory. Some specific problems are mentioned like price measurement, currency conversions, measuring productivity and the legal framework for collecting statistics. Here the focus is on changes in the national economies and subsequent need for changes in statistics. One section is devoted to implications in terms of statistical information and production due to the transition of a command economy to a market system. Special emphasis is given to the recently finalized revision of the System of National Accounts (SNA). What is new in the 1993 SNA is, however, by and large left to the reader to find out for himself. Satellite accounts for, among others, tourism, environment, and energy are briefly cited. Once more the importance of proper standards and definitions is stressed. Here again, a more detailed review of the actual production systems, and of the changing foundation, is lacking.

Global interaction is discussed in Chapter 6, with a focus on international trade (commodities and services) and on international capital flows and accounts. The general weaknesses of these sets of data are highlighted. At the same time it is said that the U.S. figures may be among the best available. This statement is not, however, substantiated in a satisfactory manner. It may very well be the case that most nations exhibit even larger inaccuracies in trade statistics than do the U.S. figures. In light of the strong increases in international trade and especially international financial transactions, the needs for global initiatives to improve the situation are stressed. To improve these statistics, the potential role of OECD and IMF is stressed. Some fundamental inconsistencies are highlighted. Global balances on trade, and on assets and liabilities do not, for example, add to zero in the statistical systems as they should.

Recommendations are presented in the last three chapters. These focus on national accounting and international statistics. Many of them have been presented earlier by U.S. commissions or international study groups. It is striking to note that so many well motivated proposals have not been implemented. The timelag between decision to improve and the time such proposals are manifested in new statistical series and baseline data turns out to be very long. A few of these suggestions are new, or otherwise genuine in character.

There is a long list of specific recommendations related to national income accounting and international statistics. One specific recommendation (also put forward earlier) refers to stopping publication of the 85-day estimate (revision) of GDP. This proposal is based on studies of the consistency between the 25-day estimate and later versions summarized in one of the appendices. Similar studies have been made in other countries as well, resulting in more or less similar conclusions (Eklöf 1992). Other recommendations concern increased use of hedonic methods in price and quality estimates. In terms of international statistics, a global initiative propelled by OECD and IMF is called for. Such a group would undertake the massive challenge of improving trade and capital accounts statistics. A necessary instrument to accomplish this, according to the authors, is further international harmonization of concepts and statistical standards. In addition there are proposals of organizational and administrative character. The authors do not, however, propose any centralization of the U.S. statistics system, only stronger coordination through revitalization of the role of the Office of Management and Budget, and the creation of a permanent Advisory Committee.

The book is written in simple language and without a lot of technicalities. In places, however, it is difficult to read and to follow the reasoning. A few typing errors and "impressionistic" paragraphs remain. The authors stress the importance of proper presentation of statistical results. In this context their book may be criticised. A number of table headings leave the reader to interpret by himself what is actually measured. Some tables, graphs and diagrams are also less informative. For example, it is not clear what the numerical difference is between Mean Absolute Error as compared to Root Mean Square Error in one of the tables. Perhaps some readers should also welcome a little assistance in interpreting these indicators and their relative meanings.

The authors suggest cost-benefit analysis for better decision-support data. Nothing particularly explicit about how to go about is said, though. This is certainly not so simple in the case of a public utility like statistical information. There are, however, a number of examples of such studies, for example, Eklöf (1992).

Also discussed is the question of quality declarations of official statistics and how these should be carried out. For instance, who is best suited to conduct analysis of statistical data? The balance between accuracy, timeliness, contents and availability aspects of statistical quality are all discussed.

User fees are on the increase in statistics production according to the authors. Information has very often been supplied free of charge or at charges substantially below costs. This is due to change in the case of more refined information. The need for the creation of alliances between stakeholders in the statistical system is also highlighted. This may very well be crucial not only in the U.S.A. but in most countries, developed as well as developing. For this purpose, it is important to survey and learn about all users, not only those in central government and in the private sector (SOU 1994:1).

The book addresses itself to all parties interested in the development of national statistics. As almost all statisticians are in contact with empirical data this should constitute a broad forum. Prospective readers should include the producers at statistics offices and businesses and not least statistics policy makers. The text should not primarily be seen as a textbook. It offers more of selected ideas for discussion and action rather than broad reviews of the current situation and state of the art in statistics production and use.

In conclusion, the subject matter discussed by the authors is indeed important for any statistician working with empirical data. A few aspects are innovative and the general form is well chosen. There are, however, at the same time a number of limitations in the text, for example, areas covered, geographic coverage and historic implications. The book should be well suited to provoke debate, and we hope not only in the U.S.

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