

Methods of Demographic Analysis

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Writing a textbook on demographic methods may be approached in one of two ways. The authors may choose to take an analytic approach, in which they focus on social demography as a framework under which to present the relevant methods (for examples see Vidal 2002; Trovato 2009; Weeks 2012). The alternative is to focus primarily on the methods, and to incorporate some aspect of social demography to illustrate their application. In either case, the book must satisfy a certain set of criteria in order to accomplish the goal of teaching demography to the uninitiated or to those attempting to perform demographic analysis—either as a primary goal or in support of analysis in other disciplines.

Rather than present a chapter-by-chapter review of the contents of this book, I chose to use the criteria listed below as a structure under which to present the review.

Does the book demystify the science of demography? The introductory chapters, including the chapter dealing with the elements of demographic analysis, address this criterion only with respect to methods. The book does not address the science of demography in the larger context that includes some of the fundamental theories of the science.

Are demographic concepts, principles, and theories explained? Once again, the book only addresses part of this criterion. Many of the basic concepts in demography are dealt with in the book. The treatment of the methods of calculation and presentation of results is quite thorough. However, there is no mention of the fundamental demographic theories, such as the demographic transition.

Are the terminology and vocabulary that are commonly used in demography explained? This is one of the essential strengths of this book, especially with respect to demographic methods. A great deal of the general vocabulary is explained in the introductory chapters of the book (up to chapter 4). The topic-specific concepts are addressed in each of the chapters that deal with the components of demographic flows. Unfortunately there are some instances in which a measure or concept is used before it is defined. For example, some of the synthetic measures of fertility are used and discussed before they are defined (see p. 109, Section 5.5.4.).

Is demography presented as an applied science, including practical examples to support the methods? Is it policy-relevant? In my assessment, this is one of the major weaknesses of this book. It is necessary to show the practical application and relevance of a method in order for it to be considered an applied science. There are numerous examples of missed opportunities in this book. For example, the construction and interpretation of population pyramids is explained well. However, the authors fail to explain the analytical reason behind the construction of population pyramids. Does a particular pyramid show an older population, a younger population, etc.? Do successive pyramids drawn over 5-year intervals show a stable population? In the chapter on mortality the authors mention the years of life lost due to premature mortality, but they fail to mention the corresponding index of the years of life lost due to disability. The latter measure is important when considering the increases in life expectancy and the possible impact of living with disabilities as we age. Also, there is no discussion of the impact of lifestyle choices on mortality. The chapter on migration presents another example of a

missed opportunity. The discussion on the determinants of migration is far too narrow. There are many models and theories of migration that have their foundation in disciplines such as sociology, political science, and economics, such as Petersen's typology of migration (Petersen 1958), the Neoclassical macroeconomic model of migration (Massey et al. 1993), and the rational actor model (Massey et al. 1993). The fact that the existence of such models is not acknowledged speaks to the narrowness of the approach adopted in this book.

Is this book inviting to the novice (including researchers and analysts from other disciplines) as well as to those who are experienced in the science of demography? This book is definitely beyond the reach of most junior undergraduate students in the social sciences. It is important to point out that this is not a criticism of the book as much as a sad commentary on the mathematical ability of many of the students who choose to study the social sciences. The authors are very thorough in presenting the formulae that are commonly used in demographic methods. However, it is this thoroughness that will prove confusing and intimidating to many of the junior undergraduate students in the social sciences. More experienced practitioners, whether in the field of demography or in a field in which demographic analysis is used, will find the book to be a useful reference document.

Does the book serve as a portal to resources that are available to support demographic analysis? We are blessed in this age of information to have a vast array of data and other sources to support demographic analysis available on the Web. The challenge is how to present the resources that are available in a logical and useful manner. The authors chose to list some of the websites in which international data may be found. They also provide references to the websites in which the data they used in their examples may be found. Finally, they offer a very brief discussion of software that may be used for demographic analysis. There are two problems with the approach taken by the authors. First, they focus almost entirely on data. There exist many websites that act as portals to demographic analyses and population issues (Max Planck Gesellschaft 2014; Netherlands Interdisciplinair Demografisch Instituut 2014; Rand Corporation 2014). Second, the authors fail to use the structure of the book as a means to organise the listing of other sources. Many books on demography include a section at the end of each chapter that lists websites of interest (Trovato 2009; Weeks 2012).

To summarize, the overall organization of the book is logical. It follows a fairly standard approach to presenting demographic methods. The introductory sections of the book cover the basic definitions that are essential in laying the foundation for the more detailed and technical material that follows. It is also helpful that the authors included a chapter that presents an overview of some of the basic statistical concepts that are used throughout the book. This acts as a refresher and a reminder for the reader. It also assumes a prior knowledge of the concepts.

This is a reasonable manual on demographic methods. It is not, however, a demographic textbook that can be used in an introductory university course on demography. It is also not a book on demographic analysis, despite the title, because it only covers the methods (from a technical perspective). It does not take a wider perspective on demographic analysis, i.e., looking at causes and effects of demographic events and flows.

The strengths of this book are its structure, organization, and the thorough treatment of demographic methods. These are substantial positive attributes for a technical manual. The primary weaknesses of the book are the lack of policy relevance in the examples that are used and the omission of mention of the major demographic theories.

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