A Practitioner's Guide to State and Local Population Projections

by Stanley K. Smith, Jeff Tayman, and David A. Swanson
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The title of the book suggests that the contents will guide a practitioner through state and local population projections. As part of the Springer Series on Demographic Methods and Population Analysis (Volume 37), in fourteen chapters it provides the reader with the necessary tools for creating numerous population projection methods. The use of several real-world examples throughout the book are used to illustrate the diverse use of population projections.

Chapter 1 (Rationale, terminology, scope) states the objectives as being three-fold: (1) to describe commonly used projection methods; (2) to analyze the methods' strengths and weaknesses; and (3) to provide practical guidance for those who produce population projections or use them for decision making.

The authors state that the book is geared towards demographers, planners, market researchers, and those called upon to produce population projections or use them for decision-making purposes. However, both graduate and upper-level undergraduate students could use this book as the sole textbook for a course, or as a supplement focusing on select chapters. Similarly, those who need a refresher on specific projection fundamentals will find this book full of helpful information.

The basics of population analysis are found in chapter 2 (Fundamental of population analysis). This chapter is especially good for those who are not familiar with basic demographic terms and concepts, such as *population distribution, composition, change, demographic balancing equation*, and *basic statistical measures*, all of which are explained. Although the book uses examples and sources of demographic data from the United States, those in other countries would be able to substitute the examples with more appropriate country specific data sources, or use the data presented in this chapter.

Although chapter 3 (Overview of the cohort-component method) is a relatively short chapter, it sets the tone of the next four chapters (4–7) regarding the basic variables used in the cohort-component method. Chapter 4 (Mortality) focuses particularly on survival rates and the approaches used in projecting mortality rates. Chapter 5 (Fertility) describes fertility data and presents several approaches in projecting birth rates. This chapter assesses both period and cohort perspectives. Chapter 6 (Migration) discusses the sources of migration data and several approaches in projecting migration rates. Given the difficulties in forecasting migration accurately, the authors carefully note that the book does not cover *all* demographic issues and that their focus is on *population projections*. Even with this said, the authors provide the reader with valuable questions to ask, such as whether data should reflect the population at the beginning, middle, or end of the migration interval. These questions allow the reader to evaluate and adjust the available data and how to ask the right questions concerning their data. In chapter 7 (Implementing the cohort-component method), several step-by-step examples are presented, noting the strengths and weaknesses of the projection methodology. As the most widely used method, the authors provide a comprehensive description of what it takes to put the components together. Even simple

considerations, such as the number of years in the projection interval should be greater or equal to the number of years in the cohort, are helpful tidbits.

Chapters 8 through 11 present several other approaches that can be used to project populations. Chapter 8 (Extrapolation methods) presents the simple extrapolation method to the more complex extrapolation methods—*ratio methods, constant-share, share-of growth, shift-share*, and *share-of-growth*. Chapter 9 (Structural and microsimulation models), which are more difficult to implement than other projections, are not disregarded by the authors. Instead, a brief overview is presented of the steps involved in these complex models.

The authors carefully describe several adjustment procedures for dealing with the impact of special populations in chapter 10 (Special adjustments). Included in this chapter are circumstances that may be encountered when making population projections. Examples include college students, prison inmates, residents at nursing homes, military personnel, and their dependents. Each of these populations exhibits unique growth trends. Whereas chapter 10 focuses on a total population, chapter 11 (Related projections) focuses on methods for population-related variables like households, school enrollment, health characteristics (such as disability), and the labour force. The participation-ratio method (using rates) and cohort progression method allow one to consider the benefits of keeping things simple to develop reasonable assumptions for specific subgroups of the population.

To evaluate projections, chapter 12 (Evaluating projections), describes criteria for evaluating projections, such as *detail, face validity, plausibility, costs of production, timeliness, ease of application/explanation, usefulness, political acceptability,* and *forecast accuracy* That the authors write "no single projection method has been found to provide consistently more accurate forecasts of total population than any other method" is precisely the reason why this book runs to just over 400 pages. The authors definitely provide the reader with options for both creating and evaluating projections.

Chapter 13 (Forecast accuracy and bias) provides common error measures that the reader can use in evaluation. Ranking specific models and techniques is not always clear, and this chapter spotlights issues that anyone creating or using projections should consider. Even projections in non-demographic fields are used in the chapter by the authors to explain projection issues like the length of the forecast time period.

The book concludes with chapter 14 (A practical guide to small-area projections). A summary of the material presented throughout the book is well arranged in Box 14.1 (p. 374), where a step-by-step summary is presented. The authors state: "There are no crystal balls, no magic potions, and no guarantees, but we believe in the guidelines can help the analysts focus on relevant issues, make reasonable choices, and avoid common mistakes." The well-wishing of the authors to those who have undertaken the journey of reading the book are good to go on their way with a well-supplied toolbox to create various types of population projections. In the epilogue (Some final thoughts), the authors provide a few last guiding words and conclude by wishing the reader well as they go through the decision-making process. The glossary at the back of the book will assist those not familiar with demographic terms, and each chapter includes a list of references that readers can refer to for additional information if needed. Reading this book is an eye-opening journey into the complex world of population projections/forecasts. The authors' cumulative knowledge and guidance allow readers of *A Practitioner's Guide to State and Local Population Projections* to realize that projections and applied demography are not as daunting as they might seem.