

# Preface

Most good texts arise from the desire to leave one's stamp on a discipline by training future generations of students, coupled with the recognition that existing texts are inadequate in various respects. That was certainly the motivation behind my earlier *Elements of Forecasting* (“*Elements*”), and *Elements* helped train so many students, going through four successful editions during fifteen years.

But I have refused to do a fifth edition; instead, I feel that it's time to begin afresh. Two key reasons motivate the new start. The first is intellectual. Forecasting has changed tremendously in recent decades, and continually patching an old book only works for so long. This new book (“*Forecasting*”) contains a wealth of new material and new visions, newly synthesized.

The second reason is technological. I want a book alive with color photos and graphics, extensively hyperlinked, with audio and video. I want to be able to update it continuously and distribute it instantly. And I want it to be widely affordable, \$29 (say), not \$290, or better yet, free. In short, I want my readers to escape the shackles of Middle Ages printing-press technology, benefiting instead from the pedagogical wonders of modern e-technology.

Beyond new structure, new and more advanced material, and e-awareness, a number of features distinguish *Forecasting*, many of which were shared by the earlier *Elements*. First, *Forecasting* does not attempt to be exhaustive in coverage. In fact, the coverage is intentionally selective, focusing on the core techniques with the widest applicability. It is designed so that its earlier chapters can be realistically covered in a one-semester course, with the remaining chapters of use for more advanced courses and for independent study. Core material appears in the main text of the various chapters, and additional material that expands on the depth and breadth of coverage is provided in the Exercises, Problems and Complements (EPC) at the end of

each chapter.

Second, *Forecasting* is applications-oriented. It illustrates all methods with detailed real-world applications that reflect typical forecasting situations. In many chapters, the application is the centerpiece of the presentation. In various places, it uses applications not simply to illustrate the methods but also to drive home an important lesson via truly realistic examples: not everything works perfectly in the real world!

Third, *Forecasting* is in touch with modern modeling and forecasting software. I supply some code in EViews, R and Python. I like all of them, but at the same time, nothing is wed to any particular software. Students and instructors can use whatever computing environment they like best.

Drafts of *Forecasting*, like the many editions of the earlier *Elements*, have found wide use among students in many fields, including economics, business, finance, public policy, statistics, and even engineering. It is directly accessible at the undergraduate and master's levels; the only prerequisite is an introductory statistics course that includes linear regression. Simultaneously *Forecasting* will also be of interest to those with more advanced preparation, because of the hard-to-find direct focus on forecasting – as opposed, for example, to general statistics, econometrics, or time series analysis. I have used the material successfully for many years as a background for various other undergraduate and graduate courses (including Ph.D.), and as the primary material for master's-level Executive Education courses given to professionals in business, finance, economics and government.

Many coauthors, colleagues and students contributed to the development some explicitly, some implicitly. The National Science Foundation, the Wharton Financial Institutions Center, and the Guggenheim Foundation provided financial support for much of the underlying research. The University of Pennsylvania provided an unparalleled 25-year intellectual home, the perfect incubator for the ideas that have congealed here.

My hope is that if you liked *Elements*, you'll love *Forecasting*, sharing with me the excitement of the rapidly-evolving field. That rapid evolution is related to the many errors of commission and omission that surely remain, despite my ongoing efforts to eliminate them, for which I apologize in advance.

Francis X. Diebold  
Philadelphia

Tuesday 1<sup>st</sup> August, 2017