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A QUANTITATIVE TOUR OF THE SOCIAL SCIENCES

Social scientists become experts in their own disciplines but aren't always familiar with what is going on in neighboring fields. To foster a deeper understanding of the interconnection of the social sciences, economists should know where historical data come from, sociologists should know how to think like economists, political scientists would benefit from understanding how models are tested in psychology, historians should learn how political processes are studied, psychologists should understand sociological theories, and so forth.

This overview by prominent social scientists gives an accessible, nontechnical sense of how quantitative research is done in different areas. Readers will find out about models and ways of thinking in economics, history, sociology, political science, and psychology, which in turn they can bring back to their own work.

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A QUANTITATIVE TOUR OF THE SOCIAL SCIENCES

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Para Zacky, Jacobito, Jacinto, y Camilo

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Preface: Learning to Think Like a Social Scientist

MOTIVATION FOR WRITING THIS BOOK

This book has been created as a one-stop introduction to quantitative empirical social science for busy students. It originated as lecture notes from a one-semester class taught by five professors, with three weeks each of history, economics, sociology, political science, and psychology. Rather than emphasizing common features of all social sciences, we pull out examples that demonstrate the distinctive ways of working within each area. What does it mean to think like an economist? Or like a sociologist, political scientist, psychologist, or historian? We hope that students, in reading this book and working through its examples, will develop some social science literacy in these different ways of thinking, which in turn should improve their understanding of their individual areas of study.

We focus on quantitative models and methods for two reasons. First, quantitative skills are difficult and are in demand, both within and outside academia. Hence, students should be motivated to learn the relevance of quantitative ideas in the study of society. Second, by centering on quantitative approaches, we give a common theme to the book so that students can see how a core group of ideas is applied in different ways to different problems.

MATHEMATICAL LEVEL

This book is not limited to students with a statistical or methodological focus; we think that all social science students would benefit from it, and we are careful to place technical terms in social science contexts.

A unique feature of the book is that we work with quantitative models and methods, but the material is presented in an almost entirely nontechnical fashion. In contrast to books on research methods, ours is a book on *social science*, and we consider the quantitative methods as tools for understanding social phenomena. By reading the book, a student will develop an understanding of the ways in which working social scientists use quantitative models and methods.

The statistical and mathematical ideas considered in different parts of the book are presented intentionally at different levels of complexity. The history chapters discuss the sources of quantitative historical and economic data and the diverse

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efforts required to collect and understand this information. In contrast, the chapters on economics focus in depth on a particular area – time series econometrics – to illustrate general issues of evaluating social science hypotheses using quantitative data. The next part of the book, on sociology, begins with a general introduction to social science modeling and then continues with several examples of research indicating the use of statistical models – including how research proceeds when a hypothesized model does *not* fit the data. The political science part has a similar structure, and as with the earlier parts, there is extensive discussion of the practicalities of collecting and evaluating historical data. The psychology part presents a number of theories from social and cognitive psychology along with a discussion of the possibilities of evaluating these theories using empirical data. The book concludes with a discussion and an example of causal inference in social science research.

USING THIS BOOK IN A COURSE OR FOR INDEPENDENT STUDY

We expect that the primary audience for this book will be undergraduates in social science survey courses, junior and senior social science majors, and beginning graduate students. All these students should be interested in an overview of the social sciences with a focus on research methods, whether to learn about methods that they can use in their own senior theses or research projects or simply to get a better understanding of how quantitative knowledge is achieved in these areas.

We envision the use of the book in three sorts of classes. First, it can be a main text (or one of a small set of texts) in a general social science course. Second, it can serve as a supplementary text in a course on quantitative methods in any of the social sciences. For example, in a quantitative methods course in sociology, economics, or political science, it would give students a broad view of the different social sciences in a serious, scholarly, yet easy-to-read format. An instructor can assign this book, along with some homework assignments and focused reading, to give the students a taste of the different quantitative perspectives in the social sciences. The third audience we see for this book consists of students taking social science overview courses in professional programs such as law, public policy, and business.

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Jeronimo Cortina is an assistant professor of political science at the University of Houston. He specializes in political behavior, immigration, and quantitative methods. His work has been published in scholarly and policy journals such as the *American Politics Research Journal, Foreign Affairs in Spanish*, and the *Harvard Journal of Hispanic Policy*.

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Charles Stockley received his Ph.D. in history at Columbia University on the topic of British economic policy in the 1960s and was previously assistant vice president at Morgan Bank and a vice president at Commodities Corporation.

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