

---

# Contents

<b>Preface</b> .....	v
<b>1 Introduction</b> .....	1
1.1 An Introductory R Session .....	1
1.2 Getting Started .....	8
1.3 Working with R .....	9
1.4 Getting Help .....	12
1.5 The Development Model .....	14
1.6 A Brief History of R .....	15
<b>2 Basics</b> .....	17
2.1 R as a Calculator .....	17
2.2 Matrix Operations .....	20
2.3 R as a Programming Language .....	22
2.4 Formulas .....	32
2.5 Data Management in R .....	33
2.6 Object Orientation .....	38
2.7 R Graphics .....	41
2.8 Exploratory Data Analysis with R .....	46
2.9 Exercises .....	54
<b>3 Linear Regression</b> .....	55
3.1 Simple Linear Regression .....	56
3.2 Multiple Linear Regression .....	65
3.3 Partially Linear Models .....	69
3.4 Factors, Interactions, and Weights .....	72
3.5 Linear Regression with Time Series Data .....	79
3.6 Linear Regression with Panel Data .....	84
3.7 Systems of Linear Equations .....	89
3.8 Exercises .....	91

<b>4</b>	<b>Diagnostics and Alternative Methods of Regression</b> . . . . .	93
4.1	Regression Diagnostics . . . . .	94
4.2	Diagnostic Tests . . . . .	101
4.3	Robust Standard Errors and Tests . . . . .	106
4.4	Resistant Regression . . . . .	110
4.5	Quantile Regression . . . . .	115
4.6	Exercises . . . . .	118
<b>5</b>	<b>Models of Microeconometrics</b> . . . . .	121
5.1	Generalized Linear Models . . . . .	121
5.2	Binary Dependent Variables . . . . .	123
5.3	Regression Models for Count Data . . . . .	132
5.4	Censored Dependent Variables . . . . .	141
5.5	Extensions . . . . .	144
5.6	Exercises . . . . .	150
<b>6</b>	<b>Time Series</b> . . . . .	151
6.1	Infrastructure and “Naive” Methods . . . . .	151
6.2	Classical Model-Based Analysis . . . . .	158
6.3	Stationarity, Unit Roots, and Cointegration . . . . .	164
6.4	Time Series Regression and Structural Change . . . . .	169
6.5	Extensions . . . . .	176
6.6	Exercises . . . . .	180
<b>7</b>	<b>Programming Your Own Analysis</b> . . . . .	183
7.1	Simulations . . . . .	184
7.2	Bootstrapping a Linear Regression . . . . .	189
7.3	Maximizing a Likelihood . . . . .	191
7.4	Reproducible Econometrics Using <code>Sweave()</code> . . . . .	194
7.5	Exercises . . . . .	200
	<b>References</b> . . . . .	201
	<b>Index</b> . . . . .	213



<http://www.springer.com/978-0-387-77316-2>

Applied Econometrics with R

Kleiber, C.; Zeileis, A.

2008, X, 222 p., Softcover

ISBN: 978-0-387-77316-2