

---

# 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