

Contents

Preface	ix
Acknowledgments	xi
1 Introduction	1
1.1 Our Aims, 1	
1.2 Types of Economic Size Distributions, 5	
1.3 Brief History of the Models for Studying Economic Size Distributions, 6	
1.4 Stochastic Process Models for Size Distributions, 14	
2 General Principles	19
2.1 Some Concepts from Economics, 19	
2.2 Hazard Rates, Mean Excess Functions, and Tailweight, 43	
2.3 Systems of Distributions, 49	
2.4 Generating Systems of Income Distributions, 55	
3 Pareto Distributions	59
3.1 Definition, 59	
3.2 History and Genesis, 61	
3.3 Moments and Other Basic Properties, 70	
3.4 Characterizations, 74	
3.5 Lorenz Curve and Inequality Measures, 77	
3.6 Estimation, 79	
3.7 Empirical Results, 91	
3.8 Stoppa Distributions, 94	

3.9	Conic Distribution,	97
3.10	A “Log-Adjusted” Pareto distribution,	99
3.11	Stable Distributions,	101
3.12	Further Pareto-Type Distributions,	103
4	Lognormal Distributions	107
4.1	Definition,	107
4.2	History and Genesis,	108
4.3	Moments and Other Basic Properties,	110
4.4	Characterizations,	115
4.5	Lorenz Curve and Inequality Measures,	115
4.6	Estimation,	118
4.7	Three- and Four-Parameter Lognormal Distributions,	121
4.8	Multivariate Lognormal Distribution,	124
4.9	Empirical Results,	126
4.10	Generalized Lognormal Distribution,	131
4.11	An Asymmetric Log-Laplace Distribution,	140
4.12	Related Distributions,	143
5	Gamma-Type Size Distributions	147
5.1	Generalized Gamma Distribution,	147
5.2	Gamma Distribution,	160
5.3	Log-Gamma Distribution,	168
5.4	Inverse Gamma (Vinci) Distribution,	172
5.5	Weibull Distribution,	174
5.6	Log-Gompertz Distribution,	179
6	Beta-Type Size Distributions	183
6.1	(Generalized) Beta Distribution of the Second Kind,	183
6.2	Singh–Maddala Distribution,	197
6.3	Dagum Distributions,	212
6.4	Fisk (Log-Logistic) and Lomax Distributions,	222
6.5	(Generalized) Beta Distribution of the First Kind,	230
7	Miscellaneous Size Distributions	235
7.1	Benini Distribution,	235
7.2	Davis Distribution,	238
7.3	Champernowne Distribution,	240
7.4	Benktander Distributions,	247

Appendix A Biographies	251
A.1 Vilfredo Federico Domaso Pareto, Marchese di Parigi,	252
A.2 Rodolfo Benini,	261
A.3 Max Otto Lorenz,	263
A.4 Corrado Gini,	265
A.5 Luigi Amoroso,	267
A.6 Raffaele D'Addario,	269
A.7 Robert Pierre Louis Gibrat,	271
A.8 David Gawen Champernowne,	273
Appendix B Data on Size Distributions	277
Appendix C Size Distributions	283
List of Symbols	287
References	289
Author Index	319
Subject Index	327