

**MODELS AND PROJECTIONS
OF DEMAND IN
POST-WAR BRITAIN**

ANGUS DEATON

CHAPMAN AND HALL

LONDON

CONTENTS

Foreword	<i>page</i>	vi
Preface		vii
1 INTRODUCTION		1
2 UTILITY AND DEMAND ANALYSIS		4
2.1 The historical background		4
2.2 The methodology of demand analysis		12
3 THE LINEAR EXPENDITURE SYSTEM		21
3.1 The derivation of the model		21
3.2 The interpretation of the model		26
3.3 Variants of the model		32
4 THE ESTIMATION OF THE LINEAR EXPENDITURE SYSTEM		34
4.1 General considerations		34
4.2 Derivation of the estimators		35
4.3 Methods of solution		42
(i) Stone method		42
(ii) Gradient and Newton-Raphson techniques		43
(iii) Concentration of the first-order conditions: the ridge-walking algorithm		45
5 THE DISAGGREGATED MODEL		50
5.1 Data		50
5.2 Stochastic specification		51
5.3 Assessment of estimation techniques		53
5.4 General assessment of the results		59
5.5 Pigou's Law		66
5.6 Analysis of Individual Items		77
5.7 Conclusions		154

6	A HIERARCHIC MODEL OF DEMAND	157
6.1	Reformulation of the linear expenditure system	158
6.2	A stochastic specification	161
6.3	Hierarchic estimation and bias	165
6.4	The grouping of commodities	168
6.5	The upper hierarchy	172
6.6	The lower hierarchies	175
6.7	Comparison of hierarchic and disaggregated models	181
7	THE FORECASTING MECHANISM: A TRIAL RUN TO 1975	190
7.1	The consumption function	190
7.2	The projection of consumer goods' prices	196
7.3	The alternative projections	204
7.4	A general assessment	217
8	PROJECTIONS FOR 1975 AND 1980	220
9	CONCLUSIONS: THE METHODOLOGY OF APPLIED DEMAND ANALYSIS	230
	Appendix The program RIDGE	240
	List of Works Cited	251
	Index	258