# TABLE OF CONTENTS

1 Introduction .................................................. 1

2 Optimal labour income taxation: background ............... 16
   2.1 Taxes, transfers, and redistribution in actual economies 16
   2.2 Tax structures in the OECD area .......................... 17
   2.3 Inequality and redistributive policy ...................... 19
   2.4 Redistribution through public expenditure ............... 23
   2.5 Defences of different ethical positions ................. 25
   2.6 The Edgeworth model ................................... 29
   2.7 Non-welfarism and paternalism ......................... 34
   2.8 Obstacles to optimal lump-sum taxation ............... 38
   2.9 Pareto-efficient income taxation in the two-person case 42
   Appendix 2.1 Total revenue as % of GDP in OECD countries 46
   Appendix 2.2 ‘Utilitarian Communism’ .................... 47
   Appendix 2.3 Formalities of Pareto-efficient taxation in the two-type case 48

3 Optimal linear income taxation ................................ 53
   3.1 The basic model ...................................... 53
   3.2 The optimal provision of public goods ................ 59
   3.3 Majority choice of the tax rate ....................... 59
   3.4 A two-bracket income tax ............................. 60
   Appendix 3.1 Optimal linear income taxation ............ 61

4 The optimal non-linear labour income tax problem .......... 64
   4.1 Quasi-linear preferences ............................ 69
   4.2 Alternative social objectives and quasi-linear preferences 72
   4.3 Optimal top marginal tax rates: unbounded distribution and quasi-linear preferences 77
   4.4 Additive utility and income effects .................. 83
   4.5 The non-linear utility of consumption and asymptotic rate 87
   4.6 Optimal bottom marginal tax rate .................. 90
   Appendix 4.1 Optimal non-linear income tax model .... 92
   Appendix 4.2 Quasi-linear preferences .................. 98
   Appendix 4.3 The taxable income elasticity at the top .... 101
   Appendix 4.4 Additive preferences ....................... 103
Appendix 4.5 Pareto distribution, Champernowne distribution, and an asymptotic solution of the optimal tax problem 107

5 The shape of optimal income tax schedule: numerical simulations with income effects 114

5.1 Distribution 115
5.2 Preferences 120
5.3 Social objectives 121
5.4 Revenue requirement 128
5.5 The level of marginal tax rates 129
5.6 Pre-tax inequality and increasing marginal tax rates 130
5.7 Top income shares and average tax rates 132
5.8 The curvature of utility over consumption and increasing marginal tax rates 134
5.9 Is there a U-shaped marginal tax/transfer rate curve? 140
5.10 Alternative social preferences: maximin and marginal tax rates 143
5.11 Other alternative social preferences: rank-order preferences, equal opportunities, poverty radicalism, and charitable conservatism 145
5.12 Bunching and the interplay between the curvature of utility over consumption and the social marginal weighting function 149
5.13 Guaranteed income and redistribution 150
Appendix 5.1 Labour supply elasticities 153
Appendix 5.2 Numerical solution procedure 155
Appendix 5.3 Fortran program with some comments 158

6 Optimal income tax/transfer programme in the extensive margin model 173

6.1 Intensive and extensive margin 176
6.2 Involuntary unemployment and optimal redistribution 179
6.3 Social norms and redistribution 183

7 Relativity and optimal non-linear labour income taxation 185

7.1 Optimal non-linear taxation and relative consumption concern 187
7.2 Quasi-linear preferences: the utilitarian case 189
7.3 Quasi-linear preferences: the Rawlsian case 190
7.4 The utilitarian case with income effects 192
7.5 Relativity and inequality 195
Appendix 7.1 Derivation of results 200
8 Optimal income taxation and tagging
   8.1 A simple framework 206
   8.2 Tagging and optimal non-linear income taxation 211
   Appendix 8.1 Derivation of different tax/transfer schedules 228
   Appendix 8.2 Numerical simulations 230

9 Optimal income taxes/transfers and non-welfarist social objectives 235
   9.1 Additively separable individualistic social evaluation function 238
   9.2 Special cases; poverty reduction 240
   9.3 Poverty rate minimization 247
   Appendix 9.1 Linear and non-linear income taxes 247

10 Heterogeneous work preferences and optimal redistribution 249
    Appendix 10.1 A two-dimensional optimal income tax problem 255

11 Income uncertainty and optimal redistribution 259
    11.1 The moral hazard optimal income tax model 261
    11.2 Numerical simulations 263
    11.3 Prospect theory and moral hazard 264
    11.4 Prospect theory non-welfarism 268
    Appendix 11.1 The moral hazard model: the standard model 269
    Appendix 11.2 Prospect theory and moral hazard 271
    Appendix 11.3 Numerical solution: the standard model 275

12 Optimal mixed taxation 285
    12.1 The discrete-type model with individuals of two skill levels 287
    12.2 Optimal commodity taxes 289
    12.3 Effective marginal tax rates 291
    12.4 The Atkinson–Stiglitz theorem 291
    12.5 Support for differential commodity taxation 292
    12.6 Fully non-linear taxation on commodities 295
    12.7 Non-welfarist social objectives: poverty minimization and commodity taxes 297
    12.8 Optimal commodity taxation and non-linear income taxation 301
    12.9 Effective marginal tax rates 303
    12.10 Optimal mixed taxation and externalities 305
    12.11 Merit goods and commodity taxation 307
    12.12 Sin taxes 309
    12.13 Optimal commodity taxes and income uncertainty 310
# Table of Contents

## 12.14 Fully non-linear taxation and income uncertainty
- Appendix 12.1 Production efficiency
- Appendix 12.2 Optimal mixed taxation
- Appendix 12.3 Kaplow’s result
- Appendix 12.4 Poverty minimization and commodity taxation
- Appendix 12.5 Optimal commodity taxes and income uncertainty
- Appendix 12.6 Optimal non-linear taxes and income uncertainty

## 13 Public provision and optimal taxation
- 13.1 Provision of public goods
- 13.2 Public provision of private goods
- 13.3 Public sector employment
- 13.4 The potential role of minimum wages
- 13.5 Tax evasion and optimal redistribution

## 14 Optimal capital income taxation
- 14.1 Introduction
- 14.2 On informational rationales for taxing capital income
- 14.3 Uncertain future earnings and capital income tax
- 14.4 Hard to distinguish capital income from entrepreneurial earnings and capital income tax
- Appendix 14.1 Income shifting and capital income taxation
- 14.5 Inherited wealth and capital income tax
- 14.6 Capital income taxation and endogenous pre-tax wages in the OLG model
- Appendix 14.2 Taxation, the dynamic formulation of the Samuelson rule, and the OLG model
- 14.7 Other cases for capital income tax

## 15 Discussion and conclusions

REFERENCES

INDEX