

ECONOMICS of the **PUBLIC SECTOR**

THIRD EDITION

JOSEPH E. STIGLITZ

W.W. MORTOIM & COMPANY

NEW YORK/LONDON

CONTENTS

PREFACE XIX

PART ONE

INTRODUCTION 3

1 THE PUBLIC SECTOR IN A MIXED ECONOMY 3

THE ECONOMIC ROLE OF GOVERNMENT 4

THE MIXED ECONOMY OF THE UNITED STATES 4 / DIFFERENT PERSPECTIVES ON THE ROLE OF GOVERNMENT 5 / AN IMPETUS FOR GOVERNMENT ACTION: MARKET FAILURES 6 / *RENT CONTROL: A CASE STUDY IN GOVERNMENT FAILURE* 8 / GOVERNMENT FAILURES 8 / ACHIEVING BALANCE BETWEEN THE PUBLIC AND PRIVATE SECTORS 10 / THE EMERGING CONSENSUS 11

WHAT OR WHO IS THE GOVERNMENT? 12

THINKING LIKE A PUBLIC SECTOR ECONOMIST 14

ANALYZING THE PUBLIC SECTOR 16 / ECONOMIC MODELS 18 / NORMATIVE VERSUS POSITIVE ECONOMICS 19 / *MUSGRAVE'S THREE BRANCHES* 20

DISAGREEMENTS AMONG ECONOMISTS 20

DIFFERENCES IN VIEWS ON HOW THE ECONOMY BEHAVES 21 / DISAGREEMENT OVER VALUES 22

REVIEW AND PRACTICE 22

SUMMARY 22 / KEY CONCEPTS 23 / QUESTIONS AND PROBLEMS 23

2 THE PUBLIC SECTOR IN THE UNITED STATES 26

TYPES OF GOVERNMENT ACTIVITY 27

PROVIDING A LEGAL SYSTEM 28 / GOVERNMENT PRODUCTION 28 / GOVERNMENT'S INFLUENCE ON PRIVATE PRODUCTION 30 / GOVERNMENT PURCHASES OF GOODS AND SERVICES 33 / GOVERNMENT REDISTRIBUTION OF INCOME 33 / OVERVIEW OF GOVERNMENT EXPENDITURES 37

GAUGING THE SIZE OF THE PUBLIC SECTOR 39

GROWTH IN EXPENDITURES AND THEIR CHANGING COMPOSITION 39 / COMPARISON OF EXPENDITURES ACROSS COUNTRIES 42

GOVERNMENT REVENUES 43

TAXES AND THE CONSTITUTION 43 / FEDERAL TAXATION TODAY 44 / STATE AND LOCAL GOVERNMENT REVENUES 46 / COMPARISON OF TAXATION ACROSS COUNTRIES 47

DEFICIT FINANCING 47

PLAYING TRICKS WITH THE DATA ON GOVERNMENT ACTIVITIES 47

REVIEW AND PRACTICE 50

SUMMARY 50 / KEY CONCEPTS 51 / QUESTIONS AND PROBLEMS 52



FUNDAMENTALS OF WELFARE ECONOMICS 53

1 MARKET EFFICIENCY 55

THE INVISIBLE HAND OF COMPETITIVE MARKETS 55

WELFARE ECONOMICS AND PARETO EFFICIENCY 57

ON THE PROWL FOR PARETO IMPROVEMENTS 58 / PARETO EFFICIENCY AND INDIVIDUALISM 59 / THE FUNDAMENTAL THEOREMS OF WELFARE ECONOMICS 60 / EFFICIENCY FROM THE PERSPECTIVE OF A SINGLE MARKET 61

ANALYZING ECONOMIC EFFICIENCY 63

THE UTILITY POSSIBILITIES CURVE 63 / EXCHANGE EFFICIENCY 64 / PRODUCTION EFFICIENCY 68 / PRODUCT MIX EFFICIENCY 72

REVIEW AND PRACTICE 73

SUMMARY 73 / KEY CONCEPTS 74 / QUESTIONS AND PROBLEMS 74

4 MARKET FAILURE 76

PROPERTY RIGHTS AND CONTRACT ENFORCEMENT 77

MARKET FAILURES AND THE ROLE OF GOVERNMENT 77

1 FAILURE OF COMPETITION 77/2 PUBLIC GOODS 79/3 EXTERNALITIES 80/4 INCOMPLETE MARKETS 81/5 INFORMATION FAILURES 83/6 UNEMPLOYMENT, INFLATION, AND DISEQUILIBRIUM 85 / INTERRELATIONSHIPS OF MARKET FAILURES 85

REDISTRIBUTION AND MERIT GOODS 85

MARKET FAILURES: EXPLANATIONS OR EXCUSES? 86

TWO PERSPECTIVES ON THE ROLE OF GOVERNMENT 88

NORMATIVE ANALYSIS 89 / POSITIVE ANALYSIS 90

REVIEW AND PRACTICE 90

SUMMARY 90 / KEY CONCEPTS 91 / QUESTIONS AND PROBLEMS 91

5 EFFICIENCY AND EQUITY 93

EFFICIENCY AND DISTRIBUTION TRADE-OFFS 94

ANALYZING SOCIAL CHOICES 94

DETERMINING THE TRADE-OFFS 96 / EVALUATING THE TRADE-OFFS 98 / TWO CAVEATS 102

SOCIAL CHOICES IN PRACTICE 104

MEASURING BENEFITS 105 / ORDINARY AND COMPENSATED DEMAND CURVES 107 / CONSUMER SURPLUS 109/MEASURING AGGREGATE SOCIAL BENEFITS 111 / MEASURING INEFFICIENCY 111/
QUANTIFYING DISTRIBUTIONAL EFFECTS 113 / *DRAWING A POVERTY LINE* 114

THREE APPROACHES TO SOCIAL CHOICES 114

THE COMPENSATION PRINCIPLE 114/ TRADE-OFFS ACROSS MEASURES 115/ WEIGHTED NET BENEFITS 116

REVIEW AND PRACTICE 117

SUMMARY 117/KEY CONCEPTS 118 / QUESTIONS AND PROBLEMS 118

APPENDIX: ALTERNATIVE MEASURES OF INEQUALITY 120

THE LORENZ CURVE 120

THE DALTON-ATKINSON MEASURE 122

PART THEMIE

PUBLIC EXPENDITURE THEORY 125

6 PUBLIC GOODS AND PUBLICLY PROVIDED PRIVATE GOODS 127

PUBLIC GOODS 128

PUBLIC GOODS AND MARKET FAILURES 129 / PAYING FOR PUBLIC GOODS 129 / THE FREE RIDER PROBLEM 130 / *ECONOMISTS AND THE FREE RIDER PROBLEM* 132 / PURE AND IMPURE PUBLIC GOODS 132 / *PROPERTY RIGHTS, EXCLUDABILITY, AND EXTERNALITIES* 134

PUBLICLY PROVIDED PRIVATE GOODS 136

RATIONING DEVICES FOR PUBLICLY PROVIDED PRIVATE GOODS 137

EFFICIENCY CONDITIONS FOR PUBLIC GOODS 141

DEMAND CURVES FOR PUBLIC GOODS 142 / PARETO EFFICIENCY AND INCOME DISTRIBUTION 147 / LIMITATIONS ON INCOME REDISTRIBUTION AND "THE EFFICIENT SUPPLY OF PUBLIC GOODS

148 / DISTORTIONARY TAXATION AND THE EFFICIENT SUPPLY OF PUBLIC GOODS 148

EFFICIENT GOVERNMENT AS A PUBLIC GOOD 149

REVIEW AND PRACTICE 150

SUMMARY 150/KEY CONCEPTS 151 / QUESTIONS AND PROBLEMS 151

APPENDIX A: THE LEFTOVER CURVE 152

APPENDIX B: MEASURING THE WELFARE COST OF USER FEES 154

7 PUBLIC CHOICE 156

PUBLIC MECHANISMS FOR ALLOCATING RESOURCES 157

THE PROBLEM OF PREFERENCE REVELATION 157 / INDIVIDUAL PREFERENCES FOR PUBLIC GOODS 158/THE PROBLEM OF AGGREGATING PREFERENCES 162 / MAJORITY VOTING AND THE VOTING PARADOX 163/ARROW'S IMPOSSIBILITY THEOREM 164 / SINGLE-PEAKED PREFERENCES AND THE EXISTENCE OF A MAJORITY VOTING EQUILIBRIUM 166 /THE MEDIAN VOTER 168/THE INEFFICIENCY OF THE MAJORITY VOTING EQUILIBRIUM 169/THE TWO-PARTY SYSTEM AND THE MEDIAN VOTER 171 /*SOCIAL CHOICE THEORY* 172

ALTERNATIVES FOR DETERMINING PUBLIC GOODS EXPENDITURES 174

LINDAHL EQUILIBRIUM 174

POLITICS AND ECONOMICS 177

WHY DO INDIVIDUALS VOTE? 177 / ELECTIONS AND SPECIAL INTEREST GROUPS 178 / THE POWER OF SPECIAL INTEREST GROUPS 179 / THE ALTRUISTIC POLITICIAN? *MS / CAMPAIGN REFORM* 180 / THE PERSISTENCE OF INEFFICIENT EQUILIBRIUM 181

REVIEW AND PRACTICE 182

SUMMARY 182 / KEY CONCEPTS 183 / QUESTIONS AND PROBLEMS 183

APPENDIX: NEW PREFERENCE-REVELATION MECHANISMS 185

8 PUBLIC PRODUCTION AND BUREAUCRACY 189

NATURAL MONOPOLY: PUBLIC PRODUCTION OF PRIVATE GOODS 190

THE BASIC ECONOMICS OF NATURAL MONOPOLY 191 / REGULATION AND TAXATION (SUBSIDIES) 195 / NO GOVERNMENT INTERVENTION 196 / *NATIONAL PERFORMANCE REVIEW* 198

COMPARISON OF EFFICIENCY IN THE PUBLIC AND PRIVATE SECTORS 198

SOURCES OF INEFFICIENCY IN THE PUBLIC SECTOR 200

ORGANIZATIONAL DIFFERENCES 200 / INDIVIDUAL DIFFERENCES 202 / BUREAUCRATIC PROCEDURES AND RISK AVERSION 204

CORPORATIZATION 206

PRIVATIZING PRISONS 208

A GROWING CONSENSUS ON GOVERNMENT'S ROLE IN PRODUCTION 208

REVIEW AND PRACTICE 210

SUMMARY 210 / KEY CONCEPTS 211 / QUESTIONS AND PROBLEMS 211

9 EXTERNALITIES AND THE ENVIRONMENT 214

THE PROBLEM OF EXTERNALITIES 215

PRIVATE SOLUTIONS TO EXTERNALITIES 217

INTERNALIZING EXTERNALITIES 218 / THE COASE THEOREM 218 / USING THE LEGAL SYSTEM 219 / *THE EXXON VALDEZ OIL SPILL* 220 / FAILURES OF PRIVATE SOLUTIONS 221

PUBLIC SECTOR SOLUTIONS TO EXTERNALITIES 223

MARKET-BASED SOLUTIONS 224 / *DOUBLE DIVIDEND* 226 / REGULATION 230 / INNOVATION 231 / INFORMATION DISCLOSURE 232 / COMPENSATION AND DISTRIBUTION 233

PROTECTING THE ENVIRONMENT: THE ROLE OF GOVERNMENT IN PRACTICE 234

AIR 234 / WATER 237 / TOXIC WASTE 238 / ENDANGERED SPECIES 239

REVIEW AND PRACTICE 240

SUMMARY 240 / KEY CONCEPTS 241 / QUESTIONS AND PROBLEMS 241

PART FOUR

EXPENDITURE PROGRAMS 245

10 THE ANALYSIS OF EXPENDITURE POLICY 247

NEED FOR PROGRAM 248

MARKET FAILURES 249

HIGHER EDUCATION IN THE UNITED STATES 250

ALTERNATIVE FORMS OF GOVERNMENT INTERVENTION 250
THE IMPORTANCE OF PARTICULAR DESIGN FEATURES 252
PRIVATE SECTOR RESPONSES TO GOVERNMENT PROGRAMS 253
EFFICIENCY CONSEQUENCES 254
 INCOME AND SUBSTITUTION EFFECTS AND INDUCED INEFFICIENCY 254
DISTRIBUTIONAL CONSEQUENCES 258
 INCIDENCE OF EDUCATION TAX CREDITS 260 / EVALUATING THE DISTRIBUTIONAL
 CONSEQUENCES 261 / FAIRNESS AND DISTRIBUTION 263
EQUITY-EFFICIENCY TRADE-OFFS 264
PUBLIC POLICY OBJECTIVES 266
POLITICAL PROCESS 267
REVIEW AND PRACTICE 268
 SUMMARY 268 / KEY CONCEPTS 269 / QUESTIONS AND PROBLEMS 269

11 COST-BENEFIT ANALYSIS 271

PRIVATE COST-BENEFIT ANALYSIS 272
 PRESENT DISCOUNTED VALUE 273
SOCIAL COST-BENEFIT ANALYSIS 274
CONSUMER SURPLUS AND THE DECISION TO UNDERTAKE A PROJECT 275
MEASURING NON-MONETIZED COSTS AND BENEFITS 278
 VALUING TIME 279 / VALUING LIFE 279 / *CHILDREN, CAR SAFETY, AND THE VALUE
 OF LIFE* 280 / VALUING NATURAL RESOURCES 282
SHADOW PRICES AND MARKET PRICES 283
DISCOUNT RATE FOR SOCIAL COST-BENEFIT ANALYSIS 284
 CLIMATE CHANGE AND DISCOUNT RATES 286
THE EVALUATION OF RISK 289
 RISK ASSESSMENT 291
DISTRIBUTIONAL CONSIDERATIONS 292
COST EFFECTIVENESS 293
REVIEW AND PRACTICE 297
 SUMMARY 297 / KEY CONCEPTS 297 / QUESTIONS AND PROBLEMS 298

12 HEALTH CARE 300

THE HEALTH CARE SYSTEM IN THE UNITED STATES 304
 THE PRIVATE SECTOR 306 / THE ROLE OF GOVERNMENT 306 / OTHER EXPENDITURE
 PROGRAMS 307 / TAX EXPENDITURES 307
RATIONALE FOR A ROLE OF GOVERNMENT IN THE HEALTH CARE SECTOR 308
 IMPERFECT INFORMATION 309 / LIMITED COMPETITION 309 / ABSENCE OF PROFIT MOTIVE
 310 / SPECIAL CHARACTERISTICS OF THE U.S. MARKET 311 / *MALPRACTICE SUITS* 312 / THE
 ROLE OF THE HEALTH INSURANCE INDUSTRY 313 / CONSEQUENCES OF INEFFICIENCIES IN
 HEALTH CARE MARKETS 319 / POVERTY, INCOMPLETE COVERAGE, AND THE ROLE OF
 GOVERNMENT 321

REFORMING HEALTH CARE 322

COST CONTAINMENT 322 / EXTENDING INSURANCE COVERAGE 323 / MEDICARE REFORM:
EASING LONG-TERM FISCAL STRAINS 325 / REFORMING MEDICAID 327

REVIEW AND PRACTICE 328

SUMMARY 328 / KEY CONCEPTS 329 / QUESTIONS AND PROBLEMS 329

13 DEFENSE AND TECHNOLOGY 331

DEFENSE EXPENDITURES 333

THE VALUE OF MARGINAL ANALYSIS 333 / *GAME THEORY, THE ARMS RACE, AND THE THEORY
OF DETERRENCE* 334 / DEFENSE STRATEGY 335

INCREASING THE EFFICIENCY OF THE DEFENSE DEPARTMENT 338

DEFENSE PROCUREMENT 338

DEFENSE CONVERSION 341

TECHNOLOGY 342

MARKET FAILURES 344 / *THE SCOPE OF THE PATENT: CAN THE HUMAN BODY BE
PATENTED?* 346 / GOVERNMENT DIRECT SUPPORT 348

REVIEW AND PRACTICE 350

SUMMARY 350 / KEY CONCEPTS 351 / QUESTIONS AND PROBLEMS 351

14 SOCIAL INSURANCE 353

THE SOCIAL SECURITY SYSTEM 356

SOCIAL SECURITY, PRIVATE INSURANCE, AND MARKET FAILURES 358

HIGH TRANSACTIONS COSTS 359 / LACK OF INDEXING: THE INABILITY OF PRIVATE MARKETS TO
INSURE SOCIAL RISKS 359 / ADVERSE SELECTION, DIFFERENTIAL RISKS, AND THE COST OF
INSURANCE 360 / MORAL HAZARD AND SOCIAL SECURITY 361 / RETIREMENT INSURANCE AS A
MERIT GOOD 362

SHOULD SOCIAL SECURITY BE REFORMED? 363

THE NATURE OF THE FISCAL CRISIS 364 / SAVINGS 369 / LABOR SUPPLY 370 / THE RATE OF
RETURN 372 / INEQUITIES 373

REFORMING SOCIAL SECURITY 374

REDUCING EXPENDITURES 374 / INCREASING REVENUES 375 / STRUCTURAL REFORMS 376 /
SOCIAL SECURITY ABROAD 378

REVIEW AND PRACTICE 381

SUMMARY 381 / KEY CONCEPTS 381 / QUESTIONS AND PROBLEMS 382

**15 WELFARE PROGRAMS AND THE REDISTRIBUTION
OF INCOME 385**

A BRIEF DESCRIPTION OF MAJOR U.S. WELFARE PROGRAMS 386

AFDC AND TANF 387 / THE EARNED INCOME TAX CREDIT 388 / FOOD STAMPS 388 /
MEDICAID 389 / HOUSING 390 / OTHER PROGRAMS 390

RATIONALE FOR GOVERNMENT WELFARE PROGRAMS 391

DIMENSIONS OF THE PROBLEM 392

ANALYTIC ISSUES 393

LABOR SUPPLY 393 / CASH VERSUS IN-KIND REDISTRIBUTION 397 / INEFFICIENCIES FROM IN-KIND BENEFITS 398 / ARE IN-KIND BENEFITS PATERNALISTIC? 401 / CATEGORICAL VERSUS BROAD-BASED AID 403 / IS MEANS TESTING OBJECTIONABLE IN ITS OWN RIGHT? 404 / OTHER DISTORTIONS 405

WELFARE REFORM: INTEGRATION OF PROGRAMS 406

THE WELFARE REFORM BILL OF 1996 408

BLOCK GRANTING 408 / ANALYTICS OF STATE RESPONSES TO BLOCK GRANTS 409 / TIME LIMITS 411 / MANDATORY WORK 411 / THE WELFARE REFORM DEBATE OF 1996 411

CONCLUDING REMARKS 413

EMPOWERMENT ZONES 414

REVIEW AND PRACTICE 414

SUMMARY 414 / KEY CONCEPTS 417 / QUESTIONS AND PROBLEMS 417

16 EDUCATION 420

THE STRUCTURE OF EDUCATION IN THE UNITED STATES 423

FEDERAL TAX SUBSIDIES TO PRIVATE AND PUBLIC SCHOOLS 425

WHY IS EDUCATION PUBLICLY PROVIDED AND PUBLICLY FINANCED? 426

IS THERE A MARKET FAILURE? 426 / THE FEDERAL ROLE 428

ISSUES AND CONTROVERSIES IN EDUCATIONAL POLICY 428

EDUCATION OUTCOMES 428 / DO EXPENDITURES MATTER? 430 / SCHOOL VOUCHERS: CHOICE AND COMPETITION 432 / *VOUCHERS: THE SAN JOSE AND MILWAUKEE EXPERIMENTS* 436 / SCHOOL DECENTRALIZATION 437 / PERFORMANCE STANDARDS AND GOALS 2000 438 / INEQUALITY 439

AID TO HIGHER EDUCATION 441

REVIEW AND PRACTICE 442

SUMMARY 442 / KEY CONCEPTS 444 / QUESTIONS AND PROBLEMS 444

APPENDIX: HOW SHOULD PUBLIC EDUCATIONAL FUNDS BE ALLOCATED? 446

TAXATION: THEORY 449

17 INTRODUCTION TO TAXATION 451

BACKGROUND 452

THE FORMS OF TAXATION 453 / CHANGING PATTERNS OF TAXATION IN THE UNITED STATES 455 / COMPARISONS WITH OTHER COUNTRIES 456

THE FIVE DESIRABLE CHARACTERISTICS OF ANY TAX SYSTEM 456

ECONOMIC EFFICIENCY 458 / *CORRECTIVE TAXES AND THE DOUBLE DIVIDEND* 464 / ADMINISTRATIVE COSTS 464 / FLEXIBILITY 466 / POLITICAL RESPONSIBILITY 467 / FAIRNESS 468

GENERAL FRAMEWORK FOR CHOOSING AMONG TAX SYSTEMS 476

UTILITARIANISM 476 / RAWLSIAN SOCIAL WELFARE FUNCTION 478 / LIMITATIONS OF THE SOCIAL WELFARE FUNCTION APPROACH 478 / WHAT ECONOMISTS CAN CONTRIBUTE TO DISCUSSIONS OF FAIRNESS 479

REVIEW AND PRACTICE 479

SUMMARY 479 / KEY CONCEPTS 480 / QUESTIONS AND PROBLEMS 480

18 TAX INCIDENCE 482

TAX INCIDENCE IN COMPETITIVE MARKETS 484

EFFECT OF TAX AT THE LEVEL OF A FIRM 484 / IMPACT ON MARKET EQUILIBRIUM 486 / DOES IT MATTER WHETHER THE TAX IS LEVIED ON CONSUMERS OR ON PRODUCERS? 487 / *THE INCIDENCE OF GOVERNMENT BENEFITS* 488 / AD VALOREM VERSUS SPECIFIC TAXES 488 / THE EFFECT OF ELASTICITY 491 / TAXATION OF FACTORS 493 / *THE PHILADELPHIA WAGE TAX* 496

TAX INCIDENCE OF ENVIRONMENTS WITHOUT PERFECT COMPETITION 498

RELATIONSHIP BETWEEN THE CHANGE IN THE PRICE AND THE TAX 498 / AD VALOREM VERSUS SPECIFIC TAXES 501 / TAX INCIDENCE IN OLIGOPOLIES 501

EQUIVALENT TAXES 502

INCOME TAX AND VALUE-ADDED TAX 502 / EQUIVALENCE OF CONSUMPTION AND WAGE TAXES 503 / EQUIVALENCE OF LIFETIME CONSUMPTION AND LIFETIME INCOME TAXES 504 / A CAVEAT ON EQUIVALENCE 505

OTHER FACTORS AFFECTING TAX INCIDENCE 505

TAX INCIDENCE UNDER PARTIAL AND GENERAL EQUILIBRIUM 506 / SHORT-RUN VERSUS LONG-RUN EFFECTS 508 / OPEN VERSUS CLOSED ECONOMY 508 / ASSOCIATED POLICY CHANGES 508

INCIDENCE OF TAXES IN THE UNITED STATES 510

REVIEW AND PRACTICE 514

SUMMARY 514 / KEY CONCEPTS 514 / QUESTIONS AND PROBLEMS 515

APPENDIX: COMPARISON OF THE EFFECTS OF AN AD VALOREM AND SPECIFIC COMMODITY TAX ON A MONOPOLIST 515

19 TAXATION AND ECONOMIC EFFICIENCY 518

EFFECT OF TAXES BORNE BY CONSUMERS 519

SUBSTITUTION AND INCOME EFFECTS 520

QUANTIFYING THE DISTORTIONS 521

MEASURING DEADWEIGHT LOSS USING INDIFFERENCE CURVES 522 / MEASURING DEADWEIGHT LOSS USING COMPENSATED DEMAND CURVES 524 / CALCULATING THE DEADWEIGHT LOSS 527

EFFECTS OF TAXES BORNE BY PRODUCERS 529

EFFECTS OF TAXES BORNE PARTLY BY CONSUMERS, PARTLY BY PRODUCERS 531

TAXATION OF SAVINGS 532

QUANTIFYING THE EFFECTS OF AN INTEREST INCOME TAX 534

TAXATION OF LABOR INCOME 535

EFFECTS OF PROGRESSIVE TAXATION 537 / *THE 1993 TAX REFORM* 540 / SECONDARY LABOR FORCE PARTICIPANTS 540

MEASURING THE EFFECTS OF TAXES ON LABOR SUPPLIED 541

STATISTICAL TECHNIQUES USING MARKET DATA 542 / EXPERIMENTS 544

REVIEW AND PRACTICE 547

SUMMARY 547 / KEY CONCEPTS 548 / QUESTIONS AND PROBLEMS 548

2[®] OPTIMAL TAXATION 550

TWO FALLACIES OF OPTIMAL TAXATION 551

THE FALLACY OF COUNTING DISTORTIONS 551 / MISINTERPRETATIONS OF THE THEORY OF THE SECOND BEST 551

OPTIMAL AND PARETO EFFICIENT TAXATION 552

LUMP-SUM TAXES 552 / WHY IMPOSE DISTORTIONARY TAXES? 553 / DESIGNING AN INCOME TAX SYSTEM 553 / WHY DOES MORE PROGRESSIVITY IMPLY MORE DEADWEIGHT LOSS? 554 / A DIAGRAMMATIC ANALYSIS OF THE DEADWEIGHT LOSS OF PROGRESSIVE TAXATION 556 / CHOOSING AMONG FLAT-RATE TAX SCHEDULES 557 / *THE 1993 TAX INCREASE ON UPPER-INCOME INDIVIDUALS: A PARETO INEFFICIENT TAX?* 558 / GENERAL EQUILIBRIUM EFFECTS 558 / *FLAT-RATE TAXES ARRIVE ON THE POLITICAL SCENE* 560 / NONLINEAR TAX STRUCTURES 560

DIFFERENTIAL TAXATION 562

RAMSEY TAXES 563 / DIFFERENTIAL COMMODITY TAXES IN ADVANCED COUNTRIES WITH PROGRESSIVE INCOME TAXES 567 / INTEREST INCOME TAXATION AND COMMODITY TAXATION 567

TAXES ON PRODUCERS 567

THE DEPENDENCE OF OPTIMAL TAX STRUCTURE ON THE SET OF AVAILABLE TAXES 570

REVIEW AND PRACTICE 571

SUMMARY 571 / KEY CONCEPTS 571 / QUESTIONS AND PROBLEMS 572

APPENDIX A: DERIVING RAMSEY TAXES ON COMMODITIES 572

APPENDIX B: DERIVATION OF RAMSEY FORMULA FOR LINEAR DEMAND SCHEDULE 574

21 TAXATION OF CAPITAL 577

SHOULD CAPITAL BE TAXED? 579

RELATIONSHIP BETWEEN CONSUMPTION TAXES, A WAGE TAX, AND EXEMPTING CAPITAL INCOME FROM TAXATION 579 / EQUITY ISSUES 579 / EFFICIENCY ARGUMENTS 580 / ADMINISTRATIVE PROBLEMS 581

EFFECTS ON SAVINGS AND INVESTMENT 582

EFFECTS OF REDUCED SAVINGS IN A CLOSED ECONOMY 582 / THE DISTINCTION BETWEEN SAVINGS AND INVESTMENT 583 / NATIONAL SAVINGS AND BUDGET NEUTRALITY 584 / EFFECTS OF REDUCED SAVINGS IN AN OPEN ECONOMY 587

IMPACT ON RISK TAKING 588

WHY CAPITAL TAXATION WITH FULLLOSS DEDUCTIBILITY MAY INCREASE RISK TAKING 589 / *RISK TAKING AND THE 1993 TAX ACT* 590 / WHY CAPITAL TAXATION MAY REDUCE RISK TAKING 590

MEASURING CHANGES IN ASSET VALUES 592

CAPITAL GAINS 593 / *EQUITY AND THE 1997 REDUCTION IN CAPITAL GAINS TAXES* 594 / *DISTORTIONS FROM DEPRECIATION* 596 / DEPRECIATION 596 / NEUTRAL TAXATION 597 / INFLATION 597

REVIEW AND PRACTICE 601

SUMMARY 601 / KEY CONCEPTS 602 / QUESTIONS AND PROBLEMS 603

2 THE PERSONAL INCOME TAX 607

OUTLINE OF THE U.S. INCOME TAX 608

EFFECTIVE VERSUS ACTUAL TAX RATES 611 / OTHER TAXES 612/4 LOOPHOLE IN THE EARNED INCOME TAX CREDIT? 614

PRINCIPLES BEHIND THE U.S. INCOME TAX 616

THE INCOME-BASED PRINCIPLE AND THE HAIG-SIMONS DEFINITION 616 / THE PROGRESSIVE PRINCIPLE 617 / THE FAMILY-BASED PRINCIPLE 618 / THE ANNUAL MEASURE OF INCOME PRINCIPLE 621

PRACTICAL PROBLEMS IN IMPLEMENTING AN INCOME TAX SYSTEM 622

DETERMINING INCOME 622 / TIMING 627 / PERSONAL DEDUCTIONS 627 / DEDUCTIONS VERSUS CREDITS 634

SPECIAL TREATMENT OF CAPITAL INCOME 635

HOUSING 635 / SAVINGS FOR RETIREMENT 636 / INTEREST ON STATE AND MUNICIPAL BONDS 639 / CAPITAL GAINS 640

CONCLUDING COMMENTS 641

REVIEW AND PRACTICE 642

SUMMARY 642 / KEY CONCEPTS 643 / QUESTIONS AND PROBLEMS 643

23 THE CORPORATION INCOME TAX 645

THE BASIC FEATURES OF THE CORPORATION INCOME TAX 647

THE INCIDENCE OF THE CORPORATION INCOME TAX AND ITS EFFECT ON EFFICIENCY 648

THE CORPORATION INCOME TAX AS A TAX ON INCOME FROM CAPITAL IN THE CORPORATE SECTOR 648 / SHIFTING OF THE CORPORATE TAX IN THE LONG RUN 649 / THE CORPORATION TAX FOR A FIRM WITHOUT BORROWING CONSTRAINTS 652 / THE INCIDENCE OF THE CORPORATION INCOME TAX WITH CREDIT-CONSTRAINED FIRMS 653 / THE CORPORATION TAX AS A TAX ON MONOPOLY PROFITS 654 / MANAGERIAL FIRMS: AN ALTERNATIVE PERSPECTIVE 655

DEPRECIATION 659

COMBINED EFFECTS OF INDIVIDUAL AND CORPORATE INCOME TAX 661

DISTRIBUTING FUNDS: THE BASIC PRINCIPLES 661 / THE DIVIDEND PARADOX 663 / MERGERS, ACQUISITIONS, AND SHARE REPURCHASES 664 / DOES THE CORPORATE TAX BIAS FIRMS TOWARD DEBT FINANCE? 665 / DISTORTIONS IN ORGANIZATIONAL FORM ARISING BECAUSE SOME FIRMS DO NOT HAVE TAXABLE INCOME 666 / ARE CORPORATIONS TAX PREFERRED? 667 / CALCULATING EFFECTIVE TAX RATES 668 / *THE PROPOSED MARGINAL INVESTMENT TAX CREDIT OF 1993: AN IDEA BEFORE ITS TIME?* 670

THE CORPORATION TAX AS ECONOMIC POLICY 670

TAXATION OF MULTATIONALS 672

SHOULD THERE BE A CORPORATION INCOME TAX? 673

INTEGRATION OF THE CORPORATE AND INDIVIDUAL INCOME TAX 673 ■ WHY IS THERE A CORPORATE INCOME TAX AT ALL? 674

REVIEW AND PRACTICE 674

SUMMARY 674 / KEY CONCEPTS 675 / QUESTIONS AND PROBLEMS 676

24 A STUDENT'S GUIDE TO TAX AVOIDANCE 678

PRINCIPLES OF TAX AVOIDANCE 679

POSTPONEMENT OF TAXES 679 / SHIFTING AND TAX ARBITRAGE 680 / *SHORTING AGAINST THE BOX* 682

TAX SHELTERS 684

WHO GAINS FROM TAX SHELTERS 684 / *THE ECONOMICS OF TAX AVOIDANCE* 686 / MIDDLE-CLASS TAX SHELTERS 687

TAX REFORM AND TAX AVOIDANCE 687

THE 1986 TAX REFORM 688 / MINIMUM TAX ON INDIVIDUALS 689 / THE 1993 AND 1997 TAX ACTS 689

EQUITY, EFFICIENCY, AND TAX REFORM 690

REVIEW AND PRACTICE 690

SUMMARY 690 / KEY CONCEPTS 691 / QUESTIONS AND PROBLEMS 691

IS REFORM OF THE TAX SYSTEM 693

FAIRNESS 695

HORIZONTAL EQUITY ISSUES 695 / VERTICAL EQUITY 696

EFFICIENCY 698

MARGINAL TAX RATES AND THE 1986 TAX REFORM 700 / BASE BROADENING 702

SIMPLIFYING THE TAX CODE AND REDUCING ADMINISTRATIVE COSTS 704

ASSESSING COMPLEXITY 704 / INCREASING COMPLIANCE 705 / REDUCING TAX AVOIDANCE 707 / REDUCING ADMINISTRATIVE COSTS 708 / SOURCES OF COMPLEXITY 708 / THE 1986 TAX REFORM 709 / *GRADING THE 1986 TAX REFORM ACT* 710

TRANSITION ISSUES AND THE POLITICS OF TAX REFORM 711

TAX REFORMS FOR THE TWENTY-FIRST CENTURY 714

REFORMS WITHIN THE CURRENT FRAMEWORK 714 / MAJOR NEW REFORMS 715 / *ORDINARY INCOME VERSUS CAPITAL GAINS* 718 / ENERGY AND ENVIRONMENTAL TAXES 718 / *IRAS AND NATIONAL SAVINGS* 720

REVIEW AND PRACTICE 722

SUMMARY 722 / KEY CONCEPTS 723 / QUESTIONS AND PROBLEMS 723

PART SEVEN

FURTHER ISSUES 725

^ 26 FISCAL FEDERALISM 727

THE DIVISION OF RESPONSIBILITIES 728

OTHER INTERACTION BETWEEN THE FEDERAL GOVERNMENT AND THE STATE AND LOCAL GOVERNMENTS 730 / THE SIZE OF FINANCIAL TRANSFERS 731 / *UNFUNDED MANDATES* 732

PRINCIPLES OF FISCAL FEDERALISM 732

NATIONAL PUBLIC GOODS VERSUS LOCAL PUBLIC GOODS 733 / *INTERNATIONAL PUBLIC GOODS* 734 / DO LOCAL COMMUNITIES PROVIDE LOCAL PUBLIC GOODS EFFICIENTLY? 734 / TIEBOUT HYPOTHESIS 735 / MARKET FAILURES 737 / REDISTRIBUTION 739 / OTHER ARGUMENTS FOR LOCAL PROVISION 742

PRODUCTION VERSUS FINANCE 742

EFFECTIVENESS OF FEDERAL CATEGORICAL AID TO LOCAL COMMUNITIES 743 / THE FEDERAL TAX SYSTEM AND LOCAL EXPENDITURES 748

REVIEW AND PRACTICE 750

SUMMARY 750 / KEY CONCEPTS 751 / QUESTIONS AND PROBLEMS 751

11 STATE AND LOCAL TAXES AND EXPENDITURES 754

TAX INCIDENCE APPLIED TO LOCAL PUBLIC FINANCE 755

LOCAL CAPITAL TAXES 755 / THE PROPERTY TAX 756 / INCOME, WAGE, AND SALES TAXES 756 / DISTORTIONS 757 / LIMITATIONS ON THE ABILITY TO REDISTRIBUTE INCOME 757 / RENT CONTROL 758

CAPITALIZATION 758

INCENTIVES FOR PENSION SCHEMES 760 / CHOICE OF DEBT VERSUS TAX FINANCING 760 / SHORT-RUN VERSUS LONG-RUN CAPITALIZATION 761 / WHO BENEFITS FROM LOCAL PUBLIC GOODS? THE CAPITALIZATION HYPOTHESIS 761 / ABSOLUTE VERSUS RELATIVE CAPITALIZATION 762 / THE USE OF CHANGES IN LAND RENTS TO MEASURE BENEFITS 762 / TESTING THE CAPITALIZATION HYPOTHESIS 763

PUBLIC CHOICE AT THE LOCAL LEVEL 764

PROPOSITION 13 766

PROBLEMS OF MULTI-JURISDICTIONAL TAXATION 768

REVIEW AND PRACTICE 769

SUMMARY 769 / KEY CONCEPTS 770 / QUESTIONS AND PROBLEMS 770

28 DEFICIT FINANCE 772

THE U.S. DEFICIT PROBLEM SINCE THE 1980s 773

SOURCES OF THE DEFICIT PROBLEM 775 / *MEASURING BUDGET DEFICITS: WHAT'S LARGE, WHAT'S REAL, AND WHAT'S RIGHT?* 776 / FACTORS NOT CONTRIBUTING TO THE DEFICIT PROBLEM 777 / TAMING THE DEFICIT 778

CONSEQUENCES OF GOVERNMENT DEFICITS 782

HOW DEFICITS AFFECT FUTURE GENERATIONS 783 / ALTERNATIVE PERSPECTIVES ON THE BURDEN OF THE DEBT 784 / *SCORING THE CLINTON DEFICIT REDUCTION PACKAGE* 786

IMPROVING THE BUDGETARY PROCESS 787

BUDGET ENFORCEMENT ACT AND SCORING 787 / CAPITAL BUDGETS 788 / OTHER STRATEGIES 788

THE LONG-TERM PROBLEM: ENTITLEMENTS AND THE AGED 789

REVIEW AND PRACTICE 789

SUMMARY 789 / KEY CONCEPTS 790 / QUESTIONS AND PROBLEMS 790