Contents

List of Figures ..... **xi**

List of Tables ..... **xv**

1 Four Topics of Consuming Interest **1**
1.1 Interests and Developments in Agriculture, Trade, Population, and the Behavior of Aggregate Economies 1
1.2 How Economists Study Problems 2
1.3 Rationality, Preferences, Markets, Capitalism, and Modern Economic Theory 4

2 The Economics of Agriculture **7**
2.1 Introduction 7
2.1.1 Why a Chapter on Agriculture? 7
2.1.2 Markets and "Markets" 7
2.1.3 Guide to the Chapter 8
2.2 The Farm Household Model 9
2.2.1 Overview of the Farm Household Model 10
2.2.2 Causes of Non-Separable Production and Consumption Decisions 11
2.2.3 Consequences of Non-Separable Production and Consumption Decisions 15
2.3 Agricultural Production and Supply 17
2.3.1 Characterizing Agricultural Production 17
2.3.2 Agricultural Supply 18
2.3.3 Production when Output is Both a Consumption Good and a Capital Good 28
2.4 Farm Operation 35
2.4.1 What Kind of Area Are We Talking About? 36
2.4.2 Contract Choice: Who Decides What, Who Does What, and Who Gets What? 37
2.4.3 The Theory of Share Tenancy 39
2.4.4 Interlinked Transactions in Agrarian Economies: Land, Insurance, Labor, Credit 46
2.5 Agricultural Commodity Storage 50
2.6 The Theory of Famines 54
2.7 Open Access and Common Property Resources 55
2.8 Cases from Antiquity: Farming - Between the Plow and the Agreements 57
2.9 Using this Chapter's Information: Archaeological Applications 59
2.9.1 Animal Bones 59
2.9.2 Agricultural Implements 59
2.9.3 Agricultural Plant Remains 60
2.9.4 Storage 60
2.9.5 Ancient Fields and Carrying Capacities 61
2.9.6 Other Applications 61

3 The Economics of International Trade **67**
3.1 Problems and Models in International Trade 67
3.2 Gains from Trade 68
3.3 Theories of Trade 1. Differential Technology: The Ricardian Model 69
3.3.1 Production in the Ricardian Model 69
3.3.2 The Comparative Advantage Concept 70
3.3.3 Patterns of Trade 70
3.3.4 Effect of Trade on Factor Prices 73
3.3.5 Theories of Trade 2. The Specific Factors Model 73
3.3.6 Dutch Disease 74
3.4 Theories of Trade 3. Factor Endowments: The Heckscher-Ohlin Model 74
3.4.1 The 2-Good, 2-Factor Model 75
3.4.2 Causes of Comparative Advantage 77
3.4.3 Factor Price Equalization 79
3.4.4 Effects of Factor Endowments on Production 80
3.4.5 Effects of Commodity Prices on Factor Prices 81
3.4.6 Many Goods and Factors 81
3.4.7 Nontraded and Intermediate Goods 83

3.4.8 Natural Resources 87
3.4.9 Transportation Costs 89
3.5 Theories of Trade 4. Intra-industry Trade in Differentiated Goods 91
3.6 Commercial Policy 93
3.6.1 Tariffs, Trade Subsidies, and Quotas 93
3.6.2 Effective Protection 102
3.6.3 Customs Unions 104
3.7 The Multinational Enterprise and Foreign Investment 105
3.7.1 The Perspective of the Individual Firm 106
3.7.2 Multinationals from the Perspective of an Entire Economy 107
3.7.3 Foreign Investment and International Capital Flows 108
3.7.4 The "Transfer Problem" 108
3.8 Exchange Rates and the Balance of Payments 110
3.8.1 Exchange Rates and Exchange Rate Regimes 110
3.8.2 The Balance of Payments Accounts 111
3.8.3 Trade and the Balance of Payments 112
3.8.4 Purchasing Power Parity 113
3.8.5 Exchange Rates, the Balance of Payments, and the International Distribution of Gold Money 113
3.9 Cases from Antiquity: Addressing Ancient Trade with International Trade Models 115
3.10 Suggestions for Using the Material of this Chapter 117

4 The Economics of Population 123
4.1 Introduction 123
4.1.1 Background 123
4.1.2 Rationale for The Chapter 123
4.1.3 Guide to the Chapter 124
4.2 Some Demographic Concepts 124
4.2.1 Some Common Demographic Measures 125
4.2.2 An Overview of the Model Life Table 126
4.2.3 Population Theory 129
4.2.4 Demographic Models and the Study of Ancient Populations 133
4.2.5 Two-Sex Problems and Models 134
4.2.6 Natural Fertility and Fertility 136
4.3 The Microeconomics of Fertility 140
4.3.1 The Issue of Choice 141
4.3.2 Factors Complicating the Basic Theory 141
4.3.3 The Chicago-Columbia Model 142
4.3.4 The Pennsylvania Model 147
4.3.5 The Malthusian Population Model 149
4.3.6 The Economics of Nuptiality 154
4.3.7 Mortality 156
4.3.8 The Family Setting of Fertility Decisions 163
4.4 Population Change, Model Life Tables, and Fertility Theory 168
4.4.1 Life-Table Approach to Population Catastrophes 169
4.4.2 Economic Approach to the Same Events 170
4.4.3 Identifying and Measuring Population Changes and their Consequences 172
4.5 Modeling Generations 177
4.5.1 The Overlapping Generations Model 177
4.5.2 The Structure of an OLG Model 178
4.6 Intergenerational Transfers 181
4.6.1 Utility-Maximizing Intergenerational Transfers at the Individual Level: Partial Equilibrium Analysis 182
4.6.2 Transfers in the Two-Period OLG Model 183
4.6.3 Transfers in an Economy-Wide Reallocation System: General Equilibrium Analysis of Intergenerational Transfers 184
4.7 Population Growth and Economic Growth 186
4.7.1 Facts to Be Explained and Changing Explanatory Strategies 186
4.7.2 Hypotheses about Population and Technological Change 187
4.7.3 Endogenous Fertility in Models of Economic Growth 187
4.8 Concluding Thoughts 196

4.9 Cases from Antiquity: Exercising the Leslie Matrix with an Eye to Antiquity 198
4.10 Using this Chapter's Information 200

5 The Behavior of Aggregate Economies: Macroeconomics 213
5.1 Introduction 213
5.1.1 What is Macroeconomics? 213
5.1.2 Why a Chapter on Macroeconomics for Two to Five Millennia Ago? 215
5.2 National Income Accounting 216
5.3 The Length of Run: Business Cycles and Long Run Growth 219
5.3.1 The Short and Medium Run: Business Cycles 219
5.3.2 The Long Run: Growth 220
5.4 The Aggregate Markets: Goods, Financial, Labor 221
5.4.1 Goods 221
5.4.2 The Financial Market 226
5.4.3 Labor 228
5.4.4 Labor Market Equilibration and Wage Adjustment 229
5.5 The IS-LM Model 234
5.5.1 The IS Relation 234
5.5.2 The LM Relation 236
5.5.3 Equilibrium and Some Analyses 238
5.6 The AD-AS Model 240
5.6.1 Aggregate Demand 240
5.6.2 Aggregate Supply 241
5.6.3 Equilibrium and Some Analyses 242
5.7 The Open Macroeconomy 243
5.7.1 The Variety of Cases 243
5.7.2 Exchange Rates 244
5.7.3 Balance of Payments Accounting Revisited 244
5.7.4 Saving and Investment in the Open Economy 245
5.7.5 Capital Mobility and Interest Rate Parity 247
5.8 Cases from Antiquity: The Financial Crisis of 33 C.E. 248
5.9 Using this Chapter's Information: Historical, Philological, and Archaeological Applications 249
5.9.1 Accounting Systems 249
5.9.2 Roman Unemployment—A Natural Rate? 250
5.9.3 The Macroeconomics of the Peloponnesian War 250
5.9.4 The Economics of Enduring National Puzzles 251