HANDBOOK OF AGRICULTURAL ECONOMICS

VOLUME 1B
MARKETING, DISTRIBUTION AND CONSUMERS

Edited by

BRUCE L. GARDNER
University of Maryland, College Park

and

GORDON C. RAUSSER
University of California, Berkeley

2001
ELSEVIER
AMSTERDAM • LONDON • NEW YORK • OXFORD • PARIS • SHANNON • TOKYO
PART 2 – MARKETING, DISTRIBUTION AND CONSUMERS

Chapter 13
Commodity Futures and Options
JEFFREY C. WILLIAMS 745
Abstract 746
Keywords 746
1. Introduction 747
2. The nature of futures markets 748
3. Participants in futures markets 760
4. Trading in the presence of risk aversion 769
5. Trading in the presence of transaction costs 782
6. Futures prices as forecasts 791
7. Conclusion 808
References 810

Chapter 14
Storage and Price Stabilization
BRIAN WRIGHT 817
Abstract 818
Keywords 818
1. Introduction 819
2. The welfare effects of price variability 821
   2.1. Analysis of price stabilization 821
   2.2. Focus shift: from prices to real variables 823
   2.3. Nonlinearity of demand 824
   2.4. Lagged supply response 824
   2.5. The formation of price expectations 824
   2.6. Welfare criteria 825
3. Ideal production stabilization 827
4. Capitalization 829
5. Handling instability: from ideal stabilization to arbitrage 831
6. The nature of commodity storage 831
   6.1. A simple competitive model of storage 833
   6.2. Solving the storage model 836
7. Storage behavior and its effects on consumption, price and production 839
   7.1. Storage behavior in the simple model 839
   7.2. Market dynamics of a storable commodity 841
8. Storage and market stabilization 843
   8.1. A simple floor price program 844
   8.2. Time-series behavior of "self-liquidating" floor price debt 846
   8.3. Private storage and speculative attack 846
   8.4. Buffer stock schemes: theory and practice 848
9. Storage with market power 849
10. Optimizing (second-best) government interventions 849
11. Spatial and trade models 850
12. Testing the storage model 852
13. Tests using the storage model 853
14. Challenges for the future 854
15. Conclusion 855
Acknowledgements 856
References 856

Chapter 15
Food Processing and Distribution: An Industrial Organization Approach 863
RICHARD J. SEXTON and NATHALIE LAVOIE 864
Abstract 865
1. Introduction 866
   1.1. Historical perspective 867
2. The horizontal structure of food marketing 869
3. Vertical market relationships 869
   3.1. Vertical integration 870
   3.2. Vertical control and contracting 871
4. Institutions and organizations in agricultural markets 876
   4.1. Farmer cooperatives and coalitions 876
   4.2. Marketing orders 879
   4.3. Marketing boards and state trading enterprises 883
5. Static models of food markets under imperfect competition 887
   5.1. Homogeneous product models with variable proportions 887
   5.2. Homogeneous product models with fixed proportions 893
   5.3. Models with differentiated products 898
   5.4. A summary of empirical analyses 902
6. Dynamic models of the food sector 906
Chapter 17
Spatial Price Analysis
PAUL L. FACKLER and BARRY K. GOODWIN 971
Abstract 972
Keywords 972
1. Introduction 973
  1.1. Applications of spatial price modeling 973
2. Definitions 976
  2.1. Spatial arbitrage 977
  2.2. The Law of One Price 977
  2.3. Spatial market integration 978
  2.4. Spatial market efficiency 979
3. Economic models of price determination 981
  3.1. Models with exogenous dynamics 981
  3.2. Models with endogenous dynamics 988
4. Empirical tests 990
  4.1. Simple regression and correlation analysis 990
  4.2. Dynamic regression models 995
  4.3. Switching regime models 1011
  4.4. Rational expectations models 1013
5. Conclusions 1015
References 1018

Chapter 18
Duality for the Household: Theory and Applications
JEFFREY T. LaFRANCE 1025
Abstract 1026
0. Introduction 1027
1. Neoclassical demand theory 1028
2. The theory of household production 1031
  2.1. Static consumer choice theory with household production 1033
  2.2. Hedonic price functions 1038
  2.3. Special cases 1041
3. Intertemporal models of consumer choice 1042
  3.1. Perfect foresight 1043
  3.2. Myopic expectations 1048
  3.3. Other forecasting rules 1058
4. Dynamic household production theory 1066
5. Discussion 1078
References 1079
Chapter 19
Economic Analysis of Food Safety
JOHN M. ANTLE 1083
Abstract 1084
1. Introduction 1085
2. Food safety, the food system, and policy 1086
   2.1. Food safety policies 1088
   2.2. The regulatory debate 1091
3. Markets for food safety 1092
   3.1. Demand 1092
   3.2. Supply 1100
4. Product quality information, market equilibrium, and market structure 1112
   4.1. Perfect information equilibria 1112
   4.2. Experience goods 1113
   4.3. Credence goods and information symmetry 1113
   4.4. Heterogeneous consumer risk preferences, production costs, and incomplete markets 1115
   4.5. Consumer knowledge of safety 1116
   4.6. Vertical integration 1117
5. Quantifying the benefits and costs of food safety regulation 1119
   5.1. Benefits of regulation 1120
   5.2. Costs of food safety regulation 1123
6. Conclusions 1130
Acknowledgements 1130
References 1131

Chapter 20
Marketing and Distribution: Theory and Statistical Measurement
JAMES VERCAMMEN and ANDREW SCHMITZ 1137
Abstract 1138
1. Introduction 1139
   1.1. Agricultural marketing paradigm 1139
   1.2. Synthesis outline 1143
2. Price analysis and forecasting 1145
   2.1. Forecasting models 1145
   2.2. Other types of structural models 1148
3. Evaluation of pricing efficiency 1155
   3.1. Form 1155
   3.2. Time 1157
   3.3. Space 1159
4. Information, the consumer and contracts 1160
   4.1. Information 1161
   4.2. Changing role of the consumer 1164
   4.3. Contracting in the pork and poultry sectors 1165
5. International marketing: institutions and political constraints 1166
  5.1. State trading enterprises 1167
  5.2. Export subsidy programs 1168
  5.3. The Canadian wheat board debate 1168
  5.4. The tomato war 1170
  5.5. Role of multinationals 1171

6. Conclusions 1172
Acknowledgements 1174
References 1174

Chapter 21
Production and Marketing
RACHAEL E. GOODHUE and GORDON C. RAUSser 1183
Abstract 1184
1. Introduction 1185
2. Characteristics of agricultural economics 1185
  2.1. Integrated economic analysis 1186
  2.2. Integration of economics and the natural sciences 1187
  2.3. Time and space 1188
  2.4. Flexibility and inflexibility 1188
  2.5. Institutions 1189
3. Volume contents 1190
4. Future of agricultural economics 1203
Acknowledgements 1205
References 1205

Author Index I-1
Subject Index I-41