Contents

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

Part I State Intervention in the Sugarcane Ethanol Industry in Brazil

2 State Intervention in the Chain of Production of Ethanol from Sugarcane in Brazil: Its Forms and Effects on the Development of the Sector Between the 1930s and 1980s .......................... 7
   The 1930s: The Beginning of State Intervention and the Creation of the IAA ................................................................. 8
   The 1940s: The Sugarcane Farming Statute; World War II; and the change in the Spatial Distribution of Sugar Production in the Country ........ 10
      The Sugarcane Farming Statute ........................................................................ 10
      World War II ..................................................................................................... 11
      The Change in the Spatial Distribution of Sugar Production ...................... 12
   The 1950s: The Consolidation of Production in the South-Central Region .............................................................................. 14
   Pricing Policies ..................................................................................................... 15
   The 1960s: The Encouragement of Exports and the Crisis Caused by Overproduction in the 1965–1966 Harvest season .............................. 16
   Sugarcane Remuneration Based on Sucrose Content ........................................ 17
   The Division of the Country into Two Sugar-Producing Regions ................... 19
   The 1970s: Promoting Exportation, Improving Productivity, and Streamlining Production; the Oil Crises; and the Development of the Proálcool Plan ................................................................. 20
      Promoting Exportation, Improving Productivity, and Streamlining Production ................................................................. 20
      The First Oil Crisis and the Development of the Proálcool Plan ................ 24
      The Second Oil Crisis and the Sudden Rise of the Proálcool Plan .......... 34
   The 1980s: The Final Implementation Phase of the Proálcool Plan; the Depletion of Government Resources; and the Mismatch Between Ethanol Supply and Demand ............................................. 37
## Part II  The Government Distances Itself in the 1990s: The Break and the Learning Curve

### 3  The 1990s: Deregulation of the Sector

<table>
<thead>
<tr>
<th>Institutional Change: The Process of Economic Liberalization, the Relevant Legislation, the Various Delays, and the Environmental Legislation</th>
<th>47</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Ministry of Finance Lifts Price Controls on the Fuel Sector</td>
<td>48</td>
</tr>
<tr>
<td>The First Postponement of Economic Liberalization</td>
<td>49</td>
</tr>
<tr>
<td>The Second Postponement of Economic Liberalization</td>
<td>49</td>
</tr>
<tr>
<td>The Third Postponement of Economic Liberalization</td>
<td>50</td>
</tr>
<tr>
<td>The Lifting of Price Controls</td>
<td>51</td>
</tr>
<tr>
<td>Environmental Legislation</td>
<td>51</td>
</tr>
</tbody>
</table>

### 4  Organizational Changes Within the Public Sphere

| The Dismantling of the IAA | 53 |
| The Creation of the CIMA | 55 |
| The Creation of the ANP and the Opening of the Fuel Market | 56 |
| The Creation of AMCESP | 58 |
| The Creation of the São Paulo State Chamber of Commerce for the Sugarcane Ethanol Industry | 58 |

### 5  Organizational Changes Within the Private Sphere

| The Creation of the Brazilian Sugarcane Industry Association | 59 |
| The Founding of the CEPAAL | 60 |
| The Founding of the SUCROALCO | 61 |
| The Creation of Brazil Ethanol Inc. | 62 |
| The Founding of the BBA | 63 |

### 6  Price Supports for Fuel Ethanol, Sugarcane, and Freight Charges: Alterations Stemming from Deregulation

| Price Support for Ethanol | 65 |
| Support for Sugarcane Cultivation in the Less Competitive Regions | 67 |
| Freight Charge Support for the Regions Most Distant from the Largest Markets | 68 |

### 7  Changes Related to Production and Marketing Controls on Sugar: Fixed Production Levels, Crop Plans, Exports, and the Differential Collection of the Industrialized Products Tax

| Crop Plans and Controls on Production Levels | 69 |
| Regulation of the National Fuel Supply | 70 |
| Exports of Sugar | 70 |
| Differential Application of the Industrialized Products Tax on Sugarcane | 72 |
Contents

8 The Marketing of Sugarcane and Ethanol: Changes Resulting from Deregulation ...................................................... 75
   The CONSECANA-SP ................................................................. 75
   Ethanol: The Government Trading Desk ................................... 77
   Contracts Between Producers and Distributors and Postponement of the Lifting of Price Controls .................................. 78

9 Activities of the Inter-Ministerial Council on Sugar and Ethanol During the Deregulation Process ............................. 81
   Purchases of Ethanol Stocks ................................................... 81
   The New System of Government Acquisition of Ethanol in the Late 1990s: Auctions ....................................................... 83
   Other CIMA Measures: Incentives to Increase Demand ............... 84

10 Interested Parties Come to the Defense of the Sugarcane Ethanol Industry .............................................................. 87
   Public Protests ........................................................................ 87
   The Pact for Full Employment in the Sugarcane Ethanol Industry ...... 90

11 The Process of Deregulating the Sugarcane–Ethanol Industry ................................................................. 93

12 Deregulation of the Sugarcane Ethanol Industry in the Late 1990s: The New Role of the Government and More Efficient Ways of Marketing ......................................................... 97
   The Sugarcane Market ............................................................... 98
      The CONSECANA-SP ............................................................... 101
   The Competitive Difference Between Sugarcane Suppliers and Producers of Sugar or Ethanol ........................................... 105
   The Sugar Market .................................................................. 109
   The Fuel Ethanol Market .......................................................... 112
      The Lack of Price Competitiveness of Hydrous Ethanol Relative to Gasoline ................................................................. 112
      The Positive Externalities of the Production and Use of Fuel Ethanol ................................................................. 115
      The Competitive Imbalance Between Ethanol Producers and Fuel Distributors .......................................................... 121
   The Creation of the Brazilian Ethanol Exchange and Brazil Ethanol Inc ................................................................. 126
   The Problem of Asymmetric Information .................................. 129
   Regional Differences: Subsidies for Sugarcane Cultivation and Freight Costs ............................................................ 130
      Government Support for Sugarcane Production ....................... 130
      Economic Support to Offset Shipping Costs ............................. 133
## Contents

### 13 Political Determinants of the Decision-Making Processes:
The Players, their Power Resources, and the Redefinition of their Roles in the New Institutional Environment ........................................... 137
The Deregulation Process and the Players Involved ............................ 137
The New Institutional Environment: Emerging Players and their Power Resources .................................................................................. 141

### 14 The Free Market: The Profound Changes and the New Agenda ...... 149
The Sugarcane Market: Consolidation of the Sugarcane Remuneration Model Established by the São Paulo State Council of Sugarcane, Sugar, and Ethanol Producers ........................................ 150
The Sugar Market: Brazil’s Entry into the Global Market ....................... 157
The Ethanol Market: The Principal Post-Deregulation Changes .......... 162
Investment in Ethanol Production from 2005 to the Present: Influx of Foreign Capital and Consolidation of the Industry ........................................ 173
The International Environmental Agenda: Ethanol from Sugarcane and its Role in Reducing Greenhouse Gas Emissions .......... 181
Environmental Regulatory Framework .................................................. 183
Private Certification Schemes ................................................................ 186
The Social Agenda: Labor Market Indicators ......................................... 186
Regulatory Framework: Social Aspects ................................................... 188
Evolution of Socioeconomic Indicators ................................................... 189
Final Considerations ............................................................................. 191

### 15 The Future of Biofuel in Brazil .................................................. 195
Can Brazil Expand Ethanol Production in a Sustainable Way? .............. 198
Investments ............................................................................................. 200
What Are the Factors Hindering (or Slow) Sugarcane Ethanol Expansion? ............................................................................................. 201
The Role of Petrobrás .............................................................................. 206
The Chicken and Egg Problem of the Future of Biofuel Supply in Brazil ............................................................................................. 206
The Political Economy of Biofuel in Brazil ............................................. 208
Likely Scenarios ...................................................................................... 212

Conclusions ............................................................................................. 213

References .............................................................................................. 217
Production of Ethanol from Sugarcane in Brazil
From State Intervention to a Free Market
Ferraz Dias de Moraes, M.A.; Zilberman, D.
2014, XIII, 221 p. 36 illus., 35 illus. in color., Hardcover
ISBN: 978-3-319-03139-2