Contents

1 Introduction: The Banking Environment ............................................. 1
   Three Fundamental Areas Within the Industrial Organization ........................ 1
   Objectives .................................................................................. 2
   Bank Behavior and the Structure of Banking Markets ............................... 2
   Bank Competition and Public Policy ................................................. 3
   Assessing Bank Regulation .............................................................. 3
   The Bank Balance Sheet .................................................................. 4
      Bank Assets ............................................................................. 4
         Loans .................................................................................. 5
         Securities ............................................................................ 6
         Cash Assets .......................................................................... 6
      Trends in U.S. Bank Asset Allocations ............................................. 6
   Bank Liabilities and Equity Capital .................................................... 8
      Large-Denomination Time Deposits ............................................... 8
      Transactions Deposits, Savings Deposits, and Small-Denomination Time Deposits ........................................................................ 8
      Purchased Funds and Subordinated Notes and Debentures .................. 9
      Bank Capital ........................................................................... 9
      Trends in Bank Liabilities and Equity Capital ................................... 9
   The Bank Income Statement ............................................................. 10
      Interest Income ....................................................................... 11
      Noninterest Income .................................................................. 11
      Interest Expenses ..................................................................... 11
      Expenses for Loan Loss Provisions .............................................. 12
      Real Resource Expenses ........................................................... 12
      Bank Profitability Measures ....................................................... 12
   Asymmetric Information and Risks in Banking ..................................... 13
      Adverse Selection .................................................................... 14
      Moral Hazard ......................................................................... 14
Risks on the Balance Sheet ........................................... 14
Credit Risk .............................................................. 15
Market Risks .............................................................. 15
Liquidity Risk .............................................................. 15
Systemic Risk ............................................................. 16
Trends in U.S. Banking Industry Structure ......................... 16
The Number of Commercial Banks .................................. 16
Mergers, Acquisitions, and Concentration .......................... 16
References ................................................................. 18

2 Alternative Perspectives on Bank Behavior ....................... 21
Identifying the Outputs and Inputs of a Bank ........................ 21

What Banks Do: Alternative Perspectives on Bank Production .. 21
Assessing the Economic Outputs and Inputs of Banks .............. 22

Banks as Portfolio Managers ........................................... 24

The Basic Bank Portfolio-Management Model ....................... 24
Limitations of Portfolio Management Models ......................... 25

Banks as Firms ............................................................ 25

A Perfectly Competitive Banking Industry .......................... 26

A Static Banking Model .................................................. 26
Fundamental Dynamics in a Perfectly Competitive Banking
Model and Implications for Portfolio Separation .................. 32

Imperfectly Competitive Banking Markets ......................... 35

Monopolistic and Monopsonistic Interest Rate Determination
in Bank Loan and Deposit Markets .................................. 35
Social Losses Due to Imperfect Competition in Banking .......... 37
Alternative Modes of Behavior Between Perfect Competition
and Monopoly and Monopsony ........................................ 38

References ................................................................. 43

3 The Industrial Economics of Banking .............................. 47
The Structure-Conduct-Performance Paradigm in Banking ........ 47

The SCP Hypothesis with Identical Banks ......................... 48
Structural Asymmetry, Dominant Banks, and the SCP Paradigm .... 49

A Dominant-Bank Model ............................................... 49
Strategic Entry Deterrence ............................................. 51

Evaluating the Applicability of the SCP Paradigm to the
Banking Industry ....................................................... 51

Traditional SCP Evidence from Cross-Sectional Banking Data .... 52
Evidence from Cross-Country Studies ................................ 53
Dynamic Interest Rate Responses: Competition
and Pass-Through Effects ............................................. 53

The Conduct and Relative Performances of Large
and Small Banks ....................................................... 55
## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Structure and Bank-Customer Relationships</td>
<td>57</td>
</tr>
<tr>
<td>Basic Market-Structure Implications of Bank-Customer Relationships</td>
<td>58</td>
</tr>
<tr>
<td>Evidence on Bank-Customer Relationships</td>
<td>60</td>
</tr>
<tr>
<td>Determinants and Impacts of Bank-Customer Relationships</td>
<td>60</td>
</tr>
<tr>
<td>Competition and Relationship Lending</td>
<td>63</td>
</tr>
<tr>
<td>The Efficient Structure Theory and Banking Costs</td>
<td>65</td>
</tr>
<tr>
<td>The Efficient Structure Challenge to the SCP Paradigm</td>
<td>65</td>
</tr>
<tr>
<td>Banking Efficiency and Costs</td>
<td>66</td>
</tr>
<tr>
<td>Efficient Structure Theory and Bank Performance</td>
<td>68</td>
</tr>
<tr>
<td>Endogenous Sunk Fixed Costs and Banking Industry Structure</td>
<td>71</td>
</tr>
<tr>
<td>Endogenous Sunk Costs and Concentration</td>
<td>72</td>
</tr>
<tr>
<td>Non-Price Competition in Banking: Implicit Deposit Rates</td>
<td>73</td>
</tr>
<tr>
<td>Versus Quality Rivalry</td>
<td>73</td>
</tr>
<tr>
<td>Evidence on Advertising Outlays in the Banking Industry</td>
<td>75</td>
</tr>
<tr>
<td>Endogenous Sunk Costs and the Banking Industry</td>
<td>76</td>
</tr>
<tr>
<td>References</td>
<td>77</td>
</tr>
</tbody>
</table>

4 The Economics of International Banking                                | 89   |
| The Growth of Global Banking                                          | 90   |
| The First Big Wave of Banking Globalization: The Colonial Period       | 90   |
| The Second Globalization Wave: The Most Recent Decades                | 90   |
| Fundamental Elements Influencing Cross-Border Banking                 | 92   |
| Distance                                                             | 92   |
| Competitive Structure and Effects of Entry in Host-Country Banking    | 93   |
| Distance                                                             | 93   |
| Idiosyncratic Elements and Prior Experience                           | 96   |
| The Industrial Organization of Multinational Banking                  | 97   |
| Determinants of the Overall Scope of Foreign Direct Investment in Banking | 97   |
| Greenfield Investment Versus Acquisitions of Host Nations’ Banks     | 98   |
| Real-Resource-Based Analyses of Cross-Border Trade in Banking Services| 100  |
| Differences in Nation’s Capital-Labor Ratios and Efficiencies as Determinants of Cross-Border Banking | 102  |
| The Structure of Niepmann’s Framework for a Closed Economy            | 102  |
| Extending Niepmann’s Setup to a Two-Country Environment               | 103  |
| An Intra-industry Model of International Trade in Banking Services    | 105  |
| A Closed-Economy Setting with Differentiated Banking Services         | 106  |
| A Two-Economy Environment with Traded Banking Services                | 107  |
| Evidence on the Empirical Relevance of Trade-Based Theories of International Banking | 109  |
| References                                                            | 110  |
5 The Economics of Banking Antitrust

Why Banks Merge .................................................. 115
Profit Enhancements from Mergers ................................ 115
Diversification Benefits of Bank Mergers .......................... 118
Assessing Loan and Deposit Market Effects of Bank Consolidation ... 120
Mergers in Initially Perfectly Competitive Banking Markets ... 120
Mergers in Initially Imperfectly Competitive Banking Markets ... 122
Evidence on the Consequences of Banking Consolidation ... 123
Mergers and Market Power ............................................ 123
Evidence on Efficiency Gains from Banking Consolidation ... 126
Banking Antitrust in Practice ........................................... 127
U.S. Bank Merger Guidelines ......................................... 127
The Relevant Market .................................................. 128
Merger Screening ...................................................... 129
Evaluating the U.S. Bank Merger Guidelines ....................... 130
Is the Official Relevant Banking Market Really Relevant? ....... 131
Do the Formal Guidelines Mis-Measure Market Power? ........... 133
Implications of Endogenous Sunk Fixed Costs ..................... 134
Do Banking Consolidations Preclude Entry and Reduce
Consumer Welfare? .................................................. 135
Rethinking Bank Merger Analysis .................................... 136
References ............................................................... 138

6 Bank Competition, Stability, and Regulation ...................... 143
Banks as Issuers of Demandable Debt ................................. 144
The Diamond-Dybvig Model ........................................... 144
An Optimal Risk-Sharing Contract ................................... 145
The Diamond-Dybvig Intermediation Solution and the Problem
of Runs ............................................................... 145
Evaluating the Diamond-Dybvig Analysis .............................. 146
Banks as Screeners and Monitors ....................................... 148
Evidence on Bank Monitoring Activities .............................. 149
Evidence from Announcement Effects ................................. 150
Evidence from Firm Investment and Bond Yields .................... 151
Evidence from Syndicated Loans and Loan Sales ................... 151
Direct Evidence of Bank Monitoring Activities ..................... 152
A Monitoring Model with Heterogeneous Banks .................... 153
Behavior of Monitoring and Nonmonitoring Banks ................. 153
Loan Market Equilibrium and Equilibrium Monitoring ............ 154
The Relationship Between Banking Competition and Risks .......... 156
Perfect Competition and Bank Risks ................................... 156
The “Excessive Deposit Competition” Argument ..................... 157
The Competition-Illiquidity Argument .................................. 158
The Competition-Asset Risk Argument ................................. 159
<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Benefits and Costs of Market Discipline in Banking</td>
<td>218</td>
</tr>
<tr>
<td>Evaluating Incentives for Information Disclosure</td>
<td>218</td>
</tr>
<tr>
<td>Ways to Enhance Bank Market Discipline</td>
<td>220</td>
</tr>
<tr>
<td>Industry Structure and Market Discipline</td>
<td>223</td>
</tr>
<tr>
<td>Market Discipline in a Basic Banking Model</td>
<td>223</td>
</tr>
<tr>
<td>Market Power, Information Disclosure, and Market Discipline</td>
<td>224</td>
</tr>
<tr>
<td>Evidence on Market Discipline’s Effectiveness</td>
<td>227</td>
</tr>
<tr>
<td>Information Content of Market Prices and Bond Yield Spreads</td>
<td>227</td>
</tr>
<tr>
<td>Market Discipline Versus Regulation</td>
<td>229</td>
</tr>
<tr>
<td>Regulatory Crowding Out of Market Discipline?</td>
<td>230</td>
</tr>
<tr>
<td>Additional Evidence on Interactions between Regulation and Market Discipline</td>
<td>231</td>
</tr>
<tr>
<td>Evidence on Bank Information Disclosure</td>
<td>233</td>
</tr>
<tr>
<td>Evaluating the Market Discipline Pillar vis-à-vis the Other Pillars of the Basel Framework</td>
<td>234</td>
</tr>
<tr>
<td>The Limitations of Market Discipline under the Basel Framework</td>
<td>234</td>
</tr>
<tr>
<td>Theory Versus Reality Under the Basel Market Discipline Pillar</td>
<td>235</td>
</tr>
<tr>
<td>References</td>
<td>236</td>
</tr>
</tbody>
</table>

9 Regulation and the Structure of the Banking Industry               243

Public Interest Versus Public Choice Perspectives on Bank Regulation  243
Public Interest and the Alleged “Need” for Bank Regulation           243
Public Choice Motivations for Bank Regulation                        244
Applying the Economic Theory of Regulation to the Banking Industry   245
Assessing the Implications of the Economic Theory of Regulation      246
A Generalized Perspective on Evaluating Bank Regulation              249

The Political Economy of Banking Supervision Conducted by Multiple Regulators: Is a “Race to the Bottom” Unavoidable? 250
Regulatory Preferences and Bank Closure Policies                     250

Competition Among Bank Regulators                                    252
A Theory of Optimal Supervisory Choices of a Single Bank Regulator   253
The Case of Competing Regulators                                     255
A Supervisory Race to the Bottom?                                    255
Is Greater Centralization of Regulatory Functions the Answer?        257

The Supervisory Review Process Pillar of the Basel Standards         259
The Supervisory Review Process Pillar: Conceptual Issues             261
Discretion Versus Rules                                              261
How Tough Should a Supervisory Policy Rule Really Be?                262
Is There Really a Basel Supervisory Review Process?                  264
Regulatory Compliance Costs and Industry Structure                   266
Assessing Banks’ Costs of Basel Compliance: Economies of Regulation? ......................................................... 266
Rule-of-Thumb Estimates ......................................................... 266
Estimates of Basel Compliance Costs Based on Survey Data .... 267
To What Extent Do Basel Compliance Costs “Matter”? .... 269
Bank Regulation and Endogenous Fixed Costs ...................... 270
Regulatory Compliance Costs: A Missing Component? ........ 271
Regulatory Sunk Fixed Costs ..................................................... 272
References ............................................................................ 275

10 Macroprudential Regulation and International Policy Coordination ......................................................... 281
Systemic Risk ......................................................................... 281
Defining Systemic Risk ............................................................ 281
Measuring Systemic Risk .......................................................... 283
Doing Something About Systemic Risk: Macroprudential Policy ...... 284
Implementation of Macroprudential Policy ................................ 284
Structuring Macroprudential Regulation .................................. 285
Additional Macroprudential Policy Instruments ...................... 286
Pitfalls of Macroprudential Regulation ...................................... 288
International Regulatory Policy Coordination .......................... 289
Essentials of the Regulatory Policy Coordination Problem ........ 289
Recent Research on International Coordination of Financial Regulatory Policies .............................................. 291
Can Impediments to International Bank Regulatory Coordination Be Surmounted? ............................................. 296
References ............................................................................ 299