Contents

Foreword by Vernon L. Smith	vii
Preface	ix
Acknowledgments	xvii
Chronology of Major Events	xix

PART I BUBBLES AND EXPERIMENTS

1	Wind Tunnel Markets	3
	Step into the Wind Tunnel	7
	Our Road Map	11
2	Bargain Hunting	17
	Capturing the Human Element	19
	Rationality and Induced Value at Your Corner Grocer	20
	Let's Make a Deal	24
	Games and Strategies	27
	It Came from Harvard	31
3	A Tale of Two Smiths	39
	The Law of Supply and Demand	42
	The Groping Market	48
	New Market Rules	50
	Perfect Without Knowledge	55
4	Bubbles in the Lab	59
	Cycling Through Time	59
	The Seasonal Shift	67

	Speculators Enter the Laboratory	71
	Behold the Bubble	77
	On the Origin of Bubbles	83
5	Bubbles in the Wild	87
	Asset Valuation and Efficient Markets	88
	From Noise to Irrationality	92
	Breaking the Bank	96
	Bubbles: Rational or Irrational?	101
	Potholes on Wall Street	102
PAI	RT II INSIDE MARKETS: OPTIONS,	
	INFORMATION, AND LIQUIDITY	
6	Black Monday	109
	Peering into the Abyss	110
	The Quantitative Finance Revolution	112
	It's There Until You Need It	118
	Programmed to Trade	121
7	All the World's an Option	127
	How Do You Value an Option?	129
	The Formula for Options	136
	The Universal Nature of Options	141
	Options Rule on Wall Street	144
	Spreads and the Risk of Default	148
	Liquidity: The Ultimate Option	149
8	The Invisible Hand Discovers Prices	153
	Price Impact and Market Manipulations	156
	Toward Instantaneous Price Discovery	160
	One-Sided Auction Markets	163
	Vickery's Solution	165
	Deviant Auctions	168
9	Sending Signals and Keeping Score	171
	Lemons Squeeze the Market Mechanism	172
	The Theory of Market Signaling	175
	Learning to Signal in the Laboratory	179
	Prices as Scorekeepers	183
	The Art of Indexing	185
	The Limits to Aggregation	188

Contents	v
10 It All Comes Down to Money	193
Money, Expectations, and Illusion	196
The Emergence of Money	201
Future Money	202
PART III GRIDLOCK AND THE RO SMART MARKETS	DAD TO
11 The Market Is Tied Up in Knots	207
Long-Term Gridlock	209
Arbitrage Has Its Limits	215
Markets as Matchmakers	218
Smart Enough to Weave a Basket	220
12 Making Markets Intelligent	225
Adding Baskets to the Market	227
Self-Arbitraging Markets	230
Recombinant Securities Markets	235
All or Nothing at All	236
Breaking the Law of a Single Price	238
13 The Smart Auction Block	243
Bandwidth for Sale	244
Location, Location, Location and S	ynergy, Too 246
Combinatorial Auctions: Optimization	on the Fly 251
NASA's Awesome Wind Tunnel	253
Learning by Doing at the FCC	256
14 Good Intentions	261
FCC versus SEC	263
Powerless	265
The Rules of Engagement	268
Notes	271
Bibliography	287
Index	303