

Contents

Preface — VII

Acknowledgments — IX

About the Authors — XVII

Part I: Money and Society

Chapter 1

A Great Human Invention: The Role of Money in Society — 3

Why We Invented Money and What It Does for Us — 3

A Money Parable — 4

Stone Money — 5

Counting Our Obligations — 7

Trust — 11

The Essence of Money — 13

Inflation and Equity — 15

The Early History of Money — 17

Money from Ancient to Medieval Times — 17

Growing Money — 19

Fuel for Revolutions — 20

Features and Bugs of Money — 21

The Gold Standard — 22

Money and the Real Economy — 25

Inflation and Hyperinflation — 26

Money and Policy — 28

Our Money Journey Will Continue — 29

Chapter 2

Why Some People Have So Much Money and Others Have So Little — 31

How Money Is Earned — 31

Factor Payments: A Key Concept — 31

How Changes in Factor Payments Change Society — 34

A Very Brief History of Economic Thought — 35

A Quick Tour Through Economic Epochs — 36

The Agricultural Revolution (10,000 BC) and the Invention of Money — 36

The Scientific Revolution (1500 AD) —	39
The First Industrial Revolution (Early Eighteenth to Early Nineteenth Century) —	39
The Second Industrial Revolution (Late Nineteenth to Early Twentieth Century) —	40
The Third Industrial Revolution (1960s to 1990s) —	41
The Fourth Industrial Revolution (2000s to present) —	41
Revolutions Always Have Consequences —	42
The Industrialization of Agriculture —	42
The Industrialization of Production —	43
The Laborer's Wages —	45
The Labor Theory of Value (LTV) —	45
The Utility Theory —	46
The Sociopolitical Context for Making Money —	49
The Current Distribution of Money in the World —	51
Larger Pie, More for the Many —	51
Larger Pie, More for the Few —	53
Corporations Are Unequal Too —	56
Today's Face-Off: Computers versus Humans —	57
The Pain and Gain of Redistribution —	63

Part II: Central Banks and Global Finance

Chapter 3

Fiat Currency and Credit: How Banks and Treasuries Create and Control Money — 69

Early Central Banks — 69

Central Banks Founded in the Modern Era — 73

Credit and the Creation of Money — 75

 Bank Runs — 77

 Toxic Collateral — 77

 Commercial Credit Rating Agencies: Scorekeepers for Bonds and Other Securities — 79

 Consumer Credit: Borrowing Behavior as Invisible “Collateral” — 80

 Non-bank Financial Intermediation — 82

 College Loans: Financial Slavery vs. Financial Freedom — 82

 High-Interest Loans — 83

Fiat Currency — 83

Currency and Banknote Design —	85
Monetary Policy —	87
Policy Shifts —	90
Interest Rates Issues —	90
The Future of Central Banks and Treasuries —	92
 Chapter 4	
Global Finance: Markets, Movers, and Motives —	94
Markets: Stock, Bond, Currency, and Commodities —	95
Stock Markets —	96
Bond Markets —	97
Currency Markets (Foreign Exchange or FX) —	100
Commodities Markets —	101
Intermarket Financial Analysis —	102
Market Movers —	104
Bank of International Settlements and SWIFT —	104
National Securities Commissions —	105
The “Great” G’s —	105
Global “NGOs” (Nongovernmental Organizations) —	106
Motivations: Market Forces —	107
Drivers —	107
Equilibrium and Feedback Loops —	110
The Invisible Hand —	112
Six Problems Plaguing Markets —	113
Problem 1: Possible or Perceived Conspiracies —	114
Problem 2: Scams and Other Scandals —	114
Problem 3: Speculation —	116
Problem 4: Short-termism —	118
Problem 5: Human Folly —	118
Problem 6: Automation—Robot Roulette —	120
Reforming Markets from Within —	123

Part III: Money and Technology

Chapter 5	
Fintech: When Money Meets Technology —	127
Financial Innovations We Use Every Day —	127
Automatic Teller Machines (ATMs) —	128
Credit Cards —	129

XIV — Contents

Debit Cards —	130
Credit Scoring —	130
Online Banking —	131
Mobile Banking —	132
Electronic Funds Transfer (EFT) Networks —	133
Online Payments —	133
The Current Fintech Landscape —	134
Payments —	135
Deposits and Lending —	137
Insurance —	140
Investment Management —	141
Equity Crowdfunding —	142
Market Infrastructure —	143
The State of Play in Fintech —	144
What to Look for Next —	145
Biometric Identification —	145
Fintech Applications of Artificial Intelligence —	146
Blockchain/Distributed Ledgers —	147
The Battle for Fintech Supremacy —	149
 Chapter 6	
What's New about Cryptocurrencies and What's Not —	153
A Brief Introduction to Cryptocoins —	154
The Invention of Bitcoin and Why It Is Like Napster —	156
The Genesis of Bitcoin —	156
The Bitcoin Bubble —	159
Why Is There Always Another Bubble? —	161
Cryptocoins Today and Tomorrow —	164
Exchanging Dollars for Cryptocoins —	165
Cryptocoin Exchanges —	165
Cryptocoin Transactions —	166
Sovereign Cryptocoins —	167
Cryptocoins as an Investment —	168
Regulation and Taxes —	170
Fraud, Manipulation, and Other Risks —	171
Barriers to Success —	174
Scarcity, Scale, and Speed —	174
High Energy Consumption —	175

Low Acceptance —	177
Volatility —	178
Regulatory Actions —	179

Part IV: Beyond Money

Chapter 7

How Blockchains Could Change How Business Is Done —	185
Blockchain: The Next Big Technology We've Been Waiting For? —	186
The Tech Trends That Got Us Here —	186
Putting Blockchain to Use —	190
Second Thoughts —	190
Understanding Blockchain Operation —	191
Blockchain Basics —	191
Bitcoin, the Original Blockchain —	194
Types of Blockchain —	195
Smart Contracts: The Problems They Solve and Create —	196
Introducing Smart Contracts —	197
Scalable, Secure Computer Architectures —	199
Industries That Could Be Transformed —	200
The Blockchain Bandwagon —	200
Asset Registers —	201
Banking —	202
Corporate Structure —	203
Insurance —	203
Media —	204
Stock Trading —	204
Supply Chains and Logistics —	205
Industries That Will Be Impacted First —	205
Challenges That Remain —	206
Regulatory Roadblocks —	207
Technical Tangles —	208
Other Limitations —	209
Conclusion: Between Promise and Skepticism —	210

Chapter 8

The Promises and Perils of a Cashless Realm —	213
The Annoyance of Cash —	213
Are These the Last Days of Cash? —	214

XVI — Contents

The Promise of a Cashless Society —	217
The Cost of Cash —	217
Hard to Say Goodbye —	219
The Perils of a Cashless Society —	220
Legal Rights —	221
Equity and Inclusion —	221
Privacy —	222
Freedom —	223
Corporate Power —	225
Cyber Attacks —	225
What's in Your Doomsday Wallet? —	226
What Happens When the Big One Comes? —	228
A Last Word on Cash —	230
 Closing Thoughts —	232
 Figure Notes —	233
 Endnotes —	235
 Index —	271