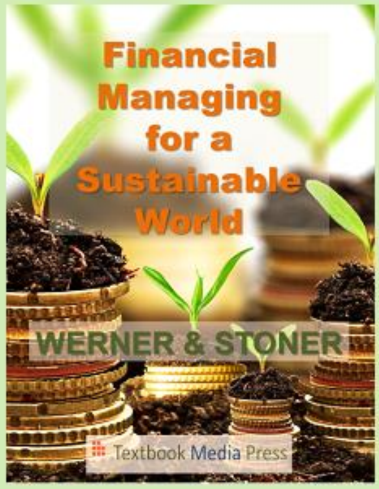
Just published! "This is the first introductory finance text with a solid sustainability focus."

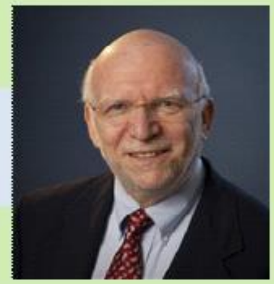
Financial Management for a Sustainable World 1e

Digital options start at $ 39.95
Print + Digital Bundles start at $49.95

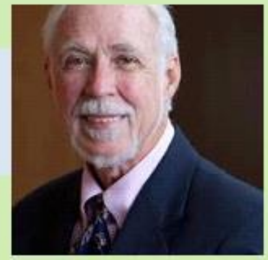
Supplements: Solutions Manual, PowerPoint® Lecture Slides, Test Item File formatted for Major LMS Platforms; Online Cases and Appendices



Frank Werner
Fordham University



James Stoner
Fordham University



3 Quick Things things about *Financial Management for a Sustainable World 1e*

1. This book is based on *Fundamentals of FInancial Managing, 4th edition*.
2. The authors added a lot of sustainability content and removed some traditional finance content that we thought was detrimental to sustainability.
3. The authors believe it is important to let people know upfront that this is the first introductory finance text with a solid sustainability focus.

• *Financial Managing for a Sustainable World* (FMSW) responds to the statement from the Business Roundtable signed by 181 CEOs of major US companies that they no longer support shareholder primacy but now realize that they must deliver value to all their stakeholders. FMSW frames the goal of the for-profit firm as serving society, and the goal of finance as supporting the company's efforts to do so. FMSW broadens the agency framework to consider how the interests of all stakeholders might be aligned.

• FMSW continues the authors' prior emphasis on "continuity and change," showing how financial theory and practice both endure (continuity) and transform (change) to meet the needs of a rapidly changing world. Some 90% of FMSW reflects continuity, those finance concepts and techniques that have been the core of the subject for many years. The other 10% considers change, and both are presented in an accessible and engaging manner.

• FMSW reports how major thought leaders believe finance might further evolve to become regenerative and help heal the Earth.

• FMSW profiles how finance is responding to the increasing need for sustainability including material on sustainability data (Sustainability Accounting Standards Board, Climate Disclosure Standards Board, sustainability ratios), sustainability analysis (not using time value techniques to evaluate non-monetary outcomes, recognizing the narrow focus of Internal Rate of Return), sustainability financing (green bonds, social impact bonds), and non-financial risks.

• FMSW discusses the United Nations Sustainable Development Goals (SDGs) with an example for each SDG of how a well-known company pursuing that SDG is finding "value from values."

Other features:

• Appeals to intuition rather than to formula so students can truly understand the concepts rather than just memorizing a formula.

• NET Present Value boxes – references to interesting and useful websites throughout the book.

• Extensive questions and homework problems.

• A set of Web-based cases.

• Web-based appendixes to most chapters that go into further depth than the material in the book for instructors who wish to delve further.

• Summaries of all mathematical relationships and financial ratios introduced in the book.

TOC | Preface | Sample Chapter

FINANCIAL MANAGING FOR A SUSTAINABLE WORLD

FRANK M. WERNER
Fordham University
Associate Professor of Finance

JAMES A.F. STONER
Fordham University
Professor of Leading People & Organizations

Textbook Media Press

BRIEF CONTENTS

DETAILED CONTENTS

PART IV ADDING VALUE 291

Where to find it: Web-based appendixes and cases can be found at the *Financial Managing for a Sustainable World* section of the Textbook Media website: www.textbookmedia.com

TO THE INSTRUCTOR

Thank you and congratulations for adopting this book. We and the many leading finance professionals throughout North America who encouraged us to write it and who reviewed our work think you have made an important decision for your students, for global competitiveness, and especially for global sustainability. Change is never easy, as we ourselves found out when we began asking the questions that led to this textbook.

Financial Managing for a Sustainable World is a different kind of undergraduate finance text. Although all financial management texts cover finance, we know of no other undergraduate "financial management" textbook that has anything to do with management or that addresses the implications of sustainability for finance. We're excited about the book since we believe this is the way we will all be seeing finance in the coming years. We hope we've communicated our excitement to you and your students

1. Our Goals for the Book

In writing *Financial Managing for a Sustainable World*, we set seven goals for ourselves:

To present finance in a clear and consistent manner The book is designed—through its choice of language, illustrations, and design—to be easy to read and use. The approach for analysis and problem-solving is straightforward and is applied consistently. The book is approachable and user-friendly, thanks to features such as its realistic cases and problem scenarios, cartoons, hypertext cross-references, and dual glossary.

To organize the book based on the way financial managers conceive their work The flow of the book is consistent with the financial managing job: raising money, using money to add value to the firm, and returning value to shareholders. This makes it easier for students to understand the "big picture."

To make the book consistent with the direction of business education The book includes extensive material in response to five concerns of contemporary business education: (1) globalization, (2) ethics, (3) cross-disciplinary activities, (4) quality management, and (5) global sustainability. International content is integrated throughout the book. Ethics appears naturally in the context of the worldwide quality-management and sustainability revolutions. Cross-disciplinary activity, a requirement in modern business practice, is explicitly addressed wherever financial decision making is discussed. The book uses the experiences of leading companies to report the progress finance organizations are making in identifying and serving finance's customers and in improving finance's processes. Global sustainability appears as a major topic throughout. A consistent theme is bridging the gap between traditional and new management practices, a current fact of life for finance professionals we refer to as "living in both worlds."

To equal or surpass the best features of other textbooks We benchmarked over 50 features of both finance and nonfinance texts, looking for the best example(s) of each, and set out to do as well or better on every one.

To provide instructors flexibility in using the book The book contains full coverage for an introductory course of either one or two semesters. It can be used in a traditional financial management course, or in a survey of finance course since its broad coverage introduces many areas of finance, not just large corporation financial management. We have put more-advanced subjects, more-detailed explanations, and derivations on the web in "Web Appendixes" to provide greater flexibility in selecting and assigning materials. Cross-reference footnotes connect material that appears in multiple chapters, helping instructors and students alike to tie pieces of the finance subject together.

To keep the size of the book reasonable Even with all its new coverage, the book has only 18 chapters.

2. Advantages for Students, Instructors, and Society

We think there are important advantages to a finance book that is consistent with global sustainability and best management practice.

For students The approach of *Financial Managing for a Sustainable World* makes students more attractive to employers, not only by teaching them the core competencies of finance but also by showing them how to use those skills effectively within a modern, world-class organization.

For instructors *Financial Managing for a Sustainable World* permits instructors to teach best practice—financial managing as it is done in companies recognized as business leaders. It supports teaching, as students find the book intuitively clear and easy to read and understand. By integrating international and ethical issues throughout the book, it builds those subjects naturally into students' analyses and removes the need to treat them as separate topics.

For society *Financial Managing for a Sustainable World* joins the increasing supply of educational materials attempting to change the way business schools prepare their students. Business is changing so fast today that schools often have understandable difficulty keeping up. The observation of Walt Kelly's lovable cartoon possum, Pogo, that "We have met the enemy, and it is us!" has been applied with some wisdom to business education. *Financial Managing for a Sustainable World* is our contribution to moving business schools from being "part of the problem" to a "part of the solution" of educating students to compete successfully in today's global markets and to contribute to global sustainability.

3. Who Should Use the Book

Because of its tone and approach, *Financial Managing for a Sustainable World* has been appreciated by instructors, students, and employers alike. We think the book is especially appropriate for nontechnical students, since it minimizes the use of derivations and formulas, and for students who are employed full- or part-time and who will immediately see the validity of the book's approach and its relevance to their work. Its predecessor, *Fundamentals of Financial Managing*, has been widely used in undergraduate programs. Its graduate-level sibling, *Modern Financial Managing—Continuity and Change*, has been successfully used at the M.B.A., and executive M.B.A. levels and was reviewed during its development both by professors and senior financial executives from some of North America's leading companies.

4. Pedagogical Aids

We have included many pedagogical aids to make your job of teaching easier and your students' job of learning more rewarding and more fun. Among the features to look for and take advantage of are:

Tightly integrated chapter structure Each chapter begins with a set of learning objectives entitled "Key Points You Should Learn from This Chapter." These points correspond precisely to the A-heads, or major sections of the chapter. At the end of each chapter is a "Summary of Key Points" that repeats and reviews the learning objectives.

Chapter opening and closing vignettes Each opening vignette describes a scenario faced by a finance professional and is designed to involve your students in the material by putting them "on the job." Each closing vignette shows how the concepts of the chapter can be used to address the opening issue. Since the closing vignettes do not give a single definitive answer (there rarely is one), the opening story can be used as a case for class discussion, homework, or examinations.

Presentation of current finance practices of world-class companies (and some not quite so accomplished) "Finance in Practice" boxes describe recent activities of companies and business leaders as well as modern applications of finance theory. "Serving Finance's Customers" boxes illustrate how a finance organization can add value by meeting the needs of its internal and external customers. "Improving Finance's Processes" boxes describe examples of adding value to a corporation by doing finance's job more efficiently and effectively. "Contributing to Global Sustainability" boxes illustrate how financial activities can enhance the environment and society.

Presentation of the limitations of former financial practice Each chapter ends with an "Historical Flashback" box looking at "what finance used to do when the goal was believed to be SWM." These boxes identify some of the myopia and unwanted side effects that came from making Shareholder Wealth Maximization the company's goal. They provide a stark contrast to one of the primary messages of the book, that all stakeholders, including the environment and society, must be served if the firm is to truly contribute to the world.

A focus on global sustainability Chapter 1 establishes sustainability as a necessary and central part of the objectives and responsibilities of all organizations. We introduce the United Nations Sustainable Goals (SDGs), aspirational goals for creating a safer, cleaner, more just society. Then, in each subsequent chapter, we illustrate how a well-known company is discovering "Value from Values," profitable opportunities from addressing the challenges and opportunities of one of the SDGs.

Frequent, clearly labeled, fully worked-out examples Students learn from examples, and we have tried to err on the side of too many rather than too few. Where the examples are closely linked to finance theory, we often have presented the example first followed by the theory, rather than the other way around, so that the theoretical concepts may be related immediately to a shared and understood example. Examples are in a standard format: a problem scenario paragraph followed by a "Question," "Solution steps," and "Answer." Often the "Answer" contains further commentary to enhance students' understanding of the example.

Appeal to intuition rather than to formula While some students are very comfortable with mathematical presentations, all too many are not and never learn finance because of their "math anxiety." This is a shame because the majority of finance can be a very intuitive subject. We have avoided formulas wherever possible or placed them in Web Appendixes where they are available for those who find them helpful. We have standardized the notation in the algebra that is included: in all cases, capital letters stand for a money amount (e.g., PV for present value) while lower case letters stand for a rate (e.g., t for the marginal tax rate).

Use of the financial calculator and spreadsheet for time-value analyses We have purposely not included the use of time-value tables with this text. Although some instructors find the tables useful for illustrating the basic time-value relationships, financial calculators and spreadsheet programs are universal tools in business today. It is the rare finance professional who does not use them; it is the rarer finance professional who still uses time-value tables. Also, it is cheaper for a student to purchase a calculator or smartphone calculator app than to buy the textbook itself. All problems involving time value are fully worked out, showing the correct keystrokes and spreadsheet functions. At the end of the book you will find a calculator appendix "Using Your Financial Calculator" illustrating the location of each time-value key on the most widely used financial calculators and a "Spreadsheet Functions" appendix listing financial functions in Microsoft Excel and Corel Quattro Pro. By illustrating how each time-value example may be solved with calculators and spreadsheets, the book provides students with extensive hands-on experience. Another advantage of this approach is that our examples can be much more realistic and not confined to a narrow set of interest rates or time periods.

Use of visual aids Charts and tables are used throughout the book to support learning. Each discussion of financial market instruments features a copy of the relevant quote(s) from the Bloomberg.com website, a recent edition of *The Wall Street Journal*, or the FINRA website, often as seen "Through the Looking Glass" in which we magnify a section of the quotes to study the numbers in more detail.

Complete glossary, both in the margin, and at the end of the book The marginal glossary defines terms as they are encountered in the text, so students have the definitions when they need them. The end-of-text glossary is a reference students can go back to when they review and study. Also, the end-of-text glossary serves as a second index since each definition contains the number of the page on which the parallel marginal definition appears.

Questions that follow each chapter We have tried to make the chapter-ending questions both thought-provoking and useful for reviewing the chapter concepts. They may be used for homework, class discussion, or examinations.

Extensive set of homework problems The problems that follow each chapter are presented in the same order as the chapter material and are clearly labeled to identify the topic(s) they refer to. Problems come in pairs: problems 1 and 2 cover the same material; so do problems 3 and 4, problems 5 and 6, etc. You can assign one problem of each pair for homework and keep the other in reserve for classroom work, examinations, or for the student who asks for additional examples. The problems range from the simple to the complex—the first problems are narrowly targeted at specific concepts and relationships, while the later problems tend to be broader and integrate the chapter materials. Most problems have multiple parts in which the value of one variable is systematically changed. Students may do all the parts at one sitting or may save one or two parts for later review. When all parts of a problem have been completed, they illustrate the sensitivity of the result to the variable that was changed, providing another learning opportunity.

Accompanying web-based cases These cases provide additional opportunities to explore the chapter concepts and may also be used for assignments and examinations.

End-of-book summary of mathematical relationships and summary of financial ratios These handy summaries can be used as study aids by students. They are also useful as reference materials for examinations if you permit students to bring in a list of formulas.

"NET Present Value"—references to interesting and useful websites These references, which appear throughout the book in the margin, direct students to interesting sites on the "net" where they can learn more about a topic and see practical, real-time applications of finance.

5. Supplements

We are creating a full set of supplements to accompany the book. For this edition there are:

- **A solutions manual** with answers to all questions and detailed, step-by-step solutions to all problems.
- **A set of web-based appendixes and cases** that extend the concepts of the book.
- **A test bank** with short-answer questions and problems available both in hard copy and on diskette for Macintosh and PC-compatible computers.
- **PowerPoint™ slides** for each chapter to support and supplement classroom presentations containing the chapter content plus formulas, figures and tables from the text.

6. Moving Forward Together

We have worked very hard to make *Financial Managing for a Sustainable World* an exciting and superior textbook. However, we believe that everything is subject to continuous improvement, and we know that you all have wonderful ideas that could enhance the book and its supplements. We would love to hear from you. Tell us how we can (further) assist your teaching in any way; help us make the book better. Feel free to contact us any time at:

Fordham University
Gabelli School of Business
Hughes Hall
441 East Fordham Road
Bronx, NY 10458

Frank: (718) 817-4147, fwerner@fordham.edu
Jim: (212) 636-6178, stoner@fordham.edu

You are our customers, and delighting you and exceeding your expectations is and will always be our primary goal.

Acknowledgments

Writing a textbook takes the efforts of many people over many years. We extend our hearty thanks to all of them. Although we will never be able to thank each person adequately, we wish to identify those who played a particularly important role in the book's development.

1. Genesis

The beginnings of this textbook were the teaching materials Frank Werner developed for use in his finance classes at Fordham University and in the *Management Training Program—Finance* at Manufacturers Hanover Trust Company, now part of JPMorganChase. Thanks go to Corporate Professional Development staff at Manufacturers Hanover—especially Mort Glantz, Carol Johnson, Tom Kennedy, Tom McCaskill, Charlie Stipp, and Barbara Taylor—who helped Frank to identify the best content and sequencing of the materials, and to Dale Broderick, who, more than any other teacher, taught Frank how to write for the classroom.

In 1989, Frank and Jim began their work on the interrelationships between financial managing, globalization, and quality management by conducting the first of a series of graduate seminars with that theme. The seminars led to our stimulating and fruitful relationship with the Financial Executives Institute's research arm, the Financial Executives Research Foundation (FERF). FERF's research grants, and the strong support of Roland Laing and Bill Sinnett, gave us exceptional opportunities to learn from many CFOs and other financial executives of companies that are leaders in changing financial management practice. These financial executives are showing how finance can add increasing value to their companies by recognizing and taking advantage of the opportunities arising from the integration of globalization, technology, quality management, sustainability and financial practice. Many of the examples in this book are drawn from their successes.

At Fordham, Frank and Jim have had the good fortune to work with excellent colleagues in an environment where good teaching is encouraged and supported. Our faculty colleagues, particularly Victor Marek Borun, Sris Chatterjee, John Finnerty, Gautam Goswami, Steven Raymar, and Robert Wharton continue to provide much of that environment. Our deans past and present of the Fordham Schools of Business—Susan Atherton, Arlene Eager, David Gautschi, Robert Himmelberg, Janet Marks, Lauren Mounty, Donna Rapaccioli, Ernest Scalberg, William Small, Sharon Smith, Arthur Taylor, Maureen Tierney, and Howard Tuckman—have consistently supported us emotionally and financially. Bobby Wen repeatedly played key roles in the early seminars and courses we conducted.

2. Modern Financial Managing—Continuity and Change

In December 1991 we were introduced to Kirsten Sandberg, finance acquisition editor at HarperCollins College Publishers. Kirsten was quick to see the potential of our approach and immediately understood our desire to produce a family of textbooks using quality management techniques. In a large sense, our first text-

book, *Modern Financial Managing—Continuity and Change*, would not have existed if it were not for her unfailing energy, good humor, and consistent faith in us and the project. Ed Yarnell worked closely, patiently, and creatively with us in the final crunch, and arranged for our work to be read by the following academic and professional reviewers who responded to the manuscript in its various stages of completion and who gave us many good ideas for improvement:

Peter Bacon, Wright State University
Omar M. Benkato, Ball State University
T. K. Bhattacharya, Cameron University
James Booth, Arizona State University
Kuang C. Chen, California State University-Fresno
Michael C. Ehrhardt, University of Tennessee
Janet Hamilton, Portland State University
David W. Hickie, Motorola Corporation
Sherry L. Jarrell, Indiana University
H. Thomas Johnson, Portland State University
John M. Joseph, Jr., Thomas College
John Kensinger, University of North Texas
Russell L. Kent, Georgia State University
Nancy E. Kin, Lake Forest Graduate School of Management
Rose Knotts, University of North Texas
John H. Lea, Arizona State University
Bryan Malcolm, University of Wisconsin-Stout
Steven Mann, University of South Carolina
Kyle Mattson, Rochester Institute of Technology
Thomas H. McInish, Memphis State University
Vivian Nazar, Ferris State University
Chec K. Ng, Jackson State University
M. Megan Partch, University of Oregon
Shafiqur Rahman, Portland State University
Robert G. Schwebach, University of Wyoming
Hugh D. Sherman, York College of Pennsylvania
David Y. Suk, Rider University
Kenneth R. Tillery, Middle Tennessee State
Philip M. Van Auken, Baylor University
Charles H. Wellens, Fitchburg State University
Len Wood, Raychem Corporation
Thomas V. Wright, St. Louis University
Robert M. Zahrowski, Portland State University.

As we began to create *Modern Financial Managing*, we class-tested each chapter extensively in the introductory courses at Fordham University. Hundreds of students provided written feedback as they read each chapter. While it is impossible to single out each by name, they are responsible for many of the book's examples and innovations. Particular thanks go to Fordham professors Christopher Blake, Sris Chatterjee, Iftekhar Hasan, and Rohinton Karanjia who used draft sections of the book in their classes and provided valuable feedback.

3. Fundamentals of Financial Managing

With the successful publication of *Modern Financial Managing—Continuity and Change*, we turned to writing *Fundamentals of Financial Managing*, the second book in the family. We were fortunate to have the support of Trond Randøy, Cynthia Leonard, and the excellent staff at Authors Academic Publishing as we prepared the first edition of this book.

When Authors Academic Publishing closed its doors, we discovered the new, exciting, and innovative textbook distribution concept developed by Textbook Media Press. Like the people at Textbook Media, we believe that the price of traditional textbooks has become far too high. Our thanks go to Ed Laube and Tom Doran of Textbook Media who made the second and third editions possible and who pioneered the process to bring it to students at a price they can afford.

Particularly special thank yous go to Philip Schrömbgens, Kyle Houghton, Phungporn (Bee) Jaroonjetjamnong, John Fernandez, Elizabeth Tam, Shui Hwang, and Cara Jacaruso, Frank's graduate assistants at Fordham, who worked closely with Frank and Jim to prepare the manuscript. Philip managed the computer files, designed page layouts and edited text and artwork to produce the first edition. Kyle, Bee, and John picked up where Philip left off and produced the second edition. Elizabeth and Shui produced the third edition. Cara produced the fourth edition. Their skill and creativity improved immeasurably the quality of this book, and we are most grateful for all their efforts.

4. Financial Managing for a Sustainable World

When the time came to write the 5th edition of Fundamentals of Financial Managing, we recognized that the demands of society for global sustainability were having a marked effect on business theory and practice, so much so that we needed to make more than the usual updates to the previous edition. The goal of the firm was evolving from Shareholder Wealth Maximization to a much broader goal that explicitly considered the needs of all stakeholders. Business practice was increasingly incorporating sustainability into decision making. Financial analysts, both within the firm and in the surrounding financial ecosystem, were paying more attention to sustainability metrics in evaluating a company's performance.

In response, we changed the focus to the book to explicitly incorporate global sustainability. How can a company use financial tools and techniques to meet the needs of all its stakeholders, not just its common shareholders? How can a firm simultaneously be financially successful and contribute to a better world? To capture this changed focus, we retitled the book so its new focus and the benefits from using it would be clearly understood.

Special thank yous go to Eric Werner and Noah Lin whose brilliant sense of humor and artistic skill are responsible for the cartoons in this book.

Particular thanks go to Frank's graduate assistants of the past two years, Tara Martinelli and Sara Chesnos, who created the new illustrations, composed the new pages, and managed the complex process of putting the revised book together. We cannot thank them enough.

5. And, of Course . . .

Finally, we both feel a debt of love and gratitude to our families—Marie, Allison, and Eric; and Barbara, Alexandra, and Carolyn—who accepted our many late nights at the office and frequent trips to visit finance and quality professionals with very few complaints and many warm welcomes upon our return. For both of us they formed our ultimate support system.

TO THE STUDENT

Welcome to *Financial Managing for a Sustainable World.* We have tried to make the book easy to read and learn from and a lot of fun as well. Unlike many introductory finance books, this one talks about two facets of finance: analytical finance, the theory that guides financial analysis and decision making (which is in all finance texts), and operational finance, the way finance is practiced in world-class companies (which is in no other undergraduate finance text we know of). You are fortunate to have a professor who is forward-looking and in touch with the enormous changes taking place in business practice.

As you begin to study finance you are embarking on an exciting adventure, and we hope this book will be a good companion and guide. To help your learning further, we offer these suggestions:

Skim the entire book in advance Take an hour or so to look over the table of contents and to skim the glossary and index. Then read the "part openers," the short sections that begin each of the six parts of the book, and read the section "Key Points You Should Learn from This Chapter" at the beginning of each chapter. By taking the time to do this at the beginning of the term, you will get a good overview of the subject and will be able to set each topic in the appropriate context when you get to it.

Read the section entitled "To the Instructor" It is always useful to know as much as possible of what is on your professor's mind. In our comments to your instructor, we have written about what is new and special about this book. We have described some of the major features of the book—most of which were designed to make your work as a student easier.

Put yourself in the chapter opening vignettes Each chapter opens with a scenario you might find yourself in (or may already have been in) at some point in your business career. Before you read the chapter, think of how you might try to deal with the situation our characters are facing. As you read the chapter, relate the concepts to the vignette, and see how much more you could add. When you reach the end of the chapter, and read the closing vignette, match up your observations with those of the protagonist. While there is rarely a single "right answer," finance provides helpful ways of approaching each problem. You will be delighted as you observe your thinking and analytical processes sharpen throughout the course.

Work each example problem you encounter while you are reading a chapter Take out your financial calculator or boot up your computer and go through the problem step by step. Doing each problem will reinforce your reading and help you to become proficient at using the financial calculator and/or spread-

Jim discovers the true value of his textbooks

sheet which have become universal tools of financial professionals. You will learn more, and the new knowledge will stay with you longer.

Relate the examples about company practices to your experiences If you have worked for a while, you may have been involved in or seen similar examples of financial practice. However, even if you have little or no work experience, you have been a customer of business for years. In many ways, all the examples talk about universal phenomena: serving customers, increasing quality, contributing to sustainability, discovering when benefits exceed costs, finding the best way to do something. In what ways are these examples different or the same as those you have experienced? What could you have done differently if you had this knowledge back then? What about these examples makes them illustrations of "world-class" performance?

Use the footnotes labeled "Cross-reference" as a hypertext device Whenever a reference is made to something that appears in another chapter, there is a footnote identifying that other location. Jump back and forth as needed to pick up and review supporting concepts.

Look carefully at the total results of each homework problem Where a problem has multiple parts, you may find yourself doing the same analysis several times. Feel free to do only one or two parts at first and come back to the rest later to reinforce your learning. However, when you have completed all parts of a repeating problem, look at the range of results. Observe how the results changed in response to the one variable that changed, an important insight beyond what is asked in the problem.

Take advantage of the end-of-book "Summary of Mathematical Relationships" and "Summary of Financial Ratios" These handy pages include every formula in the book and serve as useful references when doing homework problems or preparing for examinations.

Use the end-of-book "Glossary" as a second index When you wish to review a concept, you can look up the definition of a related term in the glossary. At the end of the definition you will find the number of the chapter and page on which the term was first defined. Turn to that page, and you are at the beginning of the section to review.

Help us make the book better As we teach financial managing to our students at Fordham, we ask each student to write a weekly memo to us telling us how well we did each week as teachers and authors. Was the class clear and useful? Did this week's chapter read well or make no sense? What didn't you understand, and which parts of the chapter worked well for you? What could we do to make the book better? Hundreds of our students have written those memos. They have taught us a huge amount, and helped us to improve our books significantly. We invite all of you to join our Fordham students as we continue to improve this book. Please address any comments, criticisms, and suggestions to either of us at:

Fordham University
Gabelli School of Business
Hughes Hall
441 East Fordham Road
Bronx, NY 10458

We promise to read your letters and consider them seriously for the next edition. You are the ultimate customers of our work, and as we have learned from our studies of world-class companies, delighting you and exceeding your expectations must always be our primary goal.

Enjoy! Most important, as you study finance, HAVE FUN!! We know that there will be times during the course where many of you will be convinced that finance is anything else *but* fun, but this doesn't have to be so. We believe that one of the most important goals for every worker—whether a student, professor, finance professional, or anyone else—is to find what the renowned management thinker W. Edwards Deming called "joy in work." If you put in the effort to read carefully, to do the assigned problems, to go over the sticky points, to review your work, and to discuss the material with your friends who are also taking the course, you will be rewarded handsomely with useful and important learning that will last a lifetime. And as it has for your professor and us, finance will become a true labor of love.

ABOUT THE AUTHORS

Frank M. Werner is Associate Professor of Finance at the Gabelli School of Business of Fordham University. He received his Ph.D. in Finance from Columbia University in 1978. He also received an M.Phil. in Finance from Columbia in 1975 and an M.B.A. from Harvard in 1968. His undergraduate degree, also from Harvard, was in Engineering and Applied Physics in 1966. Dr. Werner is the author of a variety of journal articles, a computer-based simulation of corporate finance decision making, and numerous monographs and cases for instructional use. He is a member of the Financial Management Association and the Academy of Business Education of which he is a member of the Board of Directors. In addition to his responsibilities at Fordham, Dr. Werner advises companies in the areas of corporate finance, quality management, and financial managing for sustainability. He has given seminars on various quality and finance topics, in both English and Spanish, throughout North, Central, and South America; Europe; Asia; Africa; and the Middle East. His novel, *The Amazing Journey of Adam Smith* (CreateSpace, 2010), explores the connection between financial self-interest and the evolving needs of society, often referred to as 'global sustainability.'

James A.F. Stoner is Professor of Leading People and Organizations at the Gabelli School of Business of Fordham University. He received his Ph.D. from the MIT School of Industrial Management (now the Sloan School) in 1967. He also earned an S.M. in Management from MIT in 1961 and a B.S. in Engineering Science from Antioch College in 1959. Dr. Stoner is author and co-author of a number of books and journal articles. These include *Management,* sixth edition, Prentice Hall; *Introduction to Business,* Scott Foresman; and *World-class Managing—Two Pages at a Time,* Fordham University. He is a member of the Academy of Management where he is the founder and chair of the Management Spirituality and Religion interest group and past chair of the Management Education and Development Division; the American Society for Quality; the Academy of Business Education, and the Organizational Behavior Teaching Society, of which he is a former board member. In addition to his responsibilities at Fordham, Dr. Stoner has advised several major companies on the movement toward quality management and he teaches in executive seminars on quality, sustainability, and management. He has taught in executive programs in North and South America, Europe, Africa, and Asia. In 1992, Fordham University established the James A.F. Stoner Chair in Global Sustainability.

Drs. Werner and Stoner are the authors of five books studying changes in finance in companies that are leaders in quality management: *Remaking Corporate Finance—The New Corporate Finance Emerging in High-Quality Companies* (McGraw-Hill Primis, 1992), *Finance in the Quality Revolution—Adding Value by Integrating Financial and Total Quality Management*, (Financial Executives Research Foundation, 1993), *Managing Finance for Quality—Bottom-Line Results from Top-Level Commitment* (ASQ Quality Press and the Financial Executives Research Foundation, 1994), *Internal Audit and Innovation* (Financial Executives Research Foundation, 1995), and *Joining Forces* (Fordham Graduate School of Business monograph, 1998). They are also the authors of the textbook *Modern Financial Managing—Continuity and Change*.

CREDITS

Art (cartoons): pages xi, xvii, xxi, 12, 37, 75, 127, 166, 196, 258, 268, 297, 335, 360, 386, 412, 431, 452, and 461: © 2005-2011 and reprinted by permission of Eric Werner; pages 99, 215, and 488: © 2020 and reprinted by permission of Noah Lin. All rights reserved.

Figures: 1.4: Johnson & Johnson Credo reprinted by permission of Johnson & Johnson; 1.6: United Nations Sustainable Development Goals © United Nations and reprinted by permission; 2.2: Components of S&P 500 Market Value reprinted by permission of Ocean Tomo, LLC; 4.1, 4.2, 4.5, and 4.6: Financial data from Bloomberg website. Reproduced with permission of Bloomberg, LP; 7.5, 9.2, 9.3, and 6D.1: Financial data from THE WALL STREET JOURNAL, EASTERN EDITION by BARTLEY, ROBERT L. Copyright 2000 by DOW JONES & CO., INC. Reproduced with permission of DOW JONES & CO., INC. via Copyright Clearance Center; 7.2: Five Guys tombstone reprinted by permission of Gelband & Company; 7.3: Accelerated Pharma tombstone reprinted by permission of Palladium Capital Advisors; 13.3, 13.8: Juran Trilogy and Quality Storyboard reprinted by permission of the Juran Institute, Inc.; 16.4: Six Flags dividend screenshot reprinted by permission of Six Flags Entertainment Corporation.

Calculators: HP–10bII, HP–10bII+, HP–12c, HP–12c Platinum, HP–17bII+: images courtesy of and © Copyright 2011 Hewlett-Packard Development Company, L.P. Reproduced with permission; BA II PLUS, BA II PLUS Professional: images courtesy of and used with permission. © Texas Instruments Incorporated.

Spreadsheets: screen shots created with Microsoft ® Office Excel 2007 ® spreadsheet software and reprinted with permission from Microsoft Corporation.

CHAPTER 18
REGENERATIVE FINANCE

Ethan Lin found a vacant desk in the library reading room, sat down, and took out his laptop computer and notebooks. It was study time, and Ethan wanted to make the most of it.

Ethan was a first-year student in the business school of his university. In his first term, with the exception of financial accounting, his courses were all in the liberal arts. Now, in his second term, he was taking his first course in finance, and he was genuinely enjoying it.

Ethan really liked his professor, a rumpled fifty-something man with a good sense of humor who was very easy to listen to. He especially liked that his professor would regularly give up-to-date examples of how finance was actually being practiced. Just this past week his professor had discussed how even though the goal of the for-profit company was to maximize its stock price—he had called it Shareholder Wealth Maximization—many companies were not blindly following that goal because of concerns about the outcome for people and planet. Rather they were combining it with a desire to create goods and services that helped people and the environment. “Doing good while doing well” his professor had called it.

After spending about 45 minutes studying finance, Ethan took out his environmental science notebook and reread his notes from the past week. In that course he was learning about global warming and the environmental degradation that it was causing. One particular article he had read in that course was about how environmental degradation was accelerating despite the efforts of governments and businesses to find solutions.

Ethan sat back and stared up at the ceiling. From listening to his parents over the dinner table he was skeptical about the ability of governments to act fast enough, but he was pretty sure that businesses would come to the rescue. Yet something in that article kept bothering him. What if there was not enough profit in solving environmental problems. Would this mean that companies would only go so far and not address all the environmental problems the world was facing? And if so, what would that mean for the future

regenerative finance—applying finance theory and tools in ways that restore the health of social systems and the natural environment.

Ethan has discovered one of the most important concerns about the direction of financial managing today. As long as businesses continue to make shareholder wealth maximization (SWM) their goal, they put limitations on what they are willing to do to contribute to solving the problems of global sustainability. Insisting that new sustainability-focused activities meet old finance goals, often called the "business case for sustainability," simply might not be enough. In this chapter we go beyond SWM to consider a different approach to finance called **regenerative finance** that calls for financial managing, and indeed all business and economic activity, to be consistent with restoring and improving all aspects of our world.

Key Points You Should Learn from This Chapter

After reading this chapter you should be able to:

- Describe why there is an urgent need for a different approach to finance theory and practice.
- Describe the roles of the Mt. Pèlerin Society and financialization in the development of finance theory, the key assumptions and "fatal flaws" of shareholder wealth maximization as the financial goal of the for-profit firm, and why the business case for sustainability is insufficient.
- Identify at least three possible approaches to transforming the global financial system and creating a regenerating world, how the concept of value can be broadened beyond just financial value to shareholders, and how the most widely-accepted definition of sustainability can be further developed beyond simply maintaining the status quo.
- List and discuss the insights behind and the principles of regenerative economics.
- Explain the meaning of regenerative finance and how it might develop to be consistent with the principles of regenerative economics.
- Discuss three reasons for being humble about what we know about financial managing.

Introductory Concepts—Reconceiving Finance

Ethan is in good company in being concerned about how our current business practices and our entire global financial system are functioning and impacting the world of today and tomorrow. Many of the best minds in finance and economics share his concerns and his confusion. Where do we need to go now and in the future to create business practices and a global financial system that will yield a world in which all of us and future generations can flourish? While no one yet has a completely compelling answer, we think it is important to ask those types of questions.

We begin by acknowledging some of the problems that have become increasingly obvious about the mindsets and paradigms that have guided the actions we have been taking as managers, people, and citizens—not only what we have been doing in the world but even how we have been thinking about what we have been doing. We will pay particular attention to the problematic concept of shareholder wealth maximization (SWM) that we have discussed throughout this text and how for-profit businesses need to move beyond SWM as their goal.

Next, we will summarize the thoughts of several very creative thinkers about how finance might evolve to be consistent with the environmental and social imperatives of the 21st Century. We will discuss finance's conception of value, a key focus of finance, and how that concept might be expanded to be more inclusive, and we will propose a further goal for business and society in general beyond sustainability as a possible step forward in moving finance theory and practice toward making greater contributions to the kind of world we can all wish for.

Then we will start exploring an emerging field of thought and action that we find very promising and exciting: regenerative economics and finance. We will not claim this is the only possible way forward. However, it is the most promising we have found so far. And, we will not claim that it is fully developed. We will not even claim to understand it fully. We believe it is a "work in progress" and we know our understanding is similarly a work in progress. However, we do make one promise: as you begin to understand the regenerative concept and the approaches it suggests, you will have some very interesting topics to think about and to discuss with your professors, friends, and managers in companies in which you now work or will work in the future. And, you will have some important and valuable questions to keep exploring as you continue on the path of lifelong learning you have already been traveling for many years.

The Problem of Where We Are Now

In Chapter 1 we traced the evolution of finance theory from the time of the Industrial Revolution of the late 18th Century to the present. As we look ahead in this chapter and consider the future of finance theory, it might be useful to remind ourselves how we arrived at this juncture.

Finance derives from economics, and our modern conception of finance begins with the insights of the man considered the "father of modern economics," Adam Smith. In *The Wealth of Nations*. Smith introduced the concept of the "invisible hand," the notion that the founders of the small businesses of his day would contribute to society even though their motivation was to enrich themselves. Small businesses, each attempting to maximize their profits, would respond to the demands of the marketplace (to increase their revenues) and minimize their use of resources (to decrease their costs) which would provide society with the maximum amount of desired goods and services at the lowest possible prices.

The growing size and complexity of businesses in the 19th Century led to the need for more formal and standardized accounting systems, but this changed the definition of profit so it was no longer a company's increase in cash. Further developments in the 20th Century—the understanding of time value, the connection of returns to risk, and the growing disconnect between investors and professional managers—led finance to seek a better measure of financial performance than profits. Finance theorists proposed the firm's financial value to its common stockholders as the new measure of business success, and because companies whose financial value could be seen were corporations whose common stock was traded on stock exchanges, the measure selected was the total market value of the company's shares, its market capitalization. The measure became known as shareholder wealth, and the accompanying financial goal became to maximize shareholder wealth, hence shareholder wealth maximization (SWM).

Much of the financial management theorizing that has led us to shareholder wealth maximization and to other perspectives on finance has been inspired and guided by economic theory, and the contribution of economic theory to finance theory has been important and valuable. However, the influence of other intellectual traditions (psychology, sociology, political science, anthropology, etc.) on finance theory has not been nearly as widespread and significant. In the last few decades this situation has been changing, and such perspectives have been having increasing influence on finance theory and even on economic theory. You may already have seen hints of such influences in what you have read so far in this book and may see some additional hints in the pages that follow. In the near future, the role of these other intellectual traditions in economic and finance theorizing is very likely to continue to grow.

1. Neoliberalism and the Mont Pèlerin Narrative

In 1947 in the aftermath of World War II, Friedrich Hayek, one of the most renown economists of the day, invited a group of well-known economists, political scientists, historians, and philosophers to meet to discuss the direction of the post-war political economy. The conference was held in the small Swiss village of Mont Pèlerin, and the group adopted the name the Mont Pèlerin Society. The group was motivated by the horrific damage to human freedom and dignity caused by the Nazi regime in Germany and the Soviet government in Russia, and they foresaw a similiar loss of freedom in the communist governments emerging in Eastern Europe and perhaps in China. Concerned that a similar fate might befall the United States and the rest of the post-war world, they saw the primary source of danger as excessive governmental management of economies and societies and that there was an urgent need to champion individual liberty and freedoms. The group called their philosophy neoliberalism although the philosophy that evolved under that label is much closer to traditional conservative thinking and values than to a new ("neo") version of liberalism.

The fundamental tenet of neoliberalism was that human dignity derived from individual freedom, and that individual freedom required that governments should not limit or direct individual choices. Governments should not interfere in the economy or markets or in private ownership and decisions of how to use property. Free trade should be championed.

The narrative that emerged has dominated economic and finance theory since that time. It argues that the most important social value is individual freedom, hence individuals—including businesses formed by individuals—are the only valid participants in the economy which must be solely devoted to individual freedom and not to any other social or political goals. It contends that Adam Smith was correct that individuals acting to maximize their personal wealth do the best for society as a whole. It claims that economic success is measured by money, individual wealth, which translates to societal success. It concludes that the role of government is to support this system by protecting citizens' freedom, safety, and their economic and property rights, but otherwise stay out of the way. By not being overly involved, governments would not be unduly influenced by businesses and very wealthy individuals and families.

The neoliberal narrative found its public voice in the writing of Ayn Rand, whose widely read novels *Atlas Shrugged* and *The Fountainhead*, used the narrative as the basis for her stories and were endorsed and promoted by neoliberals.

2. Financialization

In the last half-century, much of the economically developed world experienced a major transition from an industrial society to a postindustrial society in which employment shifted from manufacturing to service industries. In response, the social contract between employer and employee also shifted. Manufacturers needed large labor forces that often had to work under difficult conditions. This led to the formation of labor unions, and companies that wanted labor peace and productivity soon learned to accept those unions. During World War II, companies in the United States found themselves competing for a limited supply of domestic labor; to attract employees they improved working conditions, developed benefits packages, and increased job security. Their large size offered room for advancement, and most employees, tied to their companies by nonportable pensions, stayed for life.

Today, the largest employers are service companies that compete intensely with foreign companies with low-cost wage structures. Wages for employees who are not in jobs that require highly specialized skills have frequently declined in real terms and benefits have often been eliminated. Job security has all but vanished. The workplace is smaller and flatter with limited room for advancement. The creation of large mutual funds and their use for retirement accounts means that most companies no longer manage pensions for their employees, and with pensions gone or portable there are fewer reasons for employees to remain with one employer. The result of this shift is that the business world in which people's financial future derived from their place of employment has been replaced by a world in which personal welfare depends increasingly on the financial markets.

The increased importance of finance in people's lives, coupled with the widespread adoption of the neoliberal narrative and the shareholder wealth maximization goal, has led to the transfer of income from the real economy—companies that produce goods and services— to the financial sector of the economy, a process known as **financialization**. This shift has elevated the perceived importance of the financial sector relative to the rest of the economy giving it increased influence over economic policy and outcomes. It has significantly enriched many within the financial sector leading to increased income and wealth inequality. It has also led to the financial sector having increased influence over economic policy. However, this new finance-centric society has failed to provide a viable alternative to the social stability that characterized its predecessor.

financialization—the increase in size and importance of a country's financial sector relative to its overall economy.

3. Questionable (Faulty?) Assumptions Behind Finance Theory

As is common in so much of economic and finance theory, the shareholder wealth maximization paradigm is grounded in a series of assumptions, some explicit and some not so explicit. However, there is mounting evidence that the core assumptions on which SWM is based are not consistent with reality or are no longer appropriate for the present time. And, if the assumptions that provide the foundation for SWM are faulty, the accuracy of the SWM paradigm is questionable. In this section we identify eleven of these assumptions and in most cases report just one of the many recent challenges to the validity of each one of them.[1] We invest the next two pages in listing and commenting very briefly on these assumptions for two reasons. First, we want you to recognize how very, very cautious all of us should be when business and governments take policy actions that are grounded in theories and conclusions based on such a questionable set of assumptions. And second, we want to call attention to the need for fresh thinking to create a firmer ground for future business and policy decisions and actions.

Shareholders are the "owners" of the corporation The founder of a business is typically also its initial investor and its chief executive. SWM assumes that the investor role is the one that identifies the company's owner(s). However, individuals who own a company's stock usually play no meaningful ownership role in influencing company policies and actions. Day traders and many investment fund managers are not likely to act like owners with an interest in the long-term health of the enterprise unless they hold a large block of the company's shares that they plan to hold for a long time.

Financial capital is "the" scarce resource Thus, the providers of financial capital must be the most important contributors to the business. However, there is an emerging consensus that the world is awash in liquid capital with the current challenge being to find attractive investment opportunities for those funds, and that company performance and success are based less on the physical assets it has—such as machinery, buildings, and land—and more on the intellectual capital embedded in its members minds, organizational practices, brands, patents, and similar intangibles. We also now understand that there are other forms of capital:

[1] **Reference:** This section is drawn from Werner, Frank M. and James A.F. Stoner, "Sustainability and the Evolution of the Shareholder Wealth Maximization Paradigm," Chapter 10 in Boubaker, Sabri, Douglas Cumming, and Duc Khuong Nguyen, *Research Handbook of Finance and Sustainability*. Cheltenham, UK: Edward Elgar, 2018.

intellectual capital, social capital, cultural capital, etc., and these are often more scarce than financial capital and more important for company success.

The world is abundant in natural resources Depletion of any single natural resource is unlikely, and inconsequential even if it occurs because alternatives will be discovered. However, the rapidly growing world population is placing increasing demands on all resources, and it is difficult to imagine how some critical resources could be replaced in time to avoid significant damage to humanity, for example air to breathe or water to drink.

Capital markets are "efficient," rapidly incorporating information about a company's prospects so that maximum share price reflects investors' belief that the company has achieved the best combination of long-term cash flows and risk and provides effective feedback and guidance to the company's managers. However, even if capital markets rapidly incorporate information, there is no reason to believe that the stock prices they set are true measures of a company's worth and it is hard to construct an explanation of how widely fluctuating share prices in the short term can be a solid indicator of long-term company value.

Human beings are entirely rational with "rational" defined as motivated only by maximizing consumption and minimizing the effort required to obtain goods and services. However, this demeaning assumption about who we are as individuals and as humanity flies in the face of everything we know about the complexity of human motivation and actions, and also denies the very essence of what makes us worthy of being called human.

All voluntary economic transactions are positive for all parties concerned Any transaction in which someone is willing to pay a price for a good or service that provides a profit to the supplier is by definition a win-win for company and customer. However, this assumption ignores any negative externalities on the consumer, the environment, or on society—such as pollution or carnage from firearms—and assumes that all parties have complete and accurate information about the goods or services involved and the availability of any alternative goods or services.

Business organizations have limited if any impact on the physical environment, local cultures, social justice, and social relationships and do not have any reason to be greatly concerned about such matters. However, the largest of today's businesses rival entire nations in the size of their operations and have a significant impact on the environment and the societies in which they operate.

Governments will always set fair and appropriate ground rules Governments can be relied upon to be balanced, unbiased, wise, and fair arbiters between the interests of business and society. However, businesses and their trade associations have the power to tilt laws and rules in their favor as they are often major contributors to politicians and spend additional money lobbying and advertising to encourage belief in thier point of view. And, even when governments seek to act in the public interest, government rule-making lags business activities, often by many years.

The financial success of business is equal to the success of society as a whole, hence anything that increases business success must be good for society. However, financial success is not always environmentally or socially positive or even neutral, and even financial success—maybe especially financial success—is subject to "the law of diminishing returns" with psychological and social costs growing as increasing levels of effort become necessary while the benefits of those increasing levels of "success" decline.

It is possible to motivate managers to maximize long-term company health through cleverly constructed compensation packages that align the executives' motivations with SWM. However, recent business research concludes that attempts to construct such contracts have not been crowned with success in terms of aligning managers actions with factors that create sustained company performance and accompanying shareholder wealth. Rather, the contracts have often inspired very short-run attempts to pump up accounting earnings as well as other actions to increase share price for particular bonus dates, and they have increased top-level manager compensation to levels unimaginable 50 years ago.

Corporations are legally required to pursue SWM Corporate executives have been hired by the corporation's shareholder "owners" as their agents with one responsibility, a legally mandated fiduciary duty to do everything in their power to achieve SWM. However, this widely argued legal requirement simply does not exist. Fiduciary duty is not defined as SWM in statutory law. In Delaware, the state in which most large US corporations are incorporated, there are only two fiduciary duties: the duty of loyalty and the duty of care. The overwhelming majority of corporate charters simply state that the corporation's purpose is to do anything lawful.

4. The Business Case for Sustainability Is Insufficient

As we indicated in Chapter 17, making the "business case for sustainability " has become a popular activity in many for-profit companies. It involves analyzing a potential business opportunity and constructing the argument as to why the opportunity should be pursued. While a good business case requires the analysis of many aspects of a proposed project, one key component—perhaps the most influential component—has been demonstrating that the project will contribute to shareholder wealth by increasing profitability, lowering risk, or preferably both.

Companies still pursuing SWM often talk about the business case for sustainability, applying their organization's business case analysis procedure to the evaluation of potential investments in sustainability. But requiring that all new sustainability-focused activities be required to meet old financial goals raises the dilemma that Ethan Lin was concerned about at the beginning of this chapter—if there is not enough profit in solving environmental and social problems these companies would not have the incentive to address them. And, if many companies reach similar conclusions and choose not to address them, the problems could easily worsen until the costs of finally addressing them become prohibitive.

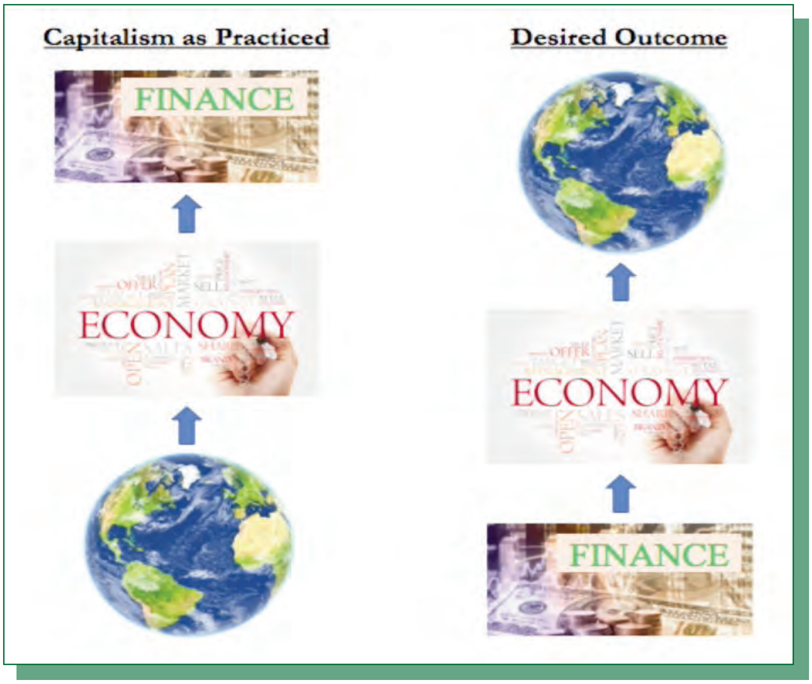


FIGURE 18.1
The role of finance in sustainability. To achieve the goal of a healthy planet, finance is restored to being a support system for the economy rather than being the goal of economic activity.

Even when the business case analysis does conclude that a sustainability-related project would be profitable, companies pursuing SWM are rarely motivated to look deeply at the root cause of the problem. Their SWM goal leads them to pursue the project only as long as it is profitable, so they often skim off the low-hanging fruit and ignore the underlying opportunities to make a lasting contribution to the environment or to society.

Although it is certainly desirable for companies to do less harm as they conduct their operations, the business case for sustainability cannot get us where we need go if we are to create a viable future for our own and future generations.

Moving Forward into the 21st Century

The increasingly obvious and societally painful unintended consequences of the financialization of the world economy are leading to many ideas about how we, as a global society, can move forward on the goal of achieving just communities and societies and a sustainable/flourishing/regenerating world. Some of these ways involve looking at the "big picture" of our situation with the goal of "framing" or "interpreting" our situation in new ways—ways that are "generative" in the sense that they allow us to discover promising ways to move forward, rather than seeing our situation in ways that discourage and disempower us, leaving us resigned to living in a hopeless situation over which we have no control.

1. John Fullerton and the Capital Institute

One powerful way to visualize the problem of where we are now has been put forth by John Fullerton, a former JPMorgan Managing Director and the founder of the Capital Institute. Figure 18.1 illustrates Fullerton's insight. The logic of capitalism as it is practiced today is diagramed on the left-hand side of the figure. Businesses take resources from the Earth as needed to produce products and support the delivery of services. In the aggregate, this activity makes up a major portion of the economy, hence the role of the Earth is to support the economy. Then finance enters and redistributes the monetary results of economic activity to create the greatest value for investors. Financial value, at the top of the diagram, is the ultimate goal of the system. So, the current flow is Earth to economy to finance.

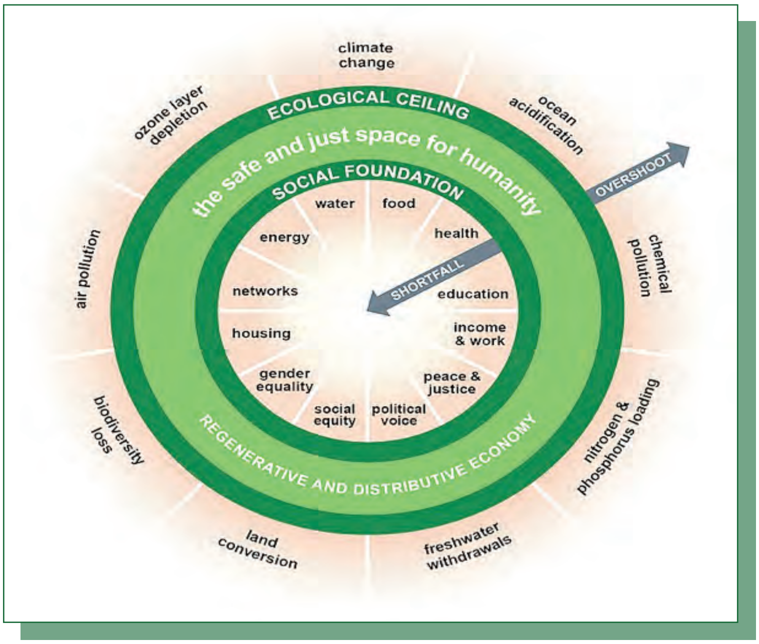
However, the emerging goal of society is not maximum financial value but rather to achieve a healthy planet where all species thrive and flourish. To illustrate this perspective Fullerton turns the diagram upside down. Now the goal of the system is a healthy planet, and Earth is at the top of the figure. The role of the economy is to help create this healthy earth in ways that serve the present and future generations, and the role of finance is restored to its rightful place, a support system for the economy and society by providing financial resources and liquidity.

2. Other Current Thought Leaders

John Fullerton is not the only creative thinker and author whose insights are helping us to interpret and understand the flaws in current economic and finance thinking and suggest ways forward.

Kate Raworth frames our situation in ways quite consistent with John Fullerton's framing. In *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist* she builds on a diagram that illustrates sustainable development as being achieved when human needs are met within planetary boundaries. In her framework, illustrated in Figure 18.2, a sustainable/regenerating world is achieved when the 12 human needs (e.g., food, health, etc,) that compose the "societal foundation" inner ring are achieved within the 9 planetary boundaries, "ecological ceilings,"

FIGURE 18.2
Doughnut Economics. Sustainable development is achieved when human needs are met within planetary boundaries.



that compose the outer ring. Between the two rings all of humanity can flourish. The hole in the center of the doughnut represents the numbers of individuals whose human needs are not being met. The space outside the outer ring represents the domains where planetary boundaries are being breached (climate change, ocean acidification, etc.) and threaten collapse of the entire system. In *Doughnut Economics* and other work, Raworth and her colleagues offer guidelines for how we can move toward the type of economy her work advocates.

David Korten has established a long track record of calling attention to problems with the way we produce-distribute-consume and the ways we have come to live our lives. In his many books and articles, he has called particular attention to the undesirable consequences of the growing monopolization of global commerce through the growth of large transnational business organizations (perhaps most notably in his 1995 book, *When Corporations Rule the World*). For three decades he has written books and articles describing promising ways forward among which are *Getting to the 21st Century* and *Agenda for a New Economy*. He has also worked with many others to propose alternatives such as the four principles of the Earth Charter: (1) respect and care for the community of life; (2) ecological integrity; (3) social and economic justice; and (4) democracy, nonviolence, and peace.

NET Present Value
You can learn more about the International Humanistic Management Association at: http://humanisticmanagement.international/

The work of the International Humanistic Management Association fits well with the work of the three preceding authors. IHMA identifies the narrow and socially destructive neoliberal fiction that humankind consists of soulless economistic self-centered consumption machines—a view that describes perhaps 2% or 3% of humanity—and builds a framework for creating a sustainable/regenerating world on the reality of the 97% of the rest of us who are much more worthy of being called human.

Finally, we call attention to a recent book that builds on many of the ideas and works of the preceding authors and organizations and lays out a comprehensive plan for moving into viable ways of being—individually and societally—in the 21st Century. In *A Finer Future: Creating an Economy In Service to Life*, L. Hunter Lovins, Stewart Wallis, Anders Wijkman, and John Fullerton describe how we can buy the time we need to deal with the potentially catastrophic situation we are in. They identify and discuss the financial, business, agricultural, and energy transformations we need to bring about the system-level policy changes that could move us toward "an economy in service to life," rather than living our lives in an economy in service to finance.

3. Redefining Value

One step in rethinking and reframing our situation involves redefining "value." For many years, a core concept in finance has been to understand and determine value, and a key financial activity in all organizations has been defined as "adding value." In the pursuit of shareholder wealth, financial managers add value by discovering and creating investment projects with positive net present value and by managing their firm's risks and choice of financing to lower required rates of return. Investment bankers add value by facilitating changes in the ownership of corporate assets toward those seen as more able to profit from them through mergers, acquisitions, and divestitures and by clever financial engineering and security design. Security analysts work to discover value through their financial analyses.

And, institutional professionals work to deliver maximum value to their clients through investment selection and portfolio management. The very name of one of the most fundamental concepts in finance is present *value*.

Today, however, new questions are being raised about this search for value: what kind of value? and value for whom? In the examples above, and within the shareholder wealth maximization paradigm, value is implicitly defined as *financial* value for *shareholders*. Yet there are many other kinds of value, and not all of them are solely in the service of equity investors. Some values are human-focused, for example: commitment, compassion, consistency, courage, creativity, dependability, good humor, honesty, loyalty, motivation, open-mindedness, optimism, passion, perseverance, reliability, respect, service to others, and a spirit of adventure. Others are organization-focused, for example a commitment to innovation and excellence, maintenance of the organization's reputation, and the creation of a safe, empowering, respectful, and satisfying working environment that provides what the renowned management thinker W. Edwards Deming called "joy in work." Still others are society-focused, for example: a commitment to the physical environment, a commitment to helping those less fortunate, and a commitment to building strong communities.

Toward the end of Chapter 1, we reported on the August 2019 "Statement on the Purpose of a Corporation" issued by the Business Roundtable, an association of Chief Executive Officers of major US businesses and the largest business lobbying group in the United States. The Statement recognized the need to broaden business's search for value beyond just financial value for shareholders. It is worth recalling it here.

> Since 1978, Business Roundtable has periodically issued Principles of Corporate Governance that include language on the purpose of a corporation. Each version of the document issued since 1997 has stated that corporations exist principally to serve their shareholders. It has become clear that this language on corporate purpose does not accurately describe the ways in which we and our fellow CEOs endeavor every day to create value for all our stakeholders, whose long-term interests are inseparable. … With today's announcement, the new Statement supersedes previous statements and outlines a modern standard for corporate responsibility. … Each of our stakeholders is essential. We *commit to deliver value to all of them*, for the future success of our companies, our communities and our country. [emphasis ours]

After almost a quarter century, the leading business lobbying group in America has explicitly recognized what the first editorial of the MIT Industrial Management Review (now the Sloan Management Review) said explicitly 50 years ago: the business of America is not business as American president Calvin Coolidge said it was some 100 years ago, instead, "the business of business is America." And now, 50 years later, we might well say: "The business of world business is the world…and the world's future generations."

4. Redefining Sustainability

The concept of sustainability has been around for a long time. The earliest civilizations quickly learned that they had to conserve resources if they were to survive their often brutal environments, and throughout history there have been voices alerting us to environmental degradation. One of the more visible in recent times was that of Rachel Carson, whose 1962 book, *Silent Spring*, warned us of the polluting and cancerous impacts of pesticides used to increase agricultural yields. By the late 20th Century, awareness of environmental degradation was becoming more and more visible, especially during the energy crises of 1973 and 1979 which forced many people to wait on long lines to purchase gasoline for their cars. Al Gore's 1992 book *Earth in the Balance* and his 2006 film and accompanying book *An Inconvenient Truth*, propelled global warming into the public conscience.

The Brundtland Report In the mid-1980s, the United Nations, formed the United Nations World Commission on Environment and Development to study the question of whether the increasing use of the Earth's resources to meet the needs of an increasing global population was sustainable. The Commission became known as the "Brundtland Commission" after its chair, Dr. Gro Harlem Brundtland, then the Prime Minister of Norway and later the Director-General of the World Health Organization. The report of the Commission, "Our Common Future," concluded that while economic growth and development was still possible and desirable, it had its limits. It defined the sustainability concept as follows:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Beyond the Brundtland Report While the Brundtland statement has been widely accepted as the definition of the sustainability concept, we now see it as having an important limitation. The statement effectively says that it is acceptable to maintain the status quo, that as long as the future is no worse than the present the world is on the right path. However, most people yearn for a future that is better than the present. Parents often say they want their children to live in a safer, healthier, more just world than the one they themselves grew up in.

Perhaps a better statement of sustainable development might be the definitions that appeared in the first edition of the *Journal of Management for Global Sustainability* in 2013:

> Global sustainability is a process that meets the needs of the present generation while enhancing [emphasis added] the ability of future generations to meet their own needs. Global sustainability envisions a world that works for everyone with no one left out.
>
> Global sustainability is the broad set of interconnected issues that encompass, but are not limited to, achieving environmental conservation, social justice, poverty eradication, social entrepreneurship, desirable production and consumption patterns, species preservation, and spiritually rich lives.

From degenerative to regenerative As thinking about the concept of sustainability has evolved, some people have started using some form of the phrase "sustainable/flourishing/regenerating" to hint at the evolution of their under-

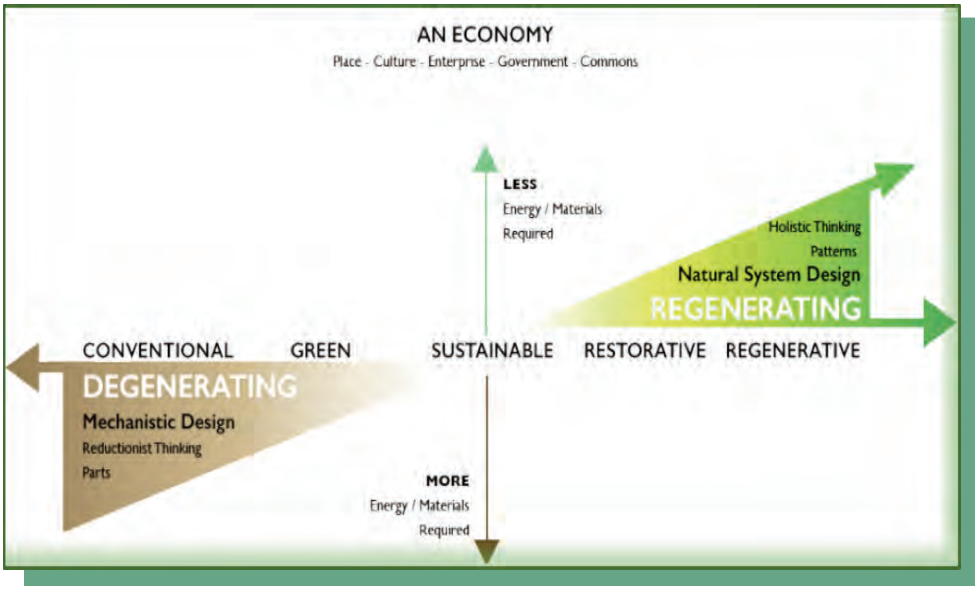


FIGURE 18.3
From degenerating to regenerating. Achieving sustainability is not sufficient.

standing of sustainability from not making things worse for future generations to having rich and full lives for all—now and in the future (flourishing)—to regenerating: flourishing while we restore the damages we have done to the planet, to other species, to ourselves, to our societies, and to our cultures.

One way of looking at the concept of regeneration is in Bill Reed's graphic depiction, presented here as Figure 18.3. Reed's figure illustrates the movement from a degenerating world toward a regenerating one as moving from left to right in the diagram. Conventional ways of producing, distributing, and consuming are degenerative. They are based on the reductionist thinking and mechanistic design we will explore in the next section of this chapter. The "green" movement is an improvement, as companies find ways to do less harm while making more money (the business case for sustainability). At the center of the diagram is the Bruntland Report goal of sustainability, maintaining the status quo without harming the future. Further to the right we are actively healing the planet (restorative) and eventually enhancing our planet and the well-being of ourselves and all others (regenerative). Then we will have reached the deep meaning of John Ehrenfeld's early contribution to defining sustainability as flourishing: "the possibility that human and other life will flourish on the planet forever."

Regenerative Economics

The neoliberal narrative, inspired and guided by the Mt. Pèlerin Society and its followers, and the ensuing goal of shareholder wealth maximization have been credited by some, perhaps by many, as having played a significant role in the post World War II economic prosperity of many (but not all) of us. "On the other hand," as economists are often teased about saying, the neoliberal narrative and SWM have also been blamed by some, perhaps by many, as justifying, guiding, and encouraging the patterns of producing, distributing, and consuming that have done so much damage to the planet's capacity to support healthy life. While the roles of the neoliberal narrative and SWM are often argued with passion, neither hypothesis, positive or negative, can be proved or disproved. Unfortunately, the continuing destruction of the planet's capacity to support life is beyond the point where it can reasonably be called an hypothesis. There is simply too much evidence around us to deny the dire situation the world is in.

1. The Emergence of a New Narrative—from Mt. Pèlerin to Mt. Sustainability

Observing that the narratives that guide us are important influences in our lives, a growing number of leaders are convinced that we need to find new narratives that do not bring with them the unintended, destructive consequences that seem to many to accompany the neoliberal narrative (e.g., Korten, *Change the Story, Change the Future*, 2015).

Climbing Mount Sustainability An early pioneer in exploring what it could mean to create a sustainable/flourishing/regenerating company was the late Ray Anderson, founder and CEO of Interface, a company that committed itself to become fully sustainable, and then to go beyond simply being sustainable. In two books and many public presentations, Anderson reported almost two decades of experimentation and exploration of ways a company can prosper financially while seeking to contribute actively to the well-being of society and the health of the planet. His company's continuing quarter century of initiatives, and those of many other companies that followed in his footsteps, are starting to chip away at the edges of the neoliberal narrative and encouraging others to undertake ever bolder thinking and actions—actions intended to replace economies grounded in the neoliberal narrative with "an economy in service to life." In contrast with neoliberalism and the Mt. Pèlerin Society's perspectives, Anderson often referred to his company's journey as "Climbing Mount Sustainability."

Changing the narrative How to change a narrative was suggested decades ago by Donnela Meadows, lead author of the Club of Rome's/MIT's painfully prescient 1972 study: *The Limits to Growth* and by Thomas Kuhn six decades ago in his widely respected book *The Structure of Scientific Revolutions*. Both used the word paradigm for the concept we are labeling as narrative. We intend the two words to refer to the same concept.

In *Thinking in Systems*, Meadows observed: "… people who have managed to intervene in systems at the level of paradigm have hit a leverage point that totally transforms systems" and "Systems modelers say that we change paradigms by building a model of the system, which takes us outside the system and force(s) us to see it whole." Kuhn is often interpreted as saying the only thing that will replace a dominant narrative is an alternative narrative. Writing about scientific theories as paradigms or narratives, he said; "… once it has achieved the status of paradigm, a scientific theory is declared invalid only if an alternate candidate is available to take its place." Guided by thinking along these lines many academic and business leaders are seeking ways to replace the neoliberal narrative with one that will contribute much more to the well-being of all species and to a regenerating world.

A series of such approaches is based on recognizing that nature itself is the exemplar par excellence of a regenerative system and using that perspective to explore the possibility that we might construct a new narrative for economics and business based on what nature offers to teach us every day—if we are willing to look, listen, and learn. In nature there is no "waste"—any output of any part of the system is an input to another part of the system. The only energy required by the members of the system is proved for free by the sun, ultimately or directly, or by other members of the system.

2. Thinking of Economic Systems as Natural Systems[2]

NET Present Value
You can learn more about John Fullerton, the Capital Institute, and regenerative economics and finance at: https://capitalinstitute.org/

In his approach to exploring how we might transform our global financial systems, John Fullerton begins with economic systems and looks to nature. He maintains that economies, if they are to sustain themselves over very long periods—"forever" as John Ehrenfeld writes—must meet the same requirements as natural systems (nature). He argues strongly that: "The universal patterns and principles the cosmos uses to build stable, healthy, and sustainable systems throughout the real world can and must be used as a model for economic-systems design."

In this vein, Fullerton defines regenerative economics as the discovery and "… application of nature's laws and patterns of systemic health, self-organization, self-renewal, and regenerative vitality to socioeconomic systems," and he summarizes his insights in eight principles which, taken together, define a regenerative economy. The eight principles are shown graphically in Figure 18.4 and are described in Figure 18.5.

FIGURE 18.4
The eight principles of a regenerative economy illustrated. The principles are visible in natural systems and apply to human systems as well.

[2] **Source:** This section of the chapter is drawn from *REGENERATIVE CAPITALISM: How Universal Principles And Patterns Will Shape Our New Economy* by John Fullerton, Founder and President of The Capital Institute with his generous permission, available at http://capitalinstitute.org/wp-content/uploads/2015/04/2015-Regenerative-Capitalism-4-20-15-final.pdf.

1. **In Right Relationship**: Humanity is an integral part of an interconnected web of life in which there is no real separation between "us" and "it." The scale of the human economy matters in relation to the biosphere in which it is embedded. What is more, we are all connected to one another and to all locales of our global civilization. Damage to any part of that web ripples back to harm every other part as well.

2. **Views Wealth Holistically:** True wealth is not merely money in the bank. It must be defined and managed in terms of the well-being of the whole, achieved through the harmonization of multiple kinds of wealth or capital, including social, cultural, living, and experiential. It must also be defined by a broadly shared prosperity across all of these varied forms of capital. The whole is only as strong as the weakest link.

3. **Innovative, Adaptive, Responsive:** In a world in which change is both ever-present and accelerating, the qualities of innovation and adaptability are critical to health. It is this idea that Charles Darwin intended to convey in this often-misconstrued statement attributed to him: "In the struggle for survival, the fittest win out at the expense of their rivals." What Darwin actually meant is that: the most "fit" is the one that fits best i.e., the one that is most adaptable to a changing environment.

4. **Empowered Participation:** In an interdependent system, fitness comes from contributing in some way to the health of the whole. The quality of empowered participation means that all parts must be "in relationship" with the larger whole in ways that not only empower them to negotiate for their own needs but also enable them to add their unique contribution towards the health and well-being of the larger wholes in which they are embedded.

5. **Honors Community and Place:** Each human community consists of a mosaic of peoples, traditions, beliefs, and institutions uniquely shaped by long-term pressures of geography, human history, culture, local environment, and changing human needs. Honoring this fact, a Regenerative Economy nurtures healthy and resilient communities and regions, each one uniquely informed by the essence of its individual history and place.

6. **Edge Effect Abundance:** Creativity and abundance flourish synergistically at the "edges" of systems, where the bonds holding the dominant pattern in place are weakest. For example, there is an abundance of interdependent life in salt marshes where a river meets the ocean. At those edges the opportunities for innovation and cross-fertilization are the greatest. Working collaboratively across edges – with ongoing learning and development sourced from the diversity that exists there – is transformative for both the communities where the exchanges are happening, and for the individuals involved.

7. **Robust Circulatory Flow:** Just as human health depends on the robust circulation of oxygen, nutrients, etc., so too does economic health depend on robust circulatory flows of money, information, resources, and goods and services to support exchange, flush toxins, and nourish every cell at every level of our human networks. The circulation of money and information and the efficient use and reuse of materials are particularly critical to individuals, businesses, and economies reaching their regenerative potential.

8. **Seeks Balance:** Being in balance is more than just a nice way to be; it is actually essential to systemic health. Like a unicycle rider, regenerative systems are always engaged in this delicate dance in search of balance. Achieving it requires that they harmonize multiple variables instead of optimizing single ones. A Regenerative Economy seeks to balance: efficiency and resilience; collaboration and competition; diversity and coherence; and small, medium, and large organizations and needs.

FIGURE 18.5
The eight principles of a regenerative economy described. The principles are visible in natural systems and apply to human systems as well.

Fullerton concludes. "The resulting theory shows us how to build a vibrant, long-lived, regenerative economy and society using the same holistic principles of health found consistently across widely different types of systems throughout the cosmos. This theory grounds our understanding of why integrity, ethics, caring, and sharing lead to socially vibrant communities and healthy economies—while at the same time making perfect practical and scientific sense." It also provides a lens to understand many (most?) of the failures we live with today. As Fullerton says: "Understood systemically, financial collapse as well as poverty and inequality in all its forms and even climate change-induced ecological collapse are symptomatic of a flawed system design."

reductionism—simplifying a complex system to study its parts in isolation from others

holism—seeing the entirety of a complex system and the relationships among its parts

One of Fullerton's concerns is the danger that we tend to use only reductionist thinking in our attempts to understand the world. **Reductionism** focuses research by breaking down complex systems into their component parts and studying each part in isolation from its surroundings. To understand something, hold everything else constant. While acknowledging that reductionist thinking has led to amazing breakthroughs in many fields of study, Fullerton points out that the economy is a system, and like any system it can only be fully understood by considering not just the individual parts, but also the interrelated wholeness of each part and its relationship with all other parts. He uses the human body as an example: "**Holism**, in contrast to reductionism, asks us to see the world as a system of fractal or nested relationships. Molecules (carbohydrates, proteins, etc.) combine to create cells, which combine to create organs (heart, lungs, arteries), which in turn work synergistically to create sub-systems like the cardiovascular system. These subsystems are all nested within a body to create the potential that is far greater than the sum of these parts: living, working, thinking, learning beings. Even at a non-material level it appears such patterns exist as well, including at the level of consciousness, according to leading theories of quantum physics. Holism describes the essential hierarchy of wholes and their complex interrelationships, while reductionism is a useful method to break down what's complicated into parts that can be studied and acted upon discretely from one another. But we must not forget that such reductionist understanding of parts is incomplete, and it misses the most important understanding of the greater whole."

Fullerton admits that his listing of the eight principles is inherently a very limited and flawed attempt, since, as he says: "… such reductionist simplification is contrary to the very nature of complex systems." Of course he is correct. Nevertheless, these eight principles—relationships, wealth, responsiveness, participation, community and place, abundance at the edge, circular flow, and balance—provide a promising framing for understand what regenerative economics, regenerative finance, and a healthy, flourishing world might look like.

Regenerative Finance[3]

Regenerative finance derives from regenerative economics. The eight principles that define a regenerative economy would be the same principles that underlie a regenerative financial system since they apply to all systems. In this section we look at what John Fullerton identifies as five "fatal flaws of finance" and why they are so problematic. We bring in the eight principles to show how what we will call "old" finance differs from the eight principles, hence is inconsistent with a sustainable world. Then we note where financial thinking and practice more aligned with natural system characteristics are starting to be found—where regenerative finance is emerging.

1. Five Critical Errors of "Old" Finance

John Fullerton begins his paper *Finance for a Regenerative World* with the impassioned statement that "… at this moment in time, we see finance playing a central role in the interconnected social, political, economic, and ecological crises now cascading out of our control. The ideology of finance is a threat to civilization itself. Therefore, *the questions of finance—what is it, what must it be, what beliefs and presumed "truths" underlie its hold on us—are the most urgent and essential questions of our time* [emphasis his]. By "ideology of finance," John was referring to the beliefs underlying and embedded in the "old" neoliberal narrative and the shareholder wealth maximization (SWM) finance paradigm discussed throughout this book and examined more critically earlier in this chapter.

In the previous section of this chapter we presented Fullerton's Regenerative Economics framework. Just as he argues that "the universal patterns and principles the cosmos uses to build stable, healthy, and sustainable systems throughout the real world can and must be used as a model for economic-system design," Fullerton also argues they can and must be used to design regenerative finance systems. However, finance as practiced today is inconsistent with those patterns and with the eight principles just described. Therefore, he argues that current financial practices are degenerative, not regenerative.

In this section, we present some of Fullerton's key insights and conclusions. He identifies five fundamental inconsistencies and how each violates one or more of the eight principles. Of course, transforming financial theory and practice will be a much more challenging, exciting, and complex adventure than simply "fixing" five inconsistencies, but these and other inconsistencies are creating a great deal of dissatisfaction, and these first five possible steps might move us toward a vision of finance aligned with the ways nature and natural systems have been able to sustain themselves and flourish for eons.

Finance confuses means and ends "Old" finance assumes that maximum shareholder value and the accompanying growth in GDP should be the goal of economies. However, economic growth does not necessarily bring with it improved social and economic outcomes. For example, spending more money on

---

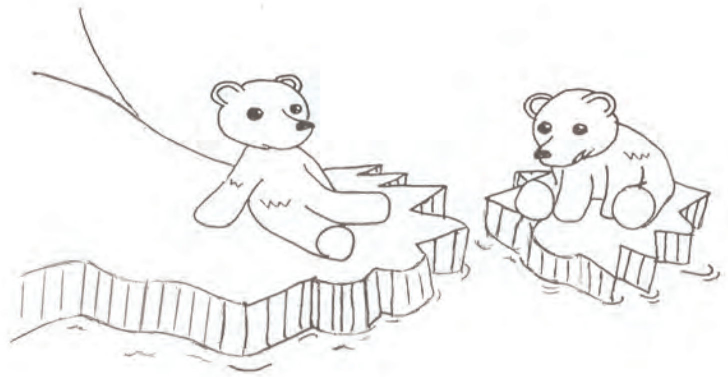
[3] **Source:** This section of the chapter is drawn from *Finance for a Regenerative World* by John Fullerton, Founder and President of The Capital Institute with his generous permission, available at https://capitalinstitute.org/regenerative-finance-2/.

dealing with domestic violence, drug overdoses, oil spills, etc. adds to GDP, but most people would agree that this way of increasing GDP does not indicate a parallel rise in prosperity.

Fullerton states a second way in which means and ends are confounded: "The finance narrative states that financial capital must seek the highest risk-adjusted return on investment, irrespective of the qualitative factors that such investment impacts, often for years into the future. So, the argument goes, a 15 percent internal rate of return is better than a 10 percent internal rate of return to the investor, no matter how it is generated. Nuances such as whether an investment is real or speculative, extractive or productive to society are simply not reflected in the internal rate of return. And measurements of "risk" when considering risk-adjusted returns, refer only to the financial risk, typically the statistically expected volatility of expected financial returns. There is nothing in the finance ideology that refers to the risk to the greater economy, society, or planet of a particular investment. So, for example, the carbon emissions of a coal plant, the loss of soil fertility and biodiversity of industrial agriculture, or the loss of a downtown shopping district and the goods and money it recirculates within the community, as well as the impact on local employment and the municipal tax base when a super store moves outside of town, simply are outside the risk calculus of finance. … This is the dominant finance ideology at work in the real world today, in which success is defined only in terms of its reductionist self, implicit even in the language, internal rate of return ("IRR"). There is no systemic rate of return concept in modern finance—what we might call the "SRR", meaning the holistic return to the entire system."

Finance confuses investment with speculation "Old" finance assumes that there is little or no difference between investment for the long-term and speculation for the short-term. As information technologies improved speeding up the arrival of news and as computer technologies improved, creating the opportunity to buy and sell securities in microseconds, more and more long-term investment was replaced by short-term speculation. As Fullerton points out: "Looked at through our regenerative lens, what's unique (and problematic) about the modern public corporation is the literal absence of a truly meaningful and dedicated long-term relationship between the owners and the company. … The implications may be trivial when considered in isolation—one day trader, one billion-dollar hedge fund. But we must confront the systemic implications given the scale of this shift. Without a critical mass of investors in long-term relationship with large, multinational organizations, who will accept the responsibility to govern when it's so much easier (and cheaper) to simply buy and sell?"

He continues: "What is important for our purposes is that nearly 50 percent of the 'investors' (from mom and pop to sovereign wealth funds and pension funds) holding stocks in public companies literally are making their investment decisions without anyone analyzing individual businesses and their long-run prospects, much less engaging seriously in the responsibility of genuine ownership. And many more investment dollars invest via momentum funds that do technical market analysis looking at chart patterns but no fundamental investment analysis. In fact, they likely don't know or care what business the company is in. With a holding period measured in days, weeks or at most months, it's simply an abstract game of probabilities involving securities, nothing to do with company ownership.



"I had a fabulous date last night. We talked about global warming. It was a real icebreaker"

What's missing from the vast majority of investment capital, if we follow our principles, is long-term genuine owners who accept the responsibility of ownership, working in "right relationship" with companies they own the way a privately-owned business often (but not always) operates."

Finance claims markets are the best solution to all economic problems "Old finance" assumes that markets are the best way to allocate financial resources. Capital should flow to those people and organizations that can do the best job of meeting the needs of consumers measured by how profitable they are. This conclusion might be true if all the participants in the economy had the financial means to participate fully with perfect information guiding their choices, if no unpriced externalities were omitted from market costs and prices, and if the rules for the operations of the markets were not biased for or against any market participants. However, the majority of the world's population does not have the means to participate fully, many companies and particularly consumers have only partial information about the choices they are making, there are many unpriced externalities that are crucial to the environment and society that never get considered in economic decisions, and the rules of the game in many markets are strongly influenced by coalitions of powerful market participants for their own advantage. So, markets may be effective tools for some financial decisions but are not very effective tools for many others.

Fullerton observes: "Furthermore, markets are also not well suited to very long time horizons where costs are difficult to internalize in market prices, either for technical or human behavior reasons, or where costs are really not costs that could be fixed with money, but 'wrongs' that have no acceptable price. Modern society by and large accepts that murder and slavery are wrongs that can't be fixed with money. Similarly, the knowing destruction of access to clean water and an ability to provision oneself from the earth's natural bounty, and irreversible ecological damage like climate change or species extinction are examples of such 'wrongs' for which there is no acceptable price, and therefore there is no market solution. (In such cases) markets are simply the wrong tool, no matter how well designed. Yet markets have displaced our humanistic values that have stood the test of time as our guiding ethic."

"If we need further evidence, there is what Jeremy Grantham refers to as 'the tyranny of the discount rate,' a number which, when plugged into a formula, decides that our grandchildren's lives have no value. (For example, a discount rate consistent with financial theory's time value of money and future uncertainty would discount the future costs of climate change back to almost nothing.) … The tyranny of the discount rate, short-term incentives in financial markets, and the short-term characteristics of markets as tools, and most importantly, the fact that stock market performance does not equate with social progress, all conspire to limit what we can expect from markets in addressing our most pressing challenges."

Finance believes conflicting personal goals are amenable to formal solutions "Old" finance assumes that it is possible to construct contracts that will align the interests of multiple parties to prevent or sufficiently limit conflicts of interest. However, experience to date has proven otherwise. In Chapter 17 we introduced this issue, known in finance as the agency problem, in our discussion of the importance of stakeholder alignments.[4] John draws on his years of experience in investment banking to illustrate his concerns: "Finance is rife with conflicts of interest, and unfortunately, Wall Street has become brazen in exploiting them, extracting value from the system for selfish ends, rather than conducting activities that add value to the system. … The fact is, 'customers' are really just counterparties in a rough and tumble game in which there is no duty of care to one's counterparty. And like any well-run casino, the house often sees more of the cards. That's the business model." What John refers to when he writes that the house sees more of the cards is the existence of **asymmetric information**, the situation in which one party has better and/or more complete information than the other.

information asymmetry—the condition when one party to a transaction knows more than the other party

FINANCE IN PRACTICE

"Stranded Assets" Illustrate the Limits of Financial Markets

Stranded assets are assets that will never be used, hence should have a zero financial value. Perhaps the most notable illustration of the concept today is the total of fossil fuel reserves—the coal, oil, and gas already discovered but not yet extracted from the Earth.

Multiple climate scientists have warned that it is imperative to limit the future increase in atmospheric temperature to no more than 2 degrees Celsius (many say no more than 1.5°C) to avoid catastrophic damage to the Earth. For this to happen, the amount of fossil fuels that can be burned in the future would have to be limited with the corollary that most of the known reserves would remain in the ground. While estimates vary, the consensus of many analysts is that the value of these potentially stranded reserves as reflected in the stock prices of the companies and the national accounts of the governments that own them is some USD 20 to 25 trillion.

Because the financial markets place a significant value on these assets, there is no strong financial market signal to their owners about the severe loss in value they face. If (more likely when) the value of these assets collapses, he economic and political dislocations on the fossil fuel companies, their employees and supply chain, and on the countries that depend on the revenue could be severe.

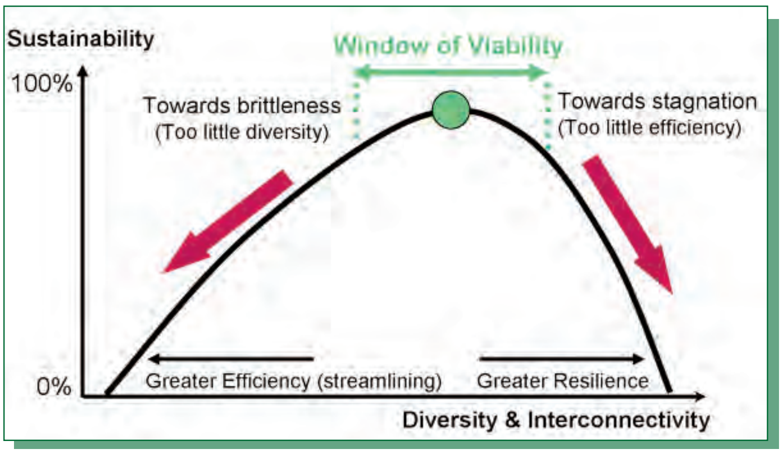
[4] **Cross-reference:** Chapter 17, pages 450-451.

We look further at this failure to show how it is not aligned with the eight principles of a regenerative economy. It violates the principle "in right relationship" by severing the trusting relationship between bankers and their clients. It violates the principle "holistic wealth" since it turns what should be a win-win relationship into win-lose. It violates the principle of "robust circulation" by increasingly extracting savings from communities and channeling those funds into speculative activities rather than keeping the money circulating within the community. And, by doing all of this, it violates the principles of "empowering participation" and "honoring community and place" leaving local businesses disempowered and often unable to secure the financing needed to contribute to local health and well-being. It also violates the principle of "in balance." For any organism to remain healthy and survive, it must find a balance between efficiency—squeezing the most out of its resources—and resiliency—the ability to survive setbacks. Figure 18.6, summarizing the result of studies of living systems, illustrates this point, defining the point of balance as the "window of viability." Fullerton relates the concept to the financial crisis of 2008-2009: "It is clear that the mindless pursuit of efficiency, without regard to the counter balancing force of resiliency at both the firm level and the system-wide level was in fact a root systemic cause of the financial crash. The system simply became too brittle (off to the left toward efficiency in the diagram) and collapsed. Too much resiliency without efficiency, on the other hand, leads to rigidity, stagnation, and therefore underdevelopment relative to potential.

Finance believes that unlimited growth, hence unlimited investment, is possible "Old" finance sees no limit to the ability of an economy, hence its financial value, to grow. However, there are limits to the Earth's resources, some of which cannot easily be replaced by new technological developments.

In the most fundamental of finance models, the compound interest function that underlies time value of money, future value equals present value multiplied by a compounding factor of the form $(1+r)^n$. This model is assumed to be valid no mat-

FIGURE 18.6
Efficiency versus resilience. Viability requires a balance between the two.



[5] **Source:** Bob Ulanowicz, Sally Goerner, https://people.clas.ufl.edu/ulan/files/Goerner.pdf.

ter how large the value of n is. But this is clearly unrealistic. A well-known illustration of the implications of compound growth is the famous "rice and chessboard" parable:

> When the inventor of the game [of chess] showed it to the emperor of India, the emperor was so impressed by the new game, that he said to the man: "Name your reward!" The man responded, "Oh emperor, my wishes are simple. I only wish for this. Give me one grain of rice for the first square of the chessboard, two grains for the next square, four for the next, eight for the next and so on for all 64 squares, with each square having double the number of grains as the square before."
>
> The emperor agreed, amazed that the man had asked for such a small reward—or so he thought. After a week, his treasurer came back and informed him that the reward would add up to an astronomical sum, far greater than all the rice that could conceivably be produced in many, many centuries![6]

Applying the concept to finance, John writes: "What I know as a financier, where the power of compound interest permeates all else, is that human beings, with our relatively short-term frame of reference, seem to be unable to fully grasp the overwhelming long-run implications of the exponential function. … The drive for exponential returns on financial capital pushed finance to shorter-term and more speculative activity at the same time as physical resource limits to growth began to impose constraints. This has come at an alarming cost. Of the twenty largest countries in the world, constituting nearly three-quarters of global GDP, all but Japan suffered per capita losses in their natural capital stocks between 1990 and 2008. Although natural capital can be eroded for decades, we already appear to have passed safe limits, most notably the atmosphere's limit to absorb carbon waste. … Continuing the pursuit of exponential growth of financial capital by drawing down both social and natural capital is unsustainable. Simple arithmetic demonstrates that it will eventually trigger some combination of financial, economic, social, political, or ecological collapse, likely all simultaneously."

2. Reimagining Finance Through a Regenerative Lens

At this stage of global economics and finance, any attempt to describe what regenerative finance might eventually look like must be quite speculative, but still might be worth doing—worth doing if only to encourage challenges, hopefully challenges yielding creative and detailed alternative speculations. One approach might be to list the eight principles of natural systems and look at each of them through the lens of what finance strategies and practices aligned with those principles might look like.

We begin with the recognition that the system of financial practices will need to be aligned with the need for a sustainable/flourishing/regenerating global economy and with the physical/cultural/social/political/technological world in which that economy is embedded. And, those financial practices need to align

[6] **Reference:** This telling of the parable comes from Michael Hartley's website for teaching mathematical thinking to children: http://www.dr-mikes-math-games-for-kids.com/rice-and-chessboard.html. The number of grains of rice on the 64th square would be $2^{64}–1$ = 18,446,744,073,709,551,615!

with the "nature of the human nature" of the peoples who are making the financial practices happen and are served, hopefully well served, by those financial practices.

The company level At the level of the individual organization, regenerative financial strategies and practices might include the ones we describe next. However, as you read each of these eight commentaries, it may become increasingly clear that, although the words may say financial strategies and financial actions, each speculation implies a close and intimate connection with the strategy of the organization or institution as a whole. This close connection is not because finance dictates the rules to the organization and dominates its processes, but just the opposite—the closeness of the connection comes from the reality that finance and all parts of the organization are a single whole embedded in a much larger whole, and what finance does and seeks to do must be fully aligned with all other parts of the organization and with each greater system of which it is a part.

- **In right relationship** Financial strategies and practices would be undertaken mindfully. They would be guided by honestly analyzed win-win commitments. The interests of all parties involved in and impacted by the financial transactions would be considered and accommodated as far as it is reasonably possible to do. Financial transactions that do excessive damage to third parties—both human and non-human, and generations current and future—would simply not be undertaken. Theoretical economic arguments about the possibility third parties could be compensated by some action (but almost never are) would be recognized for what they have almost always turned out to be—pure fictions. Fictions promulgated to rationalize acts that benefit only the few at the expense of the many would be equally recognized and discarded.

- **Views wealth holistically** Possible financial strategies and practices would be analyzed and chosen mindfully, with all major domains of wealth considered: financial, social, cultural, ecological, and political with the goal of creating a broadly shared prosperity across all of these varied forms of capital. Because the whole is only as strong as the weakest link, particular attention would be paid to any form of capital that would be especially negatively impacted with adjustments made to alleviate damage done to that weakest link.

- **Innovative, adaptive, responsive** Financial strategies and practices would be designed and enacted more in the spirit of rapid prototyping rather than firmly held and extensively detailed mega game plans. They would evolve, taking steps toward widely agreed upon goals, observing and reflecting on the results of those steps, and selecting the next few steps toward the perhaps unchanged goals or toward altered goals revealed by the steps already taken. Innovation, adaptiveness, and responsiveness would come from this trial and error process grounded in the philosophy that "experiments never fail." In the spirit of Darwin's recognition that species that long survived accommodated best with other species in a harmonious and symbiotic manner, financial strategies would emphasize collaboration with rather than dominance over other competing institutions and players.

- **Empowered participation** Financial strategies and practices would be considered and chosen with active and effective voice by and from a wide population of interested parties: members of the institutions or entities creating the strategies and choosing the actions and those impacted by those strategies and actions. Because past and recent history is rife with tragic examples of early voices that warned organizations and societies of actions that threatened to harm or even destroy those institutions and societies, financial strategies and practices would honor the life-saving contributions of so-called whistleblowers. Because of the traditional fiduciary responsibilities of the finance function, financial leadership would insist that the entire organization honor and reward generously those who have the courage to call attention not just to corruption within the organization but also to well-meaning but misguided actions that put the organization and others in great peril.

- **Honors community and place** Possible financial strategies and practices would be analyzed and chosen with awareness of and mindful attention to the realities of the mosaic of peoples, traditions, beliefs, and institutions that have been uniquely shaped by the long-term pressures of geography, human history, culture, local environment, and changing human needs. Review of the impacts of the resulting financial actions would be an important and regular part of the on-going rapid prototyping philosophy underlying the strategy-making and implementing processes.

- **Edge effect abundance** Inspired by the belief that creativity and conceptual richness in strategy-making and execution is fostered by going beyond the boundaries of an organization's finance function, financial strategy-making and revising processes would actively involve other parts of the organization and also individuals and entities outside the organization. "Creativity and abundance flourish synergistically at the 'edges' of systems, where the bonds holding the dominant pattern in place are weakest … At those edges the opportunities for innovation and cross-fertilization are the greatest. Working collaboratively across edges—with ongoing learning and development sourced from the diversity that exists there—is transformative for both the [entities] where the exchanges are happening, and for the individuals involved."

- **Robust circulatory flow** Financial strategies and practices would be designed to create, facilitate, and assure that financial capital in particular, but other forms of capital as well, is strongly focused on creating and using goods and services that contribute to well-being, not just to financial profit. Strategies and actions would be taken in the context of supporting the circular flow of money and information, and the efficient use and reuse of materials. The concept of "zero waste" would not only be applied by the finance function to the financial analysis of possible projects, but to the actions of the finance function itself, modeling how the concept could be applied elsewhere in the organization.

- **Seeks balance** The seven previous speculations suggest that financial strategy-making processes would, ideally, be both bold and proactive. However, they would also need to be humble, assuring that finance's role in organiza-

> tional processes is appropriate—neither too weak nor too strong. Being mindful of the post-war financialization of business and the world, the greatest concern might be that finance would play too strong a role. In thinking about the road toward humility in finance and toward balance in its organizational role, it might be well to recall the words of Lee Iacocca quoted earlier about Robert McNamara's contributions to Ford Motor Company. In honoring the financial perspectives and skills McNamara brought to the company and then in assessing the damage from the excessive use of those skills and perspectives, Iacocca recalled that the two best things that ever happened to Ford were McNamara's arrival and then his departure.

We believe that as finance organizations and finance functions within non-finance organizations adopt regenerative finance, all organizational members will be grateful and hope that finance "flourishes forever" in their organizations and beyond.

The global level The previous section of this chapter focused on speculations about what regenerative finance might look like at the enterprise level. In doing so, we built the speculations on the eight principles of natural systems. We have conducted a similar exercise for the global level—what a regenerative global financial system might look like. Those speculations are available at globalmovement.net, but they are not included in this text for three reasons.

First, this text is an introductory-level first textbook in finance for undergraduate and graduate students and faculty. It is intended for schools' entire business programs, not just tracks or concentrations specializing in sustainability, corporate social responsibility, or social innovation. We believe that the curricula of all business schools need to come into alignment with the realities of the 21st Century and not remain mired in the fictions and ideologies of the 19th and 20th. This book and courses based on it are just starters for only one of the core required courses (finance) among the various business disciplines that need to be transformed to meet the needs of the 21st Century. As such, we believe we have already given you more than enough to digest and think about, not just in finance, but also in marketing, accounting, economics, management, ethics, etc. Let's save the next level of inquiry and learning for the next course … and the next book.

Second, we would much rather encourage you to speculate about this next level of finance thinking on your own, about what a top level global regenerative financial system might look like. Doing so on your own is likely to be much more valuable than our doing it for you, but when you are finished you can go on to the next possibility.

Third, when you have completed the second option above, you will be well prepared to look not only at what we have written and posted at globalmovement.net, but, far more importantly, to read, study, and perhaps challenge John Fullerton's attempts to address the same topic in the forthcoming and final paper of his *Regenerative Finance in Four Acts* series: #4: "Agenda for Genuine Financial Reform."

We hope you will accept the assignments implicit in the three reasons above, Mr. Phelps. And we hope you will enjoy this next part of your finance journey and will be looking forward to co-creating the future John Fullerton, we, you, and so many others want to bring into being.

This book will not self-destruct in 5 seconds.

The Appropriateness of Humility—Some Closing Thoughts

Finance provides a very powerful way of looking at organizations, and the tools of financial analysis are key tools for managing those organizations. Financial officers play important roles in making things happen, as well as figuring out afterwards what actually did happen. It is very tempting to be confident and proud of the power of the finance perspective. While that confidence and feeling of power are appropriate, there are also at least three reasons for tempering those feelings with some modesty and intellectual caution—or even a healthy dose of humility.

First, although many current theories of finance have held up well, it is in the very nature of theories to be replaced. It is normal for newer theories to replace older ones. What we know to be true today will very likely no longer be true in the future—either because the situation will have changed or because new insights will have taught us that what we thought we knew to be true never was true. Ewald Nyquist, former chancellor of the Board of Education of the State of New York, expressed this concern eloquently in a commencement address when he told the graduating class, "I'm convinced that half of everything I say to students is false. The problem is that I don't know which half!"

Second, even our best theories are partial in scope and limited in applicability. All theories, and thus all knowledge, are based upon enormous simplifications of reality, so what we "know" is always limited and partial.

However, the third reason is in many ways the most important. During a period of major change of the kind we appear to be undergoing now, it is particularly difficult to know what is really happening and why. A time of major change is a time of replacement of a whole network of theories, an entire reframing of the way we look at the relevant parts of the world. During such times, major errors of interpretation and prediction are particularly likely. For example, throughout the 1960s and 1970s most American business leaders and academics completely misinterpreted the early stages of the global quality revolution. Initially they believed the Japanese were not producing high-quality goods but rather that they were producing low-quality goods with cheap labor and selling them below cost overseas to buy market share. Later they accepted that Japan actually was producing high-quality goods but by a unique national and culture-based management system unavailable to the West—"Japanese management." Only in the 1980s did many American observers discover that Japanese companies were adopting a new way of managing more rapidly than companies elsewhere and were reaping the competitive benefits. Those early mistakes may seem almost ridiculous today, but they were not so illogical at the time—and a few still make them.

Ultimately, the major changes in management methods, global sustainability, and competitive patterns that are occurring provide the possibility for great contributions by those who see the newly emerging world more accurately and ahead of others. Leadership involves discovering what we do not yet know and applying it before it becomes conventional wisdom. Great opportunities come from worlds in flux; great contributions come from those who can combine the timeless basics and the newly emerging framings, approaches, and tools.

Ethan Lin left his finance professor's office with a big smile on his face. He and his professor had just had a fabulous conversation about the historical development of the finance goal and how it might continue to evolve into the future. For Ethan, the highlight of the conversation was his professor speaking about regenerative finance as an exciting new lens with which to understand the ongoing development of finance theory and practice.

Ethan dropped his backpack off in his dorm room and headed back out to the main cafeteria on campus. After picking up a sandwich and a glass of iced tea, he found a seat at a table with some of his friends. When Ethan arrived, his roommate was the first to speak.

"You look happy. I'm guessing that your meeting with our finance prof went well."

HISTORICAL FLASHBACK

What finance used to do when the goal was believed to be SWM

By assuming that the goal of the firm was SWM, finance pursued financial gain at the expense of all other goals. The result:

- Finance saw the well-being of society as measured only by economic performance and often ignored other societal goals such as human decency, health and life expectancy, a clean environment, social justice and cohesion, freedom from corruption, etc.
- By seeing economies through a reductionist lens and not holistically, finance believed that it was possible to optimize financial performance without significantly damaging other aspects of society.
- By accepting the primacy of the financial sector of the economy, finance paid insufficient attention to the real economy.
- Finance placed itself at the top of the economic "food chain" rather than as a servant to the economy and society rewarding itself handsomely for financial deal making.

Ethan took a sip of iced tea before responding. “Actually, it went very well. I went in expecting him to tell me how finance could only go so far in contributing to sustainability, you know, got to make a profit. But, it turns out he is way beyond that. He really believes that finance can evolve to contribute to sustainability far beyond what it does now. He also suggested that I think about joining the social innovation club if I want to get involved. That’s where I’m heading after lunch. Anyone want to join me?”

A discussion ensued comparing their finance course and environmental science course, and the friends agreed that they could see relationships emerging. When Ethan spoke again, he had a soft smile on his face. “I remember my dad telling me that he hoped I would find a professor who would really inspire me and make me think far more deeply about things than I ever did. I think I’ve found that professor, and I think I’ve found where I want to go next with my courses and maybe even my career.”

VALUE FROM VALUES

Mastercard engages partners in the development community work together to deploy or develop programs that address barriers to inclusive growth

Mastercard is actively working to build a “World Beyond Cash” where more people have access to and use electronic payments. There are many benefits when economies change from cash to documented transactions. For individuals these include the improved security from not carrying cash, the convenience of reduced travel and wait times to collect payments, and access to financial services such as bank accounts, loans, and insurance. Companies benefit through improved security and transparency, reduced costs, and increased efficiencies. With less of the economy “underground,” governments can increase domestic tax revenues permitting them to conduct their funding activities more equitably, efficiently, and effectively, and can have more money available to use for achieving its development goals. As Mastercard writes on its website:

“Governments with cash heavy economies are unable to maximize tax revenue or monetary policy. … 85% of the world’s retail transactions [are] still done in cash … Economies that successfully shift away from cash can help governments increase domestic revenue that can be mobilized toward development goals.”

“The promise of the digital world rests on the integrity of the payments ecosystem. Mastercard is partnering with local governments, banks, merchants and regulatory bodies to provide seamless, ubiquitous and secure payments anytime, anywhere and on any device. Mastercard has invested over a billion dollars in the past three years to make the global payments industry safer.”

Source: https://www.mastercard.us/en-us/about-mastercard/what-we-do.html
https://newsroom.mastercard.com/asia-pacific/press-releases/mastercard-reinforces -commitment-to-creating-a-world-beyond-cash/

Summary of Key Points

- **Describe why there is an urgent need for a different approach to finance theory and practice.** Current finance theory and practice are, to a large extent, inconsistent with a sustainable world. Problems stemming from the shareholder wealth maximization paradigm have become increasingly obvious, and for-profit businesses need to move beyond SWM as their goal if they are truly to contribute to global sustainability.
- **Describe the roles of the Mt. Pèlerin Society and financialization in the development of finance theory, the key assumptions and "fatal flaws" of shareholder wealth maximization as the financial goal of the for-profit firm, and why the business case for sustainability is insufficient.** The Mt. Pèlerin Society, founded after World War II, sought to create a post-war political economy that would prevent authoritarian governments from coming to power. The core of their philosophy, neoliberalism, was individual freedom, free markets with minimum regulation, and a very limited role for government. Financialization refers to the rise of the financial sector of the economy as the relationship of employers to employees broke down and people's financial future became dependent on the financial markets. Both neoliberalism and financialization contributed significantly to the growth of power of the financial sector and the corresponding decrease in power of the real economy. Eleven faulty assumptions used to justify shareholder wealth maximization (SWM) are (1) shareholders are the "owners" of the corporation, (2) financial capital is "the" scarce resource, (3) the world's abundance of natural resources is inexhaustible, (4) capital markets are "efficient," (5) human beings are entirely rational, (6) all voluntary economic transactions are positive for all parties concerned, (7) business organizations have limited if any impact on the physical environment, local cultures, social justice and social relationships, (8) governments will always set fair and appropriate ground rules, (9) the financial success of business is equal to the success of society as a whole, (10) it is possible to motivate managers to maximize long-term company health, and (11) corporations are legally required to pursue SWM. The business case for sustainability is rooted in SWM and requires that investments in sustainability be demonstrably profitable in the short run, so companies often ignore opportunities to make a lasting contribution to the environment or to society.
- **Identify at least three possible approaches to transforming the global financial system and creating a regenerating world, how the concept of value can be broadened beyond just financial value to shareholders, and how the most widely-accepted definition of sustainability can be further developed beyond simply maintaining the status quo.** Three approaches are (1) restoring the role of finance to be a support system to the world from John Fullerton, (2) Doughnut Economics from Kate Raworth and (3) reducing undue corporate influence from David Korten. The concept of value in finance can be extended beyond only financial value only to shareholders to include other forms of value and for all the company's stakeholders. The most widely accepted definition of sustainability is that of the Brundtland Commission which talks of not making the future worse than the present. The definition can be expanded to speak to a future that is better than the present and that addresses the needs of all people.
- **List and discuss the insights behind and the principles of regenerative economics.** Regenerative economics is an economic system that is consistent with the universal principles of natural systems that permit such systems to be stable, healthy, self-organizing, self-renewing, and sustainable for long periods of time. In identifying eight principles of a regenerative economy, John Fullerton has suggested that a regenerative economy: (1) is in right relationship, (2) views wealth holistically, (3) is innovative, adaptive, and responsive, (4) encourages empowered participation, (5) honors community and place, (6) seeks edge effect abundance, (7) has a robust circulatory flow, and (8) seeks balance.
- **Explain the meaning of regenerative finance and how it might develop to be consistent with the principles of regenerative economics.** Regenerative finance is a financial system embedded within a regenerative economy serving as a support system for the economy by providing financial resources and liquidity. It would avoid the five critical errors of "old" finance: (1) confusing means and ends, (2) confusing investment with speculation, (3) claiming that markets are the best solution to all economic problems, (4) believing that conflicting personal goals are amenable to formal solutions, and (5) believing that unlimited growth, hence unlimited investment is possible. Instead, it would be consistent with the eight principles of a regenerative economy. It would involve the participation of all stakeholders to create win-win outcomes across multiple dimensions of wealth and value. It would be innovative and adapt to the needs of communities ensuring that community resources circulated back to maintain and grow the community's vibrancy and health. It would listen to and learn from all stakeholders and pay particular

attention to the creativity that exists at the edges of existing systems. It would be simultaneously bold and proactive but also humble ensuring that finance maintains an appropriate place within organizations and economies.

- **Discuss three reasons for being humble about what we know about financial managing.** Our current theories very likely will be replaced as it is normal for newer theories to replace older ones. All theories, and thus all knowledge, are based upon enormous simplifications of reality, so even what we "know" is limited and partial. During a period of major change—a "shift of paradigms"—it is particularly difficult to know what is truly happening, making errors of interpretation and prediction particularly likely. Yet, even with this humility, it is important to remember that without theory there is no knowledge and that often we must take action—no matter how limited our knowledge.

Questions

1. What is the Mt. Pèlerin Society? Why was it founded? What are its core beliefs and prescriptions for society?
2. What is financialization? Why did it happen? Why has it diminished social stability?
3. List eleven assumptions that are used to justify shareholder wealth maximization. Why is each one not valid?
4. Why is the business case for sustainability insufficient to achieve a sustainable world?
5. Explain why John Fullerton argues that the relationship among finance, the economy, and a sustainable world is currently upside down. What is the better relationship?
6. What is the insight behind Doughnut Economics?
7. What are the four principles of the Earth Charter?
8. What is the goal of the International Humanistic Management Association?
9. How is value defined within the SWM paradigm? How might value be redefined?
10. What is the definition of sustainability of the Brundtland Commission? What are the limitations of this definition?
11. In what way is the transition to a sustainable world captured by the phrase "from degenerative to regenerative? Identify each of the five points along the path.
12. Who is Ray Anderson? Who is Donnela Meadows? In what ways were they trying to change the political economy narrative?
13. Why is it important to see economic systems as similar to natural systems?
14. List John Fullerton's eight principles of a regenerative economy. What is the meaning of each principle?
15. What is reductionism? Why does it limit our understanding of regenerative economics?
16. What is holism? In what way is it an underlying principle of regenerative economics?
17. List John Fullerton's five critical errors of "old" finance. Give an example of how they differ from regenerative principles?
18. What might the finance of the future look like if it were truly regenerative?
19. Why do we feel the need to caution you about humility in thinking about and applying finance theory?