

J. STUART WOOD, Ph. D.

500 Arlington Drive, Metairie, LA 70001, (504) 495-6443; Fax: (504) 834-9358

Ph. D. Economics, Ph. D. Finance, both NYU-GBA 1980

Dissertation: *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*

Dissertation Won *Alpha Kappa Psi* Prize as "The Outstanding Dissertation in Economics in U.S. in 1980"

Retired Associate Professor of Economics and Finance, Loyola University, New Orleans, 6/2016

July 1, 2020

ECONOMIC AND FINANCIAL CONSULTANT ANALYSIS AND EVALUATION: REPORT TO CLIENT OR TESTIFY AS EXPERT

AREAS OF EXPERTISE AND EXPERIENCE:

1. ECONOMIC AND BUSINESS ANALYSIS AND FORECASTING:

COST OF EQUITY CAPITAL

GOODS MARKET ANALYSIS AND FORECASTING,

FINANCIAL MARKET ANALYSIS AND FORECASTING,

ECONOMIC IMPACT ANALYSIS,

BUSINESS ECONOMIC AND FINANCIAL ANALYSIS,

BUSINESS LOST INCOME OR LOST PROFIT ANALYSIS DUE TO DISASTERS, CONTRACT VIOLATIONS, OR TORTS,

BUSINESS VALUATION OF ESTABLISHED OR UNESTABLISHED BUSINESS,

STATISTICAL ANALYSIS OF CLAIMS OF DISCRIMINATION ON ANY BASIS,

INDIVIDUAL PERSONAL INCOME FORECASTING AND LOSS ANALYSIS, CHILD OR ADULT

VALUE OF INDIVIDUAL INVESTMENT PORTFOLIOS,

VALUES OF LOST INVESTMENT PORTFOLIOS TO SURVIVORS,

VALUE OF ECONOMIC LOSS OF INCOME OR SUPPORT FROM INJURY OR DEATH,

VALUE OF LIFE—HUMAN CAPITAL AND INCOME, "HEDONIC DAMAGES",

FAMILY CONSUMPTION PATTERNS

2. INVESTMENT ANALYSIS: SECURITY ANALYSIS, PORTFOLIO ANALYSIS, SUITABILITY OF SECURITIES FOR INVESTMENT PURPOSES, CHURNING, AGENCY PROBLEMS, FIDUCIARY RESPONSIBILITY.

3. BUSINESS PROPOSALS AND EVALUATION:

NEW BUSINESS FEASIBILITY STUDIES AND PROFIT PROJECTIONS,

UNESTABLISHED BUSINESS LOST PROFITS ANALYSIS,

BUSINESS ECONOMIC IMPACT ANALYSIS,

APPRAISAL OF CLOSELY-HELD BUSINESS; VALUATION OF CLOSELY-HELD STOCK,

ESTATE AND GIFT TAX APPRAISAL; ESOP VALUATION

VALUATION OF FINANCIAL STRUCTURED PAYMENT SEQUENCES.

RESTAURANT VALUATION

4. MEDICAL ECONOMICS, DENTAL ECONOMICS, LEGAL ECONOMICS:

MEDICAL CARE COSTS AND MEDICAL PRICE INFLATION,

INCOME PATTERNS OF PROFESSIONALS,

VALUATION OF PROFESSIONAL PRACTICES: DENTAL, MEDICAL, LEGAL.

5. ANTITRUST AND MONOPOLY, FAIR AND UNFAIR COMPETITION.

ECONOMICS AND PRACTICES OF THE BANKING AND SAVINGS & LOAN INDUSTRY.

ECONOMIC ASPECTS OF LAW.

6. ENGINEERING ECONOMICS, SYSTEM AND PROGRAM DESIGN, ANALYSIS, AND COST. DEMAND AND SUPPLY OF ELECTRIC POWER.

SPACE PROGRAMS AND TECHNOLOGY.

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Trial and Deposition Testimony in 2011 – 2019**

2011:

- 03/30 *Joshua M. Menard vs. Zurich American Ins. Co.* (deposition) 15th JDC Lafayette Parish, C-2009-7413 "D"
06/23 *Kenner Acquisitions, LLC vs. BellSouth Telecommunications* (deposition) USDC EDLA #06-3927 "A" (3)
07/26 *Larry Scott Abshire vs. Boh Bros. Construction* USDC ED LA C.A.#2010-0838 "S" (Lemmon)
09/22 *Adrienne Stermer vs. Archer-Daniels-Midland, et al* 27th JDC St. Landry Parish, LA #08-C-6424-B (Daigle)
10/06 *James M Smith, Jr. et al vs. Ronnie Stelly, et al* USDC WDLA C.A.#6:08-CV-1554 (Haik)
11/09 *Christie C. Murden vs. Wesley K. Ezell, et al* 23rd JDC Ascension Parish, Gonzales, LA #00091756C (Holdridge)

2012:

- 01/20 *National Food & Beverage Co, Inc. vs. The United States* United States Court of Federal Claims #10-152L (Deposition)
02/29 *National Food & Beverage Co, Inc. vs. The United States* United States Court of Federal Claims #10-152L (Lettow)
03/12 *Logan R. Holton vs. Warren L. Harris, et al* 14th JDC Calcasieu Parish, LA #2008-00401,-461 A (Deposition)
03/26 *Kenneth A. Breaux, Jr. vs. Halliburton* Lafayette, LA. No. 70-480-0122-10 (Arbitration)
04/13 *Cindi Hedgepeth vs. Diamond Offshore Drilling, Inc.* No. 2010-61705, 13 JDC Harris, Cy. Texas (Deposition)
05/03 *Cindi Hedgepeth vs. Diamond Offshore Drilling, Inc.* No. 2010-61705, 133rd JDC Harris, Cty., Texas (McFarland)
12/07 *Bobby J. Fabre vs. Mega Transportation, Royal Freight.* USDC MD LA C.A.#3:11-cv-00800-JJB-DLD, 23JDC#104221
12/18 *Jimmy W. Finley vs. Diamond Offshore Drilling, Inc.* USDC WD LA-Lafayette. C.A.#6:11-CV-00693 (Hanna)

2013:

- 05/02 *Catherine Matthews vs. National Medical Enterprises, Inc.,* 22nd JDC No. 07-13370 "F" (deposition)
05/15 *Jennifer M. Bourgeois vs. Rural Healthcare Developers LA, et al* 38th JDC Cameron Parish, LA #10-18825 (Richard)
07/03 *Laurel A. Salley Sammy vs. Thomas W. Traylor, et al,* LA 24th JDC Jefferson Parish, No. 705366 "D" (deposition)
07/23 *Horacio Soto vs. Sentry Select Insurance Company, et al,* USDC ED LA No.12-01431 "B-2" (deposition)
08/06 *Joanell M. Darnell, M.D. vs. Louisiana Health Service & Indemnity Co.,* LA 24th JDC No. 614-556 "K" (deposition)
09/04 *NOLA Ventures, LLC et al vs. Upshaw Insurance Agency, Inc., et al,* USDC ED LA "G-2" 12-1026/12-1834 (depo)

2014:

- 07/14 *Alana R. McCart vs. Steven Gilbert. et al,* Caddo Par. LA 1st JDC #5540103-A (deposition)
09/24 *Sandra Garner vs. State of LA DOTD,* 22nd JDC, Div. "I", Par. of Washington, Franklinton, LA No. 96139.
11/24 *NOLA Ventures, et al vs. Upshaw Insurance Agency, et al,* USDC ED LA C.A.#12-1026/18534, Sec.G (2), (Brown)

2015:

- 11/23 *Hal Collums, et al vs. Gary Solomon, et al,* New Orleans CDC Div. K Sect. 5 No. 2011-2040 (deposition)

2016:

- 04/07 *Thad Desormeaux vs. Forum Energy Technologies, Inc. et al,* 16th JDC Iberia Parish, LA #125172 Div.E (deposition)
04/19 *Jamie Habetz vs. Republic Underwriters Insurance Co., et al.* 14th JDC Calcasieu Parish, LA #2011-5085 (Ware)
05/11 *Nathaniel Faulk vs. Ace American Insurance Co.,* 27th JDC St. Landry Parish, Opelousas, LA #14-4373 (Caswell)
11/03 *David J. Bellow vs. BNSF Railway Co.* 15th JDC Lafayette, LA #2015-0259-C (Broussard)
12/22 *Michael D. Jacobs vs. LSU Board of Supervisors.* 18th JDC Iberville Parish #72348 "C"

2017:

- 04/08 *Patrick St.Onge vs. Norwegian Cruise Line, Ltd. Videotaped deposition in advance of Miami trial*
10/12 *Alan Goodman vs. H.I.G. Capital,L.L.C vs. Gulf Fleet Holdings,Inc.* US Bankruptcy Ct,WD LA11-05006 (Deposition)
11/17 *Rafael Campbell III vs. Jaron Scott Veron, et al* .LA 15th JDC Lafayette Parish #C-20154695C (Broussard)

2018:

- 01/16 *Courtney D. Gray vs. UV Logistics, LLC* St.Mary Parish, LA 16th JDCNo. 128324 "C" (Deposition)
03/29 *John H. Thibodeaux vs. Gulfgate Construction, LLC et al* Lafayette Par. LA 15th JDC 2015-4167 "B"
07/11 *Madison Garraway vs. Jamee Raye Allen* 19th JDC, East Baton Rouge No. C631,668 (Deposition)
11/07 *Jeromy Wayne Cotton vs. Larry Lambert, et al* USDC WD LA Shreveport No. 6:17-cv-0732 (Deposition)
11/16 *Tammy Bloxham vs. HDI Gerling America Insurance Co.* 26th JDC Bossier Par. Benton, LA No. C-149515

2019:

- 03/28 *Zydeco's II and Gainey vs. Certain Underwriters, et al* 29th JDC St. Charles Par. No. 82255, Div.E (St.Pierre)
10/23 *Anthony Migliaccio vs. Bolivar Cleaning Svcs,LLC* , USDC ED LA #:18-cv-08184, Sec H,Mag 2 (Milazzo)

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BSME 1966 Tulane University,

MSE Aerospace Engineering, 1970 Princeton University

MBA With Distinction in Economics, 1975, New York University

MPhil. in Economics and Finance, 1978 New York University

Ph. D. Economics and Finance, 1980 New York University, Dissertation Prize

Dr. Stuart Wood is an Austrian-School economist, an economic and financial forecaster, a business valuation expert, and a specialist in the theory of entrepreneurship and how entrepreneurial activities co-ordinate market processes in both product and asset markets, especially in the Stock and Bond Markets, where expectations rule. He is a student of Israel Kirzner and Ludwig Lachmann, and **his dissertation *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market* won the *Alpha Kappa Psi* award as "The Outstanding Dissertation in Economics in the United States in 1980."** He developed and published a non-market theory of *cost of equity* accepted in courts. Society is composed of individual free human beings, each one of which acts to achieve his own goal within the constraints he sees. Valuation is subjective; perception is subjective; judgment is subjective; expectation is subjective: each is formulated and chosen within the mind of the individual actor at each moment; each person acts on his own valuations, perceptions, expectations, and judgments. Entrepreneurship is the animating force of society. He developed and published a decision analysis tool to compare and evaluate the relative effectiveness of competing multi-capability systems. In addition to refining the theory of entrepreneurship in producers' and consumers product markets, developing the theory of expectations in stock markets, and developing a theory of entrepreneurial processes in stock and other asset markets, he works also in the area of the entrepreneurial design and management of business firms to increase profitability, often called "the theory of the firm," in particular by creating an entrepreneurial environment for employees to develop their alert creativity for previously-unforeseen profit opportunities. Dr. Wood has developed and teaches the "Entrepreneurial Method of Financial Decisions" based on his Austrian-School knowledge; this method focuses students' minds on the forecasted future profitability of alternative present courses of action and forecasts specific quantitative effects of each proposed course in the future, from which an evaluation can be made of the present value of each proposed course of action and the most value-creating action chosen. It is of course necessary to take *forecasting risk* into account, and this is most effectively done by *simulation* of the future forecasted effects of a decision. He believes this methodology taught to undergraduates is unique in the United States. He conceives his course in Analysis of Financial Statements as the discovery of what the firm will do in the future. He has won the Loyola MBA Top Gun teaching award and was named one of the Best Teachers in America in 1998. He has published in the areas of system effectiveness evaluation and decision analysis, rocket combustion processes, business cycle theory, distributions of security price changes, entrepreneurship in the stock market, the economic fundamentals of marketing, capital formation in the United States, valuation of closely-held firms, interactions of corporate financing and investment decisions, and the financial effects of Hurricane Katrina. His understanding of the development and withering of entrepreneurial alertness in individuals leads him to a unique appreciation of the causes of the current economic distress. His study of and experience in statistical and decision analysis, coupled with his Engineering education and experience provide him with a unique quantitative skill in business forecasting and economic valuation, and he consults in the areas of quantifying individual income loss due to an event, business income loss and business valuation, with particular expertise in "unestablished businesses"; as well as other economic issues such as quantifying economic impact analysis, antitrust and unfair competitive and pricing practices, contract breach, valuation and suitability of investment portfolios, ESOP's, evaluation of any damages that result from particular events which interrupt or change the business; and statistical validation or disproof of discrimination claims on the basis of gender, race, and age. He has been active in evaluating many business losses caused by Hurricane Katrina due to damage to premises, damage to activities, loss of assets, etc. Dr. Wood is an avid amateur astronomer and music lover, observing and photographing through his own telescopes and giving from time to time lectures on Arp Galaxies and Quasars, Cometary Impacts Carrying Life to Earth, Stellar and Galactic Ageing ("Evolution"); and considers himself an expert on Mahler and Bruckner and a lover of Beethoven. He tries to follow Jesus. Call Stuart Wood at (504) 495-6443.

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DESCRIPTION OF MY RESEARCH

Building on the work of my teachers Kirzner, Lachmann, Mises, and Hayek, my research is about the process of entrepreneurship—the individual discovery and creation of the future—and how it is carried out and co-ordinates prices in both goods markets, financial markets, and in non-market settings, where the process of price adjustment is only vaguely understood because it involves the convergence of the expectations about the future of the different market participants, the subject of my Dissertation. Entrepreneurship is the creation of new value for customers. Entrepreneurship is the central economic process, which improves the future compared with the present, and which brings valuations and expectations into greater co-ordination than they had been. The market process unique to financial markets is generally neglected by economists, and I have sought to clarify the financial market processes. The processes of entrepreneurship and valuation are very different in financial markets than in goods markets because of the expectational nature of the assets traded in financial markets, and this difference in the structure of valuation in the two types of market leads to the need to abandon supply-and-demand analysis in order to understand the workings of financial markets. This understanding has led me to work in understanding “business cycles” which are caused by expansion of the quantity of fiat money and credit, and exhibit complex differential processes in the financial and goods markets.

I am interested in the mental process of forecasting and choosing a preferred course of action. My first studies, published in a National-award-winning dissertation *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*, led to the clarification of how expectations are formed and converged by entrepreneurship in the stock market, the identification of specific types of economic entrepreneurs in the financial and capital markets, and how their actions lead to equilibration of asset prices. I have developed my own theory of risk and how entrepreneurs take risk into account in decision-making; this theory of risk has allowed me to understand how the current financial crisis came about. Entrepreneurial “alertness” can be developed within the free mind, and it can be impaired, degraded, and withered as well; I have sought to understand these contrary processes and their manifestation in the world.

I have investigated the process of firm formation and development by entrepreneurs (the “theory of the firm”) and I have gained insight into the most effective structure of the business firm, the entrepreneurial firm, in which the entrepreneurial abilities of all employees are developed and improved, thereby leading to much greater efficiency of operations, and differences in firm structure and operations in the two types of market. The successful business firm creates a free entrepreneurial environment for employees to develop their alert creativity for grasping previously-unforeseen profit opportunities.

Since successful entrepreneurship requires correct ethics, a large strand of ethical investigations has become a part of my research, leading me to appreciate that successful business management requires respect for the spiritual freedom of employees, investors, and customers. Entrepreneurship is a combination of ethical understanding and the formation and alteration of expectations. Entrepreneurship and production are spiritual phenomena, carried out in the mind within the structure of ethics which animates the spirit. Not only is valuation subjective, but expectations are subjective, and perceptions are subjective. This inherent subjectivity of economic action must be taken into account in understanding the world.

I have developed what I call the “entrepreneurial financial analysis-management process” which understands business decisions in terms of the effects they are expected to have in the future, and I teach my courses using this method of analysis. A strand of research has investigated asset valuation, business valuation, and portfolio valuation through the forecasting of future cash flows and decision analysis methodology to compare and evaluate the relative effectiveness of competing multi-capability systems based on future expected achievements, I have shown that the correct discount rate is that of the specific current owner of the asset, not the original creator of the asset, and I have developed a few techniques of valuation of businesses, both incipient and existing.

I have published in the areas of cost of equity capital to entrepreneurs and business owners, system effectiveness evaluation and decision analysis, rocket combustion processes, business cycle theory, distributions of security price changes, entrepreneurship in the stock market, general entrepreneurship theory, the economic fundamentals of marketing, capital formation in the United States, valuation of closely-held firms, interactions of corporate financing and investment decisions, and the financial effects of Hurricane Katrina and other insurance-related events.

MY TEACHING INTERESTS

I have developed and teach the “Entrepreneurial Method of Financial Decisions” based on my Austrian-School knowledge; this method focuses students’ minds on the forecasted future profitability of alternative present courses of action and forecasts specific quantitative effects of each proposed course in the future, from which an evaluation can be made of the present value of each proposed course of action and the most value-creating action chosen. It is of course necessary to take *forecasting risk* into account, and this is most effectively done by *simulation* of the future forecasted effects of a decision. Most of my Finance teaching involves forecasting of future pro-forma statements and cash flows for the forecasting of future income, dividends, and Free Cash Flows used to value equity, and the analysis of income results from specific decisions and events, including differential income resulting from unanticipated events. I conceive my course in Analysis of Financial Statements as the discovery of what the firm will do in the future within the economic and financial-market context. I use extensively the case method of teaching to train the students to see and analyze alternative possible courses of action in a chaotic world. I enjoy teaching market process analysis (“micro-economics”), business cycle theory (“macro-economics”), business valuation, investments, portfolio management, and entrepreneurship. All of my teaching is really about entrepreneurship and how it functions in the world and how subjective valuation depends on the economic position of the valuer.

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CURRICULUM VITA

July 1, 2020

EXPERTISE:

ECONOMICS: Micro-economics, Macro-economics, Market Processes, Entrepreneurship, Stock Market Price Formation, Theory of the Firm, Theory of Capital, Theory of Interest, Business Cycles, Economic Forecasting, Energy Economics, Monetary Theory, Money and Capital Markets and Institutions, Entrepreneurship and Market Processes, Price Formation, Market Structure, Value of Lost Individual Income, Value of Lost Support to Survivors in Individual Death, Value of Business Income Lost from Interruption, Value of Business Income Lost from Contract Breach, Value of Business, Value of Unestablished Business, Labor and Income Patterns, Human Capital and Income, Economics of Discrimination, Statistical Analysis of Discrimination, Income Loss due to Discrimination, Business Economic Impact, Business Income Forecasts and Feasibility Studies, Economic Impact Analysis, Antitrust and Competition, Predatory Pricing Analysis, Regional Industries, Regional Economics.

FINANCE: Business Financial Analysis, Business Income Loss from Various Events, Valuation of Business in both market and non-market settings, Forecasting Business Income, Cost of Equity Capital to Entrepreneurs in non-market situations, Analysis of Financial Statements, Discovery of Fraud in Financial Statements, Prediction of Bankruptcy, Stock Market Structure and Processes, Investments, Security Analysis, Portfolio Selection and Management, Suitability of Investments, Churning, Appropriateness of Investments for Investment Plans, Security Analysis, Valuation of Stock for ESOP or Tax, Fiduciary Responsibility.

OPERATIONS RESEARCH, SYSTEMS ANALYSIS, STATISTICS: Systems Effectiveness, Figure-of-Merit Analysis for Evaluation of Alternative Systems, Cost-Benefit Analysis, Decision Analysis, Technological Forecasting, Statistical Analysis of Events, Statistical Analysis of Changes to Assign Likely Cause, Probability that Discrimination was Random, NASA, Economic Impact of Space Program, Strategic Planning, Astronautics, Astronomy, Astrophysics, Source of Infectious Viruses, Redshift Controversy, Quasar Distances.

EDUCATION:

1994-2008: Austrian Scholars' Conferences, Mises Institute, Auburn University, Auburn, Alabama.

1982: Research Seminar: Austrian Economics, Current Economic Research. Liberty Fund, College of Notre Dame, Belmont, CA

1981: Seminar in Modern Austrian Economics. Institute for Humane Studies, University of Texas, Dallas.

1980: Ph. D., Economics and Finance (Two Fields), New York University Graduate School of Business Administration. Grade average: 3.86/4.00. Dissertation: *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market* (Chairman: Prof. Israel M. Kirzner, Advisors: Prof. Ludwig M. Lachmann, Prof. Robert A. Kavesh, Prof. Martin J. Gruber, Prof. Gerald P. O'Driscoll, Jr.). **Dissertation won the Alpha Kappa Psi Foundation for Education and Research in Business National Award for Academic Excellence as the Outstanding Dissertation in Economics in the United States in 1980.** First Recipient of National Association of Business Economists Fellowship. Three-time recipient of C.W. Nichols Foundation Fellowship.

1980: Liberty Fund Seminar, "Problems and Principles of the Free Society," Claremont Men's College, Claremont, California.

1979: New York University Seminar on Entrepreneurship and the Economics of the Firm.

1978: Master of Philosophy in Economics and Finance, New York University Graduate School of Business Administration.

1977: Liberty Fund Research Fellow, Institute for Humane Studies Research Seminar in Economics, Stanford U., Palo Alto, CA.

1977: Seminar in Austrian Economics, Liberty Fund and Institute for Humane Studies, Mills College, California.

1975: Master of Business Administration with Distinction in Economics, New York University-Graduate School of Business Administration. First Recipient of National Association of Business Economists Fellowship. Beta Gamma Sigma business honor society. Thesis Research on economics of marketing. Grade average: 3.86/4.00.

1971-1972: Graduate Seminars in Economics, Foundation for Economic Education, Irvington, New York.

1970: Master of Science, Aerospace Engineering, Princeton University, Department of Aerospace and Mechanical Sciences. Solar System mission analysis, rocket combustion research, and liquid propellant rocket engine design and combustion processes of different fuels. Thesis research was published by NASA. Graduate College Officer.

1966: Bachelor of Science, Mechanical Engineering, Tulane University, New Orleans, LA. Grade point average: 3.86/4.00, highest in class. Phi Eta Sigma Freshman Honor Society, Honors Chemistry Program, Physics Award, Louisiana Engineering Society Award, James Marshall Robert Award for Excellence in Academic Achievement and Leadership (awarded to Outstanding Graduating Senior), Convair Engineering Award, Tau Beta Pi Engineering Honor Society in junior year. Air Force Reserve Officer Training Corps Freshman Award and Detachment Commendations, Distinguished Military Student, Society of Military Engineers Award (twice), AFROTC Drum & Bugle Corps, Scabbard and Blade Military Honor Society. Alpha Chi Sigma Professional Chemistry Fraternity. Class officer.

1965: NASA Summer Institute in Space Science and Engineering. National Aeronautics and Space Administration and Columbia University, New York, New York. Work at: Goddard Spaceflight Center, Greenbelt, MD; Goddard Space Research Center, New York; Marshall Spaceflight Center, Huntsville, Alabama; Johnson Space Center, Houston, Texas; Kennedy Space Center, Cape Canaveral, Florida.

1962: High-School Diploma, Benjamin Franklin Senior High School, New Orleans, Louisiana. Valedictorian. Academic Average--97.6/100, highest in class. Bell Science Award, Chemistry Medal, Mathematics Prize, Mu Alpha Theta Honorary Mathematics Society, National Honor Society, Louisiana State Leadership Conference, Second Prize, Louisiana Biology Research Paper Fair, Physics Project Prize, Debate Society, Student Council, General Motors Scholar, National Merit Scholar.

TEACHING EXPERIENCE:

1984-2016: Tenured Associate Professor of Economics and Finance, Loyola University College of Business Administration, New Orleans, Louisiana. **COURSES TAUGHT:** Graduate and undergraduate courses, both basic and advanced, in: Corporate Financial Management; Advanced Corporate Financial Management; Cases in Financial Management; Advanced Cases in Finance; Analysis of Financial Statements; Forecasting Financial Statements; Business Valuation; Investments; Security Investment Analysis; Portfolio Analysis and Management; Entrepreneurship; Money, Financial Markets, Analysis of Financial Statements, Financial Modeling, and Entrepreneurship; Advanced Topics in Financial Management; Entrepreneurship, Expectations, and Equilibrium; Independent Studies in Investment Banking; Complex Capital Structures; Capital Investment Analysis; Honors Economic Philosophies and Public Policy; International Finance; Micro-Economics; Macro-Economics; Accounting; Financial Analysis; Petroleum Business Management; Business Forecasting; and Financial Markets and Institutions. Most of my Finance teaching involves forecasting of future pro-forma statements and cash flows for the forecasting of future income, dividends, and Free Cash Flows used to value equity, and the analysis of income results from specific decisions and events, including differential income resulting from unanticipated events. In Fall, 2005 I taught a graduate course on-line while in evacuation from Hurricane Katrina.

In 1998 I was named one of the Best Teachers in America in *Who's Who Among America's Teachers*.

In 1993 I received the Loyola University Graduate School of Business "Top Gun" Award as the **outstanding teacher** in the Master of Business Administration Program.

1991: Visiting Professor of Finance, Tulane University Graduate School of Business. Financial Management.

1990: Lecturer in Tulane University Program for Managers professional development program.

1985: Visiting Professor of Finance, Tulane University Graduate School of Business. Evaluation of Securities and Portfolios.

TEACHING EXPERIENCE, continued:

1978-1984: **Assistant Professor, Economics and Finance, Tulane University School of Business,** New Orleans, Louisiana. Graduate and undergraduate courses, both basic and advanced, in Corporate Financial Management, Investment Analysis and Portfolio Management, Graduate Seminar in Financial Research, Business Mathematics, Calculus, Financial Mathematics.

1980-1981: Visiting Professor of Finance, New York University Graduate School of Business Administration, New York, New York. Advanced graduate courses in Corporate Financing Policy.

1976-1978: **Instructor in Finance and Accounting, The University of Connecticut School of Business,** Storrs, Connecticut. Courses in Corporate Financial Management, Financial Statement Analysis, and Financial Accounting.

1975-1976: Adjunct Professor, Economics and Finance, **Pace University Graduate School of Business Administration,** New York, New York. Advanced graduate courses in Economics and Corporate Financial Planning.

BUSINESS EXPERIENCE:

1976-Present: Full-time College Professor and Consulting Economist.

1974-1976: Senior Investment Analyst, Consultant to Common Stock Department, Prudential Insurance Company, Newark, New Jersey.

Security analysis, fundamental business and financial analysis, financial modeling, cash flow modeling, and investment research on aerospace and other high-technology firms. Technological forecasting, U.S. Military and NASA budget forecasting and business effects.

1969-1974: Operations Research and Economic Analyst, Grumman Aerospace Corporation, Bethpage, New York.

Economist, Electric Power Generation market studies. Proposal Manager, Earth Observatory Satellite Proposal. Tiger Team member, space program strategic planning. Corporate expert, space program cost analysis. Developer of methodology to select optimum system from alternative candidates to meet various mission goals and parameters.

Operations research, space program design, integration, and cost analysis, economic research and analysis, strategic planning, system effectiveness analysis and quantification, corporate financial decisions, business marketing planning, long-range corporate planning and investment analysis, space program mission planning, space program mission strategy and sequences, planning future integrated space programs and missions, space program cost and economic analysis, analysis of NASA budget and economic effects, satellite design and mission analysis, satellite mission and hardware effectiveness analysis, Large Space Telescope mission effectiveness analysis, High-Energy Astronomy Observatory mission effectiveness analysis, Earth Observatory Satellite mission effectiveness analysis and proposal manager, developed new method of assessing mission effectiveness for NASA, telescopic sensing of space and ground targets, identifying targets on starry background and through aurora and airglow, star-pattern recognition, Space Shuttle design and mission analysis, energy economics, economics of electricity generation and transmission, forecasting of electricity supply and demand, fossil-fuel reserves and extraction costs, construction costs of electric-generation plants, marketing surveys and plans for energy-saving home heating devices and alternative sources of electric power, Satellite Solar Power Satellite design, mission, and cost analysis.

Summer, 1964: Materials Tester and Laboratory Analyst, Service Foundry, New Orleans, Louisiana.

Performed destructive and non-destructive strength and metallurgical tests on metal castings and forgings to determine if they met specifications. Tests of composition, tensile strength, distortion, and torsion.

Summer, 1963. Research on Bio-engineering study of neck whiplash injury causes and effects; study conducted jointly by Tulane Medical School and Tulane School of Engineering for U.S. Department of Health, Education, and Welfare.

BUSINESS INCOME ANALYSIS, FORECASTING, AND VALUATION
of ESTABLISHED AND UNESTABLISHED BUSINESSES IN BOTH MARKET AND NON-MARKET SETTINGS:

I have been forecasting and teaching forecasting of economic markets and business income for many firms, both established and unestablished, since 1970, beginning as a corporate expert for Grumman Aerospace on business development and business and technological forecasting in particular fields for five years, including market demand forecasts for various products such as solar-energy home heating systems, garbage-burning electric power generators; forecasting and cost-analyzing the United States Space Exploration Program mission-by-mission for ten years including spacecraft and launch vehicle production and specifications, the economic benefits and costs of Earth-observing satellites, the United States production of by all available technologies and methods, and demand for electric power for the period 1970-2000; and continuing as a Senior Investment Analyst in the Common Stock Department of Prudential Insurance Company where I followed aerospace and other high-technology firms such as Boeing, United Technologies, Raytheon, Northrop, Grumman, Lockheed, etc. and forecasted their business activity, income statements, dividends, and share prices. I forecasted corporate sales and income for a large number of local, regional, and National firms in litigation during the past thirty-four years, for both established and unestablished businesses, including firms involved in or proposed in: data-transmission, fire-proof emergency clothing, box manufacturing, building construction and wall manufacturing, computer manufacturing, software development and sales, data-distribution, gasoline retailing, hydrocarbon refining, hydrocarbon product manufacturing, airport services, hotels, restaurants, food sellers, apartments, condominiums, houses, savings and loan institutions, mortgage servicers, trucking, facsimile back-transmission, crime camera systems, storage facilities, anti-freeze production and distribution, mayonnaise production and distribution, hotel marketing, apartment and condominium construction. I have published several articles on economic and business forecasting, and I teach undergraduate and graduate courses on business forecasting.

CONSULTING AND ADVISING:

I am frequently interviewed by the local news media regarding economic, finance, and banking matters, especially the Savings and Loan situation and Stock Market movements. I have appeared on WWL-TV several times discussing current economic and financial events, with particular reference to Louisiana economic matters and the Stock Market. I was interviewed several times by WWL-TV in 1986 regarding the Challenger Space Shuttle disaster. I have been interviewed by WWL Radio regarding the stock market declines of October 19, 1987 and October 13, 1989. I have given TV interviews regarding astronomical matters.

I am consulted by potential buyers and sellers of closely-held firms to appraise the value of the business, and by business owners for tort or disaster valuation. I am consulted in connection with valuation of Employee Stock-Ownership Plans, the valuation of stock for estate and gift-tax purposes, economic impact studies, business feasibility studies, evaluation of business proposals, valuation of businesses in connection with purchases or sales.

I am often consulted concerning the value of personal income lost due to injuries suffered in personal injury, loss of income due to discriminatory dismissal, loss of business income and value, and the value of support to survivors lost due to individual death, and I perform about two hundred such analyses each year. I have computed worklife expectancies of divers and welders, and I have computed statistical analyses showing the likelihood of racial, sexual, and age discrimination, about two such statistical analyses each year. I am often consulted to determine the value of business income lost due to contract breach, accident, or tort, and I am often consulted to determine the lost value of businesses which were destroyed or interrupted; I perform about twenty such analyses each year. I was consulted to assist in the evaluation of economic loss arising out of the crash of Pan Am Flight 729 in 1982 at Moisant Airport; this work required the evaluation of several different family businesses. I have been consulted regarding the valuation of lost earnings and lost support, business analysis and valuation, bankruptcy forecasting, value of patents, evidence of discrimination by race or sex, financial market conditions and procedures, bank loan practices, savings and loan institutions, offshore transportation, business conditions, construction, investments, security analysis, professional incomes, statistical methods, antitrust issues, contracts, projection of changes in medical care costs, economic forecasting. I provide assistance to the Loyola Small Business Development Center and local banks and other firms, in the form of group seminars or individual advice. I am often asked to speak about the economic condition of the Gulf South Region and its future prospects, and I speak to Bar Associations and groups of attorneys and paralegals regarding economic analysis, use of economists, business interruption losses, cross-examination of economists, and the valuation of unestablished businesses.

EXPERT TESTIMONY:

Since 1980 I have been consulted and issued reports in more than four thousand litigation cases, and I have testified in more than four hundred cases in Federal and State courts in Louisiana, Texas, Mississippi, Alabama, and Florida on the question of the proper valuation of lost earnings and lost support of individuals and families, business income and profits analysis and valuation, economic forecasting, savings and loan institutions, offshore transportation, business conditions, construction, investments, security analysis, professional incomes, statistical methods, antitrust issues, discrimination matters, contracts, projection of changes in medical care costs. Clients include the leading law firms of the Area, several banks, large oil production and refining and marketing companies, oil service companies, drilling companies, and insurance companies, located both in Louisiana and in other States. I testify on behalf of both plaintiffs and defendants, with no bias toward either side; however, my predominant clients are defendants. My opinions and testimony have been favorably commented on by the United States Fifth Circuit Court of Appeals in decisions. I have testified in Federal criminal trials as well regarding the normal business practices of Savings and Loan institutions and economic evaluations of the activities of particular Savings and Loan institutions. I have also testified regarding banking practices, in particular, regarding foreclosure of business loans. I have testified in NASD Arbitrations on the side of both plaintiffs and defendants regarding the issues of churning and suitability of investments. I have investigated allegations of discrimination on the basis of age, race, and gender and whether income differentials are related to discrimination.

My consulting work and expert testimony have been in the following areas: valuation of lost personal income, valuation of lost support, valuation of life care plans, valuation of inherited investment portfolios, valuation of unestablished businesses, lost marginal business profits analysis, valuation of destroyed businesses, analysis of security prices and values, suitability of investments in securities, determination of whether churning of brokerage accounts occurred, analysis of the adherence to fiduciary obligations, evaluation of lost business profits, projections of sales revenue and profit figures from single products or business lines, evaluation of the value of an entire business, cost of equity capital, evaluation of Employee Stock Ownership Plans, evaluation of claims of racial or age discrimination using statistical analysis to reveal differences in treatment or outcomes of different populations, evaluation of antitrust issues and allegations with very sophisticated statistical tests, evaluation of banking practices, analysis of the causes of business failure, and performance of simple or comprehensive statistical analyses, as well as the more common evaluation of lost income or support arising from personal injury or accidental death. In my opinion, the concept of "hedonic damage" calculation by people who claim to be economists is outside the realm of economic analysis and is fundamentally unscientific. I have extensive successful trial experience in defeating claims of "hedonic damages."

J. STUART WOOD, Ph. D.
PUBLISHED REFEREED RESEARCH

1. "Chemical Kinetic Influences," *Nonlinear Aspects of Combustion Instability in Liquid Propellant Rocket Motors*. NASA Contractor Report No. 72426, June, **1968**.
2. "Chemical Kinetic Influences in Liquid Propellant Rocket Combustion Instability," NATO Interagency Chemical Rocket Propulsion Group, September, **1969**.
3. *Chemical Kinetic Influences in Liquid Propellant Rocket Combustion Instability*. Princeton University, Department of Aerospace and Mechanical Sciences, **1970**.
4. "Effectiveness Evaluation of Orbital Observatories," *Proceedings 1975 Annual Reliability and Maintainability Symposium*, January, **1975** (IEEE, 345 E. 47th St., New York, New York 10017), pp. 549-557. (With Joseph R. Fragola)
5. *The Economic Foundations of Marketing and the Early Development of Economic Theories Fundamental to Marketing*. Master's Thesis, New York University, Graduate School of Business Administration, **1975**.
6. "Heterogeneous Expectations and Security Price Distributions: Random Movements, Fat Tails, and Unstable Beta's." *Proceedings of the Fourteenth Annual Meeting* (ed. Bruce D. Fielitz), Eastern Finance Association, Summer **1978**, pp. 144-145.
7. *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*. New York University, Graduate School of Business Administration, **1980**.
8. *Entrepreneurship and the Co-Ordination of Expectations in the Stock Market*. Ann Arbor, Michigan: University Microfilms International, **1980** and 1982.
9. "Some Refinements in Austrian Trade-cycle Theory." *Managerial and Decision Economics*, September, **1984**, **Volume 5**, No. 3, pp. 141-149.
10. "Capital Formation Problems in the United States and the Question of a 'Capital Shortage'," *Money in Crisis: The Federal Reserve, The Economy, and Monetary Reform* (ed. Barry N. Siegel), Pacific Institute for Public Policy Research, Ballinger Books, **1984**, pages 33-47.
11. "Valuation of Closely-Held Companies and Professional Practices by Experts," William G. Elliott, Editor: *Selected Papers of the American Business Law Association National Refereed Proceedings*, **Volume 18**, American Business Law Association, **1989**, pp. 748-767. (With Dr. Michael A. Dalton and Dr. Robert I. Glover)
12. "Methodologies for Valuation of Closely-Held Companies," *Refereed Proceedings*, Academy of Financial Services, **1989**. (With Dr. Michael A. Dalton and Dr. Robert I. Glover)
13. *The Business Cycle: Theories and Evidence*, edited by Michael T. Belongia and Michelle R. Garfinkel. Boston, Kluwer Academic Publishers, 1992. Book review published in *Southern Economic Journal*, October, **1994**, pp. 566-568.
14. "Real Value of Damage Caps for Medical Malpractice in Louisiana", *Proceedings of the Academy for Studies in Business Law*, **Volume I**, Allied Academies International Conference, October 16, **1997**, Allied Academies, Inc., Cullowhee, NC 28723, pp. 19-23 (with Dr. Michael A. Dalton).
15. "Business Cycle Theory", *The Encyclopedia of Keynesian Economics*, edited by Professor Thomas Cate of Northern Kentucky University, published by Edward Elgar Publishing Company, August, **1997**, ISBN 1-85898-145-X, pages 68-84. This article, of about 10,000 words, is an invited and refereed survey article. In addition to describing the various theories, the article shows their relationships and assesses their strengths and weaknesses, and it relates the theories to empirical observations.

PUBLISHED REFEREED RESEARCH, continued

16. "Austrian Business Cycle Theory in the Current Recession: Business Cycle Theory and Stagflation." *Proceedings of the Eighth Annual Austrian Scholars' Conference, "Austrian Critiques of Neoclassical Economics,"* Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 16, **2002** (with William Barnett II). <http://www.mises.org/asc/2002/asc8-barnett.pdf>
17. "Austrian Economics, Neoclassical Economics, Marketing, and Finance," *The Quarterly Journal of Austrian Economics*, **Vol. 5**, No. 2 (Summer, **2002**), pp. 51-66 (with Dr. Walter Block and Dr. William Barnett II).
18. "Three Entrepreneurs in the Stock Market: A Preliminary Theoretical Development," *Refereed Proceedings*, European Applied Business Research Conference, Venice, Italy, July, **2003**.
19. "Interactions of Corporate Financing and Investment Decisions: The Financing Present Value ("FPV") Approach to Evaluating Investment Projects that Change Capital Structure," *Managerial Finance*, **Volume 30**, Number 5, May, **2004**, pp. 16-37.
20. "The Finance of Katrina," *International Journal of Social Economics* (ISSN 0306-8293) **Volume 35** Numbers 7 and 8, Summer, **2008**, pp. 579-589.
21. "Business Cycle Theory", *The Encyclopedia of Keynesian Economics*, Second Edition, edited by Professor Thomas Cate of Northern Kentucky University, published by Edward Elgar Publishing Company, March, **2013**. An invited and refereed survey article. In addition to describing the various theories, the article shows their relationships and assesses their strengths and weaknesses, and it relates the theories to empirical observations.

PAPERS SUBMITTED FOR PUBLICATION, NOW UNDER REVIEW

22. "Three Entrepreneurs in the Stock Market: A Preliminary Theoretical Development," *The Quarterly Journal of Austrian Economics*, May, **2011**.
23. "Entrepreneurship and the Co-Ordination of Heterogeneous Expectations in the Stock Market," *The Quarterly Journal of Austrian Economics* (No. 707), May, **2011**.
24. "The Opposite of Bureaucracy: Austrian-School Entrepreneurship and an Entrepreneurial Theory of the Firm," *The Quarterly Journal of Austrian Economics* (No. 713), May, **2011**.
25. "The Development and Present State of the Theory of Entrepreneurship in Product and Financial-Asset Markets," *The Quarterly Journal of Austrian Economics* (No. 714), May, **2011**.
26. "The Development and Present State of the Theory of Entrepreneurship in Product and Asset Markets by Knight, Hayek, Schumpeter, Mises, Kirzner, Shackle, and Lachmann," August, **2011**
27. "Business Cycle Theory", *The Encyclopedia of Keynesian Economics*, Second Edition, edited by Professor Thomas Cate of Northern Kentucky University, published by Edward Elgar Publishing Company, September, **2013**, pages 68-84. This article, of about 10,000 words, is an invited and refereed survey article. In addition to describing the various theories, the article shows their relationships and assesses their strengths and weaknesses, and it relates the theories to empirical observations.
28. "COST OF CAPITAL IN A NON-MARKET-EXCHANGE SITUATION" submitted to *Quarterly Journal of Austrian Economics* in July, 2019
29. "A KIRZNERIAN ENTREPRENEURIAL-DISCOVERY, MISESIAN PROFIT-MANAGEMENT THEORY OF THE FIRM—THE OPPOSITE OF BUREAUCRACY" SUBMITTED TO QJAE ON JULY 15, 2019

RESEARCH PRESENTATIONS, LECTURES, AND SEMINARS:

- 1975:** "System Effectiveness Evaluation," 1975 Annual Reliability and Maintainability Symposium of IEEE, Washington D. C., January, 1975 (with Joseph R. Fragola).
- 1977:** "A Semi-Strong Form Test of Market Efficiency Using Technical Indicators," Eastern Finance Association Annual Meeting, Boston, April, 1977 (Discussant).

1978: "Heterogeneous Expectations and Security Price Distributions: Random Movements, Fat Tails, and Unstable Beta's," Eastern Finance Association Annual Meeting, Atlanta, April, 1978.

"Expectations and the Non-Equilibrium Theory of the Market Process," Western Economic Association 53rd Annual Meeting, Honolulu, June, 1978, Session #33, "Stock Market."

"Capital Structure: A Risk-Segmented Income Analysis," Western Economic Association Annual Meeting, Honolulu, June, 1978 (Discussant).

"Securities Market Efficiency and the Release of Insider Trading Information," Western Finance Association Annual Meeting, Honolulu, June, 1978 (Discussant).

1981: "Business Education," Presented to American Business Women's Association, October, 1981.

"Capital Formation Problems in the United States and the Question of a 'Capital Shortage'," Invited Paper, Pacific Institute Conference, *Inflation or Deflation: Prospects for Capital Formation, Employment, and Economic Recovery*, Director: M. Bruce Johnson. San Francisco, November, 1981.

1982: "The Outlook for Interest Rates," Presented to Geosource, Inc. Financial Managers, February, 1982.

"Capital Investment Analysis," Presented to LA Certified Public Accountants Continuing Education Program, March, 1982.

"Modern Finance Theory and Theories of the Business Cycle," Western Economic Association International 57th Annual Conference, Los Angeles, July 16, 1982, Session #20, "Economic Fluctuation."

1982: "The Short-and Long-Run Links between Inflation and Unemployment: Some Empirical Evidence," Western Economic Association International 57th Annual Meeting, Los Angeles, July, 1982, Session #10, "Inflation and Deflation" (Discussant).

"Refinements in Austrian Trade-Cycle Theory Provided by Modern Finance Theory and Consideration of Managerial Expectations," Liberty Fund Seminar, *Austrian Analysis in Current Economic Research*, College of Notre Dame, Belmont, California, June-July, 1982 (Competitive Submission).

1983: "Optimal Techniques for Investment-Financing Evaluation," Southwest Finance Association Annual Meeting, Houston, March, 1983, Session B, "Financial Topics" (with Kenneth J. Boudreaux).

"Modeling the Financing-Investment Interaction During Unanticipated Inflation," TIMS-ORSA Annual Meeting, Session #MC11.2, "New Financial Models," Chicago, April, 1983 (Competitive Submission).

"An Exchange-Ratio Determination Model for Mergers: An Extension," Southwest Finance Association Annual Meeting, Houston, March, 1983, Session B, "Mergers and Spinoffs" (Discussant).

"The Investment Environment," To Oil Company Financial Managers, The Petroleum Club, Inc., November, 1983.

1984: "Simulation of Capital Budgeting with Associated Capital Structure Changes," The Institute of Management Science-Operations Research Society of America, Annual Meeting, San Francisco, May, 1984.

1985: "Evaluating Capital Projects that Change Capital Structure Across Time," TIMS-ORSA Joint Meeting, Boston, April, 1985. Session #MB22, "Corporate Financial Models."

"Taxonomy of Business Cycles," Western Economic Association 60th Annual Conference, Anaheim, California, July, 1985, "Economic Fluctuations" (with Dr. William Barnett).

"Empirical Testing of the Mises-Hayek Theory of Business Cycles," Western Economic Association 60th Annual Conference, Anaheim, California, July 4, 1985, Session Topic: "Economic Fluctuations".

"Interactions of Financing and Investment Decisions," Southwest Finance Association Annual Meeting.

1986: "Economic Analysis in Personal Injury Cases," New Orleans Defense Attorneys Association, April, 1986.

"The Outlook for Interest Rates," Presented to the National Association of Credit Union Managers, National Convention, May, 1986.

1987: "Economic Analysis in Personal Injury Cases," New Orleans Defense Attorneys Association, April, 1987.

"The Morality of Capitalism" (with Dr. William Barnett), Presented to the Loyola University College Republicans (and guests), April 6, 1987.

"Financial Decision-Making," Presented to the Johnson & Higgins continuing education program for professional financial personnel, April 22, 1987.

"The Outlook for Interest Rates and the Economy," Presented to the National Convention of Purchasing Managers, Royal Orleans Hotel, May, 1987.

"Financial and Economic Analysis," American Association of Paralegals National Convention, June, 1987.

"Business Cycle Theory and Stagflation," Western Economic Association International Annual Meeting, Vancouver, July, 1987, Session: "Economic and Statistical Methods and Models" (with Dr. William Barnett).

1987: "Economic Impact of a Proposed Business Venture in Mandeville," U.S. Dept. of Agriculture, Farmers Home Administration.

1988: "The Economic Outlook," Presented to the National Association of Credit Management Congress, New Orleans, May 24, 1988.

"Indicators of the Business Cycle and Mass Mood: Some Evidence on Correlations," Southwest Economics Association Annual Meeting, Houston, March, 1988, Session #11K, "Economic Forecasting" (with Dr. Gordon Leitch).

"Indicators of Market Phenomena and Mass Mood: Evidence on Correlations." Southern Economic Association Annual Meeting, November, 1988, San Antonio, Session #155, "Economic and Social Statistics" (with Dr. Gordon Leitch).

1989: "Interactions of Corporate Financing and Investment Decisions: The Financing Present Value Approach," 64th Annual Western Economic Association International Conference, Lake Tahoe, June, 1989, Session #146, "Financial Economics II" (with Dr. Gordon Leitch)

"Convergence of Expectations in the Stock Market," 64th Annual Western Economic Association International Conference, Session #146, "Financial Economics II", Harveys Hotel, Lake Tahoe, June 21, 1989

"Depreciation, the J-Curve, and Balance of Trade Deficits," 64th Annual Western Economic Association International Conference, June 20, 1989, Session #102, "International Finance II" (with Dr. William Barnett).

"Valuation of Closely-Held Companies and Professional Practices by Experts," American Business Law Association, Annual Convention, Los Angeles and Honolulu, August 15-22, 1989. (With Dr. Michael A. Dalton and Dr. Robert I. Glover).

"Methodologies for Valuation of Closely-Held Companies," Academy of Financial Services Conference, August 1989 (with Dr. Michael A. Dalton and Dr. Robert I. Glover).

"Testing Some Theoretical Additions to Austrian Business Cycle Theory--Business Cycle Theory and Stagflation" 64th Annual Western Economic Association International Conference, June 20, 1989, Session #176, "Macroeconomics and Econometrics" (with Dr. William Barnett).

"The Early Economists' Anticipation of Modern Marketing Theory," 64th Annual Western Economic Association International Conference, June 20, 1989, Session #162 "History of Economic Thought."

"Methodologies for Valuation of Closely-Held Companies," Academy of Financial Services Annual Meeting, Boston, October, 1989 (with Dr. Michael A. Dalton and Dr. Robert I. Glover).

1990: Seminar on "Valuation of Closely-Held Companies" to the National Convention of The International Society of Communications Specialists, Royal Orleans Hotel, New Orleans, January 6, 1990.

"The Prospects for the Local Economy," Presented to the Orleans Parish Chapter of the Young Bankers Association, October 16, 1990.

1991: "The International Economic Outlook, and the Effect of the Gu-If Crisis," presented to the Diamondhead, MS chapter of the American Association of Retired Persons, February 5, 1991.

1992: "Measuring the Substantial Equivalency Maintenance Criterion," Southern Economic Association 62nd Annual Meeting, Session No. 114 "Forensic Economics II", Washington Hilton, Washington, DC, November 23, 1992.

"The Demand for Life Protection: The Hedonic Controversy from Median Voter Perspective," Discussant. Southern Economic Association 62nd Annual Meeting, Session No. 114 "Forensic Economics II", Washington Hilton, Washington, DC, November 23, 1992.

1993: "What is Measured when Calculating Value of Life, Earning Capacity, and Expected Earnings?". Allied Social Science Associations Meetings-American Economic Association, Anaheim, CA, January 6, 1993.

"What is Measured when Calculating Lost Earnings and Lost Earnings Capacity?", Discussant. Allied Social Science Associations Meetings-American Economic Association, Anaheim, CA, January 6, 1993.

"Medical Economics in the Real World," Presented to the Air Force Pharmacy Officer Seminar on Sheppard AFB, Wichita Falls, Texas, March 31, 1993.

"Proving Business Injury and Business Valuation," Presented to the Louisiana State Bar Association 1993 Summer School for Lawyers, Sandestin, Florida, June 7, 1993.

"Medical Economics in the Real World," Presented to the symposium, Pharmacoeconomics in the Institutional Setting, Chicago, Illinois, July 9, 1993.

"How to Cross-Examine an Economist," presented to the Louisiana Association of Defense Counsel 1993 Trial Academy, Loyola University Law School, July 30, 1993.

"Proving Business Injury and Business Valuation," Presented to the Louisiana State Bar Association 1993 Winter School for Lawyers, New Orleans, Louisiana, December 2, 1993.

1994: "How to Cross-Examine an Economist," presented to the Louisiana Association of Defense Counsel 1994 Trial Academy, Loyola University Law School, July 29, 1994.

"The Feminist Competition/Co-Operation Dichotomy: An Austrian Critique," Discussant. Southern Economic Association 64th Annual Conference, Session 67E, Feminism and Economics, Hilton at Walt Disney World Village, Lake Buena Vista, Florida, November 21, 1994.

1995: Lecture to the Chartered Life Underwriters Association of New Orleans (President: John D. Becker), on the state of the economy, interest rates, and the prospects for the local and national economy, Tavern-on-the-Park, April 19, 1995. (CLU's receive continuing education credit for this program.)

"Medical Economics in the Real World," Keynote Lecture presented to the continuing education session of the Academy of Pharmacy of Central Ohio and The Academy of Medicine of Central Ohio, Columbus, Ohio, May 20, 1995.

1996: "How to Cross-Examine an Economist," presented to the Louisiana Association of Defense Counsel 1996 Trial Academy, Loyola University Law School, August 2, 1996.

1997: "Real Value of Damage Caps for Medical Malpractice in Louisiana." Academy for Studies in Business Law, Allied Academies International Conference, Maui, Hawaii, October 16, 1997. (with Michael A. Dalton)

2001: "Water Privatization", Discussant. Austrian Scholar's Conference 7, "Privatization of So-Called Public Goods," Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 31, 2001.

"Networks, Anarcho-Capitalism, and the Paradox of Co-Operation.", Discussant. Austrian Scholar's Conference 7, "Privatization of So-Called Public Goods," Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 31, 2001.

"Economics of Lost Individual Income: Calculating Damages of Lost Income and Fringe Benefits." Lecture to Maritime Personal Injury Law Class, April 19, 2001, Loyola Law School.

RESEARCH PRESENTATIONS, LECTURES, AND SEMINARS, continued:

2002: "Heterogeneous/Divergent Expectations as a Cause of Non-Equilibrium Changes of Stock Prices." Austrian Scholars' Conference 8, "Austrian Critiques of Neoclassical Economics," Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 16, 2002.

"Austrian Business Cycle Theory in the Current Recession: Business Cycle Theory and Stagflation." Austrian Scholars' Conference 8, "Austrian Critiques of Neoclassical Economics," Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 16, 2002 (with William Barnett II).

"Divergent Expectations as a Cause of Non-Equilibrium Changes of Stock Prices: Equilibrium in an Asset Market." Southwest Economic Association Annual Meeting, "Non-Mainstream Perspectives to Economics," Southwestern Social Science Association Annual Meeting, Fairmont Hotel, New Orleans, Louisiana, March 28, 2002.

"Business Cycle Theory and Stagflation: On the Austrian Business Cycle." Southwestern Economic Association Annual Meeting, "Non-Mainstream Perspectives to Economics," Southwestern Social Science Association Annual Meeting, Fairmont Hotel, New Orleans, Louisiana, March 28, 2002 (with William Barnett II).

"Heterogeneous/Divergent Expectations as a Cause of Non-Equilibrium Changes of Stock Prices: Entrepreneurial Adjustment Processes." Southern Economic Association 72nd Annual Conference, Session 32C "Austrian Critiques of Neoclassical Economics." Hyatt Regency Hotel, New Orleans, Louisiana, November 24, 2002.

"Business Cycle Theory and Stagflation: Austrian Business Cycle Theory in the Current Recession." Southern Economic Association 72nd Annual Conference, Session 32C "Austrian Critiques of Neoclassical Economics." New Orleans, Louisiana, November 24, 2002 (with William Barnett II).

"Education and Bureaucracy: National Testing and School Privatization", Discussant. Southern Economic Association 72nd Annual Conference, Session 54D, "Topics in Economics," New Orleans, Louisiana, November 24, 2002.

2003: "Entrepreneurship in the Product Market and the Financial-Asset Market." Loyola University College of Business Austrian Economics Colloquium, January 17 and February 7, 2003.

"Money: Capital Good, Consumers' Good, or (Media of) Exchange Good?", Discussant. Austrian Scholars Conference 9, "Austrian Economics at Loyola, Part 1," The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 14, 2003.

"Competition as an Evolutionary Process and Antitrust Policy," Discussant. Austrian Scholars Conference 9, "Austrian Economics, Marketing, and Resource-Advantage Theory," The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 14, 2003.

"Empirical Evidence Regarding Heterogeneous Expectations and Security Price Distributions." Austrian Scholars Conference 9, "Austrian Economics at Loyola, Part 2," The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 15, 2003.

"Three Entrepreneurs in the Stock Market: A Preliminary Theoretical Development," European Applied Business Research Conference, Venice, Italy, July, 2003.

2004: "Kirznerian and Lachmannian Entrepreneurship Co-Ordinating the Product and Financial-Asset Markets." Austrian Scholars' Conference 10, Session, "Pricing, Management, and Entrepreneurship", Ludwig von Mises Institute, Auburn University, Auburn, Alabama, March 19, 2004.

"The Development and Present State of the Theory of Entrepreneurship in Product and Asset Markets by Knight, Hayek, Schumpeter, Mises, Kirzner, Shackle, and Lachmann," Southern Economic Association 74th Annual Conference, Session No. 119H—Coase, Hayek, and Schumpeter; Monday, November 22, 2004, Fairmont Hotel New Orleans, LA.

RESEARCH PRESENTATIONS, LECTURES, AND SEMINARS, continued:

2005: "Austrian-School Entrepreneurship and the Theory of the Firm," Austrian Scholars Conference 2005, The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, Session A, "The Firm," March 18, 2005.

"The Development and Present State of the Theory of Entrepreneurship in Product and Asset Markets," Austrian Scholars Conference 2005, The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, Session A, "Austrian Concepts and the Mainstream," March 19, 2005.

2008: "The Finance of Katrina," Austrian Scholars Conference 2008, The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, Session A, "Applied Economics," March 15, 2008.

2009: "The Development and Present State of the Theory of Entrepreneurship in Product and Financial-Asset Markets," Austrian Scholars Conference 2009, The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, 10:15-11:45 Sessions: Session A, "Entrepreneurship," March 13, 2009.

"Austrian-School Entrepreneurship and the Theory of the Firm," Austrian Scholars Conference 2009, The Ludwig von Mises Institute, Auburn University, Auburn, Alabama, 10:15-11:45 Sessions: Session A, "Entrepreneurship," March 13, 2009.

J. STUART WOOD, Ph. D. CITATIONS OF MY RESEARCH BY OTHERS:

1. Donnelly, Austin S. *The Three R's of Investing--Return, Risk, and Relativity*. Dow-Jones/Irwin, 1985.
2. Boehm, Stephan. "The Austrian Tradition: Schumpeter and Mises." Chapter 6 in *Neoclassical Economic Theory, 1870 to 1930*, edited by Klaus Hennings and Warren J. Samuels. Boston: Kluwer Academic Publishers, 1990, pages 211, 241.
3. Cowen, Tyler, *Risk and Business Cycles*, Taylor & Francis, Inc., 1998, pp. 35, 42.
4. Comment by Roger W. Garrison, "J. Stuart Wood's 'Capital Formation in the United States and the Question of a Capital Shortage'," *Money in Crisis: The Federal Reserve, The Economy, and Monetary Reform*, Pacific Institute Conference, San Francisco, November, 1981.
5. Garrison, Roger, "Review of 'Capital Formation in the United States and the Question of a Capital Shortage' in his review of *Money in Crisis: The Federal Reserve, the Economy, and Monetary Reform*, edited by Barry N. Siegel." *Southern Economic Journal*, Vol. 52, No. 2 (October), 1985, pp. 572-74.

MY ACTIVITIES AS A REFEREE:

Quarterly Review of Economics and Business, published quarterly by the Bureau of Economic and Business Research, University of Illinois at Urbana-Champaign, "Price Shocks and Observed Aberrations in Systematic Risk," August, 1982.

The Review of Austrian Economics, published annually by The Ludwig von Mises Institute and Lexington Books. Reviewed "The Emergence and Implication of the European Currency Unit," July, 1989.

Managerial Finance, 2003. Reviewed "The Emergence of Financial Markets", Autumn, 2002.

The Quarterly Journal of Austrian Economics, published by The Ludwig von Mises Institute, Auburn University, Auburn, Alabama. Reviewed "Information Processing in Financial Markets—An Austrian Approach", April, 2005.

UNIVERSITY AND COMMUNITY SERVICE

COLLEGE OF BUSINESS COMMITTEES:

Faculty Recruitment for Finance and Economics
Student Recruitment Team
Graduate Education Task Force
Entrepreneurship Task Force
Curriculum Committee, 1985-1988; 1990-(Overall Curriculum Review and restructure, MBA course design)
Advising Committee, Chairman, 1986-87
MBA Curriculum Task Force, 1990-91
CBA By-Laws and Elections Committee
CBA Undergraduate Curriculum Committee, 2014-2016
CBA Rank and Tenure Committee, 2014 - 2016.

UNIVERSITY COMMITTEES:

Elected to University Senate, 1986-1998.
University Senate Parking Committee, 1986-87
Faculty Academic Affairs Budget Committee, 1986-1989; 1989-1992. The Provost restructured the Committee's work flow and the budgeting method in accordance with my analysis and suggestions for improvement.
"Blue Ribbon" Task Force for the Library's Academic Future, 1986-87.
University Senate Designate to the Finance Committee of the Board of Trustees: 1991-92, 1992-93. This Committee advises the Board regarding proposed University borrowings, the unified budget, and other financial matters.
Advisor to Endowment Committee of the Board of Trustees: 1991-1993. This Committee oversees the investment policy for the University's endowment portfolio.

MEMBERSHIPS:

American Economic Association
American Finance Association
Western Economic Association
Western Finance Association
Southern Economic Association
Southern Finance Association
Eastern Finance Association
Southwestern Social Sciences Association
Operations Research Society of America-The Institute of Management Science
Director, Operation New Start, Inc., non-profit organization providing housing for homeless families.
Finance Committee Chairman and member of Executive Board, Short-Fern Street Neighborhood Association.
Member, Board of Directors, Benjamin Franklin High School Alumni Association.
Lector and Eucharistic Minister, St. Thomas More University Parish, Tulane University.

COST OF EQUITY CAPITAL, KNOWLEDGE OF ALTERNATIVES, VALUATION OF ASSETS USING LUMP SUMS OF CASH, AND RISK BORNE IN A NON-MARKET-EXCHANGE SITUATION, SUCH AS DAMAGES IN LITIGATION OR RESTORATION OF AN EXISTING BUSINESS DESTROYED BY FIRE

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Abstract

Economic analysis in litigation involving the compensation of plaintiffs for loss of value of assets or firms is deficient and incorrect due to its neglect of the subjectivity of valuation emphasized by Austrian economists such as Mises and Rothbard,¹ and its improper use of a market-choice mechanism to estimate the discount rate used to compute the present value of forecasted cash flows from the asset or firm, in the absence of a market context, and in which the plaintiff does not have a choice to make, and no "cost" exists. This causes the discount rate to be incorrectly too high and undervalues the actual damages suffered by the plaintiff. All literature in the finance, forensic, and litigation areas fails in this regard.

Valuation is Subjective and Personal to the Particular Individual

Valuation is subjective by an individual human being² only in conditions offering a choice to him for action³: Value is not an attribute or possession of a thing or an asset, but rather the mental response to that thing or asset by a particular valuing individual human being, who can see a different value of this thing than is seen by another person at the same time and place, because of differences in the alternative opportunities perceived by the two individuals and differences in the purposes to which each individual would apply this asset.⁴

The value of an asset to a particular individual is formed entirely in *his* mind; *i.e.*, in the mind of the valuing individual or owner of the asset, based on his own personal time-preference rates, knowledge, plans, expectations, risk perceptions, and circumstances, so that different individuals can appraise different values of the very same asset at the same moment.

¹ Ludwig von Mises, *Human Action*, The Scholar's Edition, Ludwig von Mises Institute, Auburn, Alabama, 1998, Chapter I Acting Man, pp. 11-29; also, IV. A First Analysis of the Category of Action, pp. 92-98.

Murray N. Rothbard, *Man, Economy, and State*, Ludwig von Mises Institute, 2004, pp. 17-21, p. 343.

¹ Mises, *Op. Cit.*, p. 94, "Acting man chooses between various opportunities offered for choice. He prefers one alternative to others."

¹ Mises, *Op. Cit.*, p. 96: "Value is not intrinsic, it is not in things. It is within us; it is the way in which man reacts to the conditions of his environment."

² Ludwig von Mises, *Human Action*, The Scholar's Edition, Ludwig von Mises Institute, Auburn, Alabama, 1998, Chapter I Acting Man, pp. 11-29; also, IV. A First Analysis of the Category of Action, pp. 92-98.

Murray N. Rothbard, *Man, Economy, and State*, Ludwig von Mises Institute, 2004, pp. 17-21, p. 343.

³ Mises, *Op. Cit.*, p. 94, "Acting man chooses between various opportunities offered for choice. He prefers one alternative to others."

⁴ Mises, *Op. Cit.*, p. 96: "Value is not intrinsic, it is not in things. It is within us; it is the way in which man reacts to the conditions of his environment."

The Finance, forensic, and litigation literature does not appreciate the need for a market-exchange context to estimate the cost of capital, the discount rate used to convert a future stream of cash flows into a present value. This ignorance causes the Finance and litigation literature to recommend a market-based incorrect and impossible procedure to economists and analysts involved in determining damages in litigation contexts. Although there is no market-exchange or "investment" situation facing the plaintiff, we find the literature using market-exchange techniques to value the damages suffered in order to compensate the plaintiff for his loss.

It is very important to understand the "cost of equity capital" which is used as the discount rate for future cash flows in valuing a business; *i. e.*, to convert future cash flows to present value. The ordinary symbol is "**ke**". In economics, "cost" denotes "the most highly-valued rejected alternative;" *i.e.*, it is intrinsic in a market exchange proposition not yet completed.⁵ We cannot consider "cost" except in an exchange situation; *i.e.*, in a situation involving the giving up of one asset or cash for another asset not presently owned. *The concept of "cost of capital" is not relevant except in an exchange situation.* Hence, in a legal context in which a plaintiff is being compensated for a loss and there is no exchange possibility, there is no "cost of capital", and another method must be used to compute the discount rate to convert a stream of lost future cash flows into a lump sum present value. This paper is not concerned with exchanges made voluntarily in a market setting, but with the replacement of a value lost by a plaintiff in litigation.

We teach that the value of an asset that is expected to produce cash income in the future is the Present Value of the future cash flows to be produced by the asset, each discounted to the present in the mind of the valuer (*i.e.*, not another person, or an economist or financier, or expert, or other market participant--all of whom have different perceived alternative opportunities and expert techniques of trade) at a risk-adjusted discount rate peculiar to *this valuer*. Clearly, the future cash flows are uncertain; but the *discount rate is uncertain also and particularized to the individual in question, not* general market parameters: dependent on the knowledge and perceptions of the valuing actor only regarding the rate of return *he* can attain in the future on an alternative course of action. The context of the valuation--whether there is a potential market transaction or not--is crucial to the valuation process, as the market opportunity is different from a non-market situation, such as a valuation in litigation, where the purpose is to refund to a plaintiff the dollar amount of loss he has already suffered.⁶ But the plaintiff being compensated has lost the asset or firm

⁵ Mises, *Op. Cit.*, p. 97 4. Action as an Exchange: "Action is an attempt to substitute a more satisfactory state of affairs for a less satisfactory one. We call such a willfully induced alteration an exchange. A less desirable condition is bartered for a more desirable. What gratifies less is abandoned in order to attain something that pleases more. That which is abandoned is called the price paid for the attainment of the end sought. The value of the price paid is called costs. Costs are equal to the value attached to the satisfaction which one must forego in order to attain the end aimed at."

⁶ Shannon P. Pratt and Roger J. Grabowski, *Cost of Capital in Litigation*, John Wiley & Sons, Inc., 2011: "As the expected rate of return on investment, the cost of capital is often the cornerstone for calculating the value of assets and the amount of damages due to losses." (p. xix); "...the cost of capital estimate is the essential link that enables us to convert a stream of expected income into an estimate of present value, allowing us to make informed pricing decisions for purchases and sales and to compare one investment opportunity against another." (p. xxi); "The cost of capital is the expected rate of return that market participants require [a plaintiff in litigation is not a market participant, but is intrinsically very different] require in order to attract funds [but the plaintiff is not seeking financing to purchase the firm or asset--he formerly owned and operated the firm before its destruction]

which he formerly owned and operated; there is no "purchase" or "sale" possible, and no "investment opportunity" available: the plaintiff is not seeking to exchange cash or one asset for another--he already did that in the past and his firm or asset has been destroyed, and he seeks compensation--the value of his asset to him.

So the risk⁷ faced by the owner prior to the loss is different and much smaller than, the risk faced by an investor contemplating the purchase of an asset which he has not owned. The market method confuses the risk faced by the owner with the risk faced by a distant investor, so it overestimates the risk adjustment for the former owner's cost of capital and far overstates the size of the discount rate.

But, all⁸ Finance and Investments textbooks state that the *observing economist* can determine the correct discount rate, the correct cost of capital to the valuing market participant, allowing the economist to value the asset as the individual market participant does, by analyzing the market parameters and "risk" of the asset in question, giving the economist knowledge of the subjective preferences and perceptions of the individual market participant who is a different person. Surely this is a mistake. Interpersonal comparisons of utility are not possible because valuation is entirely subjective.⁹ The external economist cannot know all of the details of the mental valuation process of the market participant. Therefore, the economist's use of the CAPM or the build-up method to infer the thinking of the actual valuer, can create only error.

Use of these objective methods is probably less harmful in education, but in litigation situations, it can produce grave injustice, by suggesting an asset value far different from that judged by the litigation participant who is supposed to be made whole; *i.e.*, fully compensated for any loss *he* sustained, as measured in *his* mind.

Cost of Capital--the Discount Rate Valuing Future Cash Flows--Is Individual and Requires a Market Opportunity

The "cost of capital"--the discount rate used in the valuation--is *subjective* in the mind of the discounter, and for a "given" asset, varies from valuer to valuer, depending on the circumstances, knowledge, perceptions, available known alternatives, expertise, abilities and

to a particular investment. In economic terms, the cost of capital for a particular investment is an opportunity cost--the cost of forgoing the next best alternative investment. In this sense, it relates to the economic principle of substitution, that is, an investor will not invest in a particular asset if there is a more attractive substitute." (p. 1)

⁷ "Cost of capital estimation is the pricing of risk." Pratt and Grabowski p. xxi. "Since the cost of anything can be defined as the price one must pay to get it, the cost of capital is the return a company must promise in order to get capital from the market....A company does not set its own cost of capital; it must go into the market to discover it." (p. 2)

⁸ See the annual issues of Duff & Phelps/Wiley *2017 Valuation Handbook, U.S. Guide to Cost of Capital*, and previous editions, John Wiley & Sons, Inc., 2017, Chapters 1-10; also the previous annual editions of *2017 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation*, Duff & Phelps, John Wiley & Sons, 2017, Chapters 7 - 8. Also, e.g., Koller, Goedhart, Wessels, *Valuation: Measuring and Managing the Value of Companies*, McKinsey & Company/John Wiley & Sons, Chapter 10; Brealey, Myers and Allen, *Principles of Corporate Finance*, McGraw-Hill/Irwin, Chapter 2, 5, 6.; James C. Van Horne, *Financial Management & Policy*, Prentice Hall, Chapters 2, 3, 6; and Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, Richard D. Irwin, Inc., Chapter 8.<

⁹ Murray N. Rothbard, *Man, Economy and State*, Pages 301-302.

plans of the valuer, even if the various valuers agree on the series of future cash flows. The value of the asset depends upon *who* is doing the valuing and for what purpose.

The cause of the subjectivity of valuation in this situation is **both the discount rate used, the available alternatives perceived by the valuer, and the risk perceived by the individual doing the valuation, and the valuer's forecasts of the future cash flows he expects to receive across the future lifetime of the asset.** For a given set of forecasted future cash flows across time, the knowledge of the valuer regarding available opportunities and his previously-developed expertise with regard to such opportunities and his trade abilities and methods, all change the size of the discount rate he chooses, because he sees different returns on different opportunities, and thereby directly affect the value of the asset: a higher discount rate causes the asset value to be smaller, while a smaller discount rate causes the asset value to be larger. The *risk* perceived by the valuer depends on his knowledge of the details of the operation of the asset: a real experienced owner of the asset will know more and perceive less risk, than will a long-distance non-owner considering the purchase of the asset.

Textbook Methods of ke Are Market Based and Purchase-Assuming. Market Methods of ke Neglect Individual Capabilities and Perceptions of Alternatives. Purchase View Over-Estimates Risk to Actual Owner and Overstates ke by neglecting expertise.

Litigation of Damages Seeks to Make One Particular Individual Whole: the Owner and Operator of a Business Asset, who knows better than the Market how to operate that asset, so bears less risk than any other non-owner person does, and consequently has a smaller cost of capital discount rate for valuing the asset.

Non-market situations, such as litigation of damages for a tort or catastrophe, the solution to which is *to make this particular plaintiff whole with a cash judgment replacing the value he lost*, (not an average general market participant) are inherently different from the market situations of finance textbooks because the business owner is not selecting one possible purchase from a set of alternatives which he does not own, but often has successfully operated the destroyed business prior to the disaster, so he knows the situation is not uncertain, and does not have the wide knowledge and experience of an avid financial-market participant, so he does not have access to the higher stock-market rates of return assumed by textbooks available to market investors. Hence, the cost of capital used to value the future cash flows lost to *this plaintiff* must be smaller than in textbook examples to avoid under-valuing the actual damages. We must use the particular knowledge, circumstances, and abilities of *this plaintiff* to determine the value lost which must be replaced by a judgment lump sum of money. That means that we must use *this plaintiff's* cost of capital (which is different from the cost of capital of other people--including that of the Economist) in valuing the lost future cash flows of *this plaintiff*, and not impute better skills to *this plaintiff* (which would have produced larger future rates of return, and may be applicable to other people, but not *this one*) in computing the value to be replaced by the judgment.

In many litigation matters the "fair market value" standard¹⁰ cannot be relevant to the actual plaintiff because of its contrary-to-fact assumptions. And because litigation is not a market situation, the distinction between diversifiable and non-diversifiable risk cannot be made.¹¹ In valuing the lost asset or portfolio, the economist must use the forecasted future cash flows, the risk perceived by the asset owner, and the cost of capital discount rate of the actual plaintiff--and not a market or expert standard--to compute the present value of cash to make the plaintiff whole: this plaintiff has different perceptions and capabilities than do more general expert market participants, which are ordinarily used by economists to compute damages, thereby mis-computing the actual compensatory damages of this particular plaintiff.

Alternative Opportunities Must Be Known, Available, Achievable, and Capable

The cost of capital is an *opportunity cost*, the highest available rate of return which the valuer *knows* is available to him in a market transaction in which he chooses one alternative from many, and *knows how* to attain in an alternative opportunity. To be an opportunity, the valuer must *know* of the existence of the opportunity and must *know how to achieve* that rate of return. It is a matter of knowledge *and* expertise *and* technique peculiar to this individual. In litigation, the cost of capital of *this* plaintiff must be used to value the damages he suffered, not assume the capabilities or expertise of another person who knew different things than this person, or follow the recommendations of an external economist.

For example, an experienced and expert stock market investor has detailed knowledge regarding how to sell and buy particular stocks to achieve a very high rate of return and may have the requisite luck, so therefore he is able to achieve a high rate of return on the portfolio in the future, and his cost of capital for his portfolio is high. However, his surviving spouse, lacking experience in stock transactions and lacking knowledge of how to trade to achieve such high returns, cannot have available the opportunity to achieve a high return, and could not achieve the high rate of return if she took over the portfolio. In his absence she would have a smaller--*lower*--cost of capital rate of return than he had. Because of that discrepancy between what she can achieve and what her late husband could have achieved, the widow requires a *larger* cash lump-sum judgment to replace the lost future cash flows which her late husband would have provided, because she is limited to risk-free Treasury Securities, and a greater quantity of these low-yielding assets is required to replace the lost future cash flows. Valuing the portfolio for the experienced late investor is intrinsically different from valuing the portfolio for the surviving spouse, in the absence of the investor: even with the same forecasted future cash flows, she needs a larger cash amount to invest in Treasury Securities to achieve the cash flows her late husband could have achieved with the higher rate of return he could have earned on higher-returning stocks.

¹⁰ Audrey Wessel, Esq. and Mark Roesler, Esq., "Damages and Right of Publicity Infringements, Section 4.1 Compensatory Damages: The Fair Market Value", *The Comprehensive Guide to Economic Damages: Volume One*, Fifth Edition, ed. Nancy Fannon and Jonathan M. Dunitz, Portland, OR: Business Valuation Resources, 2018, Pages 431-433.

¹¹ Aswath Damodaran, *Damodaran on Valuation*, Second Edition, John Wiley & Sons, 2006, Chapter 2, "Estimating Discount Rates," pp. 27-77.

For example, if one were trying to evaluate the dollar size of the portfolio, the spouse would have available only smaller rates of return than the late investor would have achieved, so to duplicate his future cash flows would require a larger lump sum to invest into the lower-returning investments, than the experienced expert at investing would have been able to achieve by selecting higher-return investments. The value of the portfolio, as the discounted present value of the future cash flows, is larger to the spouse, who has a smaller rate of return available, than the value to the late experienced investor, who could have achieved a much higher rate of return on his purchases.

Consider two examples:

- 1) a widow of a very capable stock-market investor whose leaving of his stock portfolio to his wife was precluded by his death on the way to his attorney's office and an event which keeps her from inheriting the portfolio itself, and she seeks damages to compensate her for that loss of the stock portfolio from the tort-feasor who caused the loss;
- 2) the owner of a successful business firm that burned down, and the insurance provider did not pay anything, so the owner sues that tort-feasor for the damages he suffered from the loss of the business firm.

The normal economist in the first example will discount the forecasted dividends and selling prices using the very high cost of capital which the dead owner was able to earn on his portfolio; but the widow has no stock market expertise and can only earn the risk-free return on U.S. Treasury securities. How much cash has the widow lost, and how much should be awarded to her if the court agrees she was damaged? The widow does not have the expertise to earn the high rate of return as her late husband could, so she will be under-compensated and will be unable to generate the cash flows he would have. The "present value" is not the "present value to her". She requires a much larger lump-sum award to generate the large annual cash flows using only low-return Treasury securities, compared with the high rate of return which her late husband could have achieved.

Likewise, the normal economist in the second example will over-estimate the risk actually faced by the owner-operator and will use a too-high market-based build-up rate, as if the owner was purchasing a new business firm in a different location with a different and unknown business plan, to discount the future cash flows which everybody agrees would have been earned in the future by the defunct business firm if it had not burned. Using such incorrect assumptions, the owner is not made whole and receives far too little in damages.

I. First Example: Destroyed Business Replacement By Cash = Value to Owner

Consider a situation in which an operating and successful business is destroyed by fire or a tort, and has ample insurance to cover the loss. How should the cash amount be computed to compensate the owner for this loss, which is ultimately subjective? Normally, the forecasted operating cash flows to equity are discounted at the "cost of capital" to determine the present value of equity, and that amount is taken as the compensable value.

But notice that the value to the existing owner had been greater than the value to any prospective buyer because the business had not already been sold; this condition shows that the discount rate being used by the owner was smaller than the discount rate used by other market participants considering purchase.

- We do NOT have a market situation in which a prospective investor is considering purchase of this business firm in comparison with alternative business firms of similar “risk.” The valuing individual built this business firm using his and his wife’s “sweat equity” and their labor and recipes, and their experiments over the previous ten years, to provide for their family. It is *theirs*. They control the risk.

The “cost of equity capital” is the rate of return required by the business owner to induce him to invest in the business in a market setting. But the owner is already fully invested in the business. He is not seeking to sell this business and invest in another, market, opportunity. In a market setting, the consequence of not expecting the required rate of return is to abandon this prospect and go on to another. But this is not a market prospect. The business owner controls the risk.

- The owner, since he plans operations to be profitable, and has the ability to control operations as he wishes, BEARS NO RISK, as does the not-yet-owner of a firm under purchase consideration, So no “risk premium” must be added to the time preference rate to build up the cost of equity capital. **ke** is small, because no target rate is required to induce this person to spend cash to invest in a prospective business.
- This firm is not a distantly-owned investment opportunity being considered, but rather their own property, which they manage themselves knowingly and intimately. They have already married themselves to this business firm. They have already invested everything into it; they do not have a “risk-adjusted required rate of return” to *induce* them to invest as they forsake other opportunities. They are already fully invested.
- ENTREPRENEURS IN AN OWNERSHIP SITUATION (*i.e.*, not a market situation) **PERCEIVE NO RISK AND BEAR NO RISK**, AS THEY HAVE DESIGNED THE FUTURE TO BE SUCCESSFUL WITH THE OPERATION OF THEIR ASSET. PERCEPTIONS AND RISK ARE ***SUBJECTIVE*** CATEGORIES.
- Entrepreneurs “shoulder aside” (Kirzner’s phrase) risk because they have designed the business firm to be successful: they do not bear risk because of their successful entrepreneurial alertness in designing and operating this business firm. This is **not** an* *investment-market situation*, but an *existing-ownership situation*. The Owners already own the entire asset. Normal market-based investment risk analysis and **ke** building-up is not relevant here. “Cost of Capital” is small.

This situation involves a physical asset owned and entrepreneurially operated by the owner-operators using their personal knowledge and expertise, not a financial-market asset

managed by others, like a stock or a portfolio. This firm provides the living income of the owners, not merely “investment income”. The Equity Risk Adjustment required by the owners is *not* the same as the equity risk adjustment required by an absentee owner of an equity portfolio because of their personal management of this asset. Hence, the size of the risk adjustment in this situation is much smaller than in the absent-ownership situations of the financial market. They personally add “sweat equity” to the firm every day, not merely dollar “investment.”

We are valuing the loss to the actual owners of the firm, so we must discount the future lost cash flows they would have received absent the fire at their cost of capital to find the present value of their loss. Many economic experts assume a very large cost of capital for this discounting procedure because of the unknown risks assumed by a non-owner. The true cost of capital for the actual owners cannot be that large because the economist has not considered the owners' *actual* situation, but rather a *hypothetical situation* in which an unknown investor is considering a market transaction from several alternatives available, none of which he owns or manages at the time. **The owners were not in that situation:** they already owned and had operated this business for years. They were not considering any alternatives; they were not comparing this asset with any others. **When you own an asset, "cost of equity capital" reflects your knowledge of the available alternative opportunities. If you do not know of an alternative opportunity, you do not consider it.** The expert economist's musings are not relevant to this real situation, so his numerical value of a cost of capital which another person might have in another situation, is of no use in valuing *this* owned asset *to the actual owners*.

The owners owned the destroyed business. They operated it successfully for years. They owned the assets and procedures. This is inherently different from the situation an outside economist considers. That outside economist's suppositions reflect the hypothetical actions of an individual who does not own the asset. So his analysis is incorrect.

Most of the time the consulting economic expert does not value the actual owners' economic loss. He performs a hypothetical valuation of a market opportunity for someone who did not own the destroyed business and no expert knowledge of it.

The definition of "cost of equity capital" is: "the rate of return the market participant knows is available from the best alternative investment of the same risk after the one under consideration."

The market participant does not yet own any assets. But he has financing, and he knows of several alternative investments he might make instead of the one under consideration. If this investment doesn't have a higher rate of return than the best alternative, then won't make this investment. He will select the best alternative.

The economic expert says the owners' cost of equity capital is very large. That would mean that the owners know of another investment with the same risk as the firm they had

owned that will return that large rate of return. That is not true for the owners, who had devoted themselves to this firm. So the economist's supposition cannot be true.

The owners of the destroyed firm are not in a market for potential or alternative investments. They already owned the firm and were operating it successfully. So their cost of capital does not reflect the situation of investing in a new asset.

Their cost of capital reflects their continued use of an asset they already own.

Their cost of capital cannot reflect the "risk" of investing in a new, unknown asset.

The owners have operated their firm profitably in the real world. So there is no investment risk here. The destroyed firm was reliably profitable, not "risky".

The owners don't know of alternative investments to consider.

The cost of capital of successful owner-operators reflects only time preference--the risk-free interest rate--and a small adjustment for future uncertainty.

The value of the destroyed business to the owners does not reflect an unowned asset under consideration among several alternatives. It reflects an owned, already-profitable asset.

The owners did not and do not know of other opportunities that they might exchange their business for--assuming a market transaction--which might return the large rate of return required for a market investment in an unknown asset.

So the external economist assumed an unreal situation in his valuation.

Economic analysis is concerned with the facts of reality.

In reality, there is no potential market transaction such as that described by the external economist, so the economist grossly overestimated the cost of equity of the owners.

The true **ke** cannot be as large as 25% or more (as assumed by most economists), but is much smaller and close to the risk-free rate, at around 7.0% for a business owner. In a situation involving ownership of an asset, which they have owned and operated for several years, for which they purchased the building, and for which they have refined their recipes and procedures, long-ago hired employees, etc., the "cost of equity" which the owner uses to discount future cash flows in order to value the asset reflects **the owner's valuations and knowledge**, and must reflect **the owner's knowledge of available opportunities**, not the all-knowing economist's knowledge. If the owner does not know of an opportunity, it does not enter into his consideration or his action.

This situation of the owner's loss of their already-owned and operated business firm is inherently different from the ordinary textbook consideration of selection from a number of alternative investment opportunities by an individual who does not (yet) own any of them and must consider which one to buy. Expert economist has valued such a hypothetical potential market transaction, not the real ownership-already by the Owners of the Business firm. So his analysis is faulty and incorrect. He did not perform a business valuation; rather he performed a hypothetical evaluation of a market opportunity presently un-owned.

The often-seen definition seen of "cost of equity capital" is: **"the rate of return the market participant knows is available from the best alternative investment of the same risk after the one under consideration"¹²** The market participant does not (yet) own any assets, but has financing, and he knows of several alternative investments he might make instead of the one under consideration. Clearly, if this investment does not have a superior rate of return over the "next-best" alternative, our market participant will not select the subject investment opportunity, but rather the alternative with the superior rate of return. So for Expert economist to opine that the cost of equity capital of Mr. Owner is "25.10%", Expert economist is saying that the Owner knows of another investment of the same risk as this one, that will return 25.10%. That hypothesis is not true for the Owner, as it neglects the real facts of their existence, so Expert economist's supposition cannot be true. This definition is the standard for market opportunities, but the Owners ARE NOT IN A MARKET FOR POTENTIAL INVESTMENTS: they already own the subject asset, so their cost of capital does not reflect the situation of purchasing a new asset, and before the purchase considering the "risk" of the unknown future situation, but rather continuing to use the asset they already own, and have designed to operate efficiently in the real world, so there is no uncertainty or "risk" which must be considered. The Owners have owned this business firm-asset for several years, and they have honed their business practices to improve them and make the asset reliably productive and NOT "risky". The Owner has removed the other assets from his portfolio so as to concentrate on this one. There is no "alternative consideration": his cost of capital reflects only time preference (risk-free interest) and a small adjustment for future uncontrolled risks--his cost of equity is no more than 7%. The value of this business firm-asset to the Owner is not a potential-to-be-purchased opportunity from alternatives in a market, but rather an owned and perfected asset not under potential consideration.

Nor do the Owners know of other opportunities which they might exchange this asset for (assuming a market transaction) which might return 25%. And there is no potential purchase transaction which they might make: Expert economist has assumed an unreal situation in his valuation.

If one wanted to insist on analyzing a transaction, one might contemplate the expenditure of the insurance funds which were not paid. The Owner had already hired his contractor to rebuild the business firm--this business firm--, so there again is no consideration of alternatives and an alternative rate of return on another asset. Economic

¹² James Van Horne, Brealey and Myers, etc. Finance textbooks.

analysis is concerned with the facts of reality. In this reality, there is no potential market transaction such as that described by Expert economist.

Valuation of a business cannot proceed until the actual situation is first defined: is this a market transaction that has not yet been made?; or is this a situation in which the owner already owns the asset? Clearly, the two situations are very different.

In Economics, the "cost" of something is "the highest-valued rejected alternative, that is not purchased because the best asset was purchased."¹³

II. Second Example: Inheritance of the "market value" of a stock portfolio

Consider now the following real situation: on his way to his lawyer's office to change his will to make his new wife, and not his alma mater, his sole heir, a highly-successful investor in common stocks is killed in an automobile accident by a highly insured individual on company business. The widow is due a cash award equal to the value of the portfolio which her late husband had intended to leave to her. The decedent was a highly successful and experienced investor, who characteristically earned 25% or more each year on his stock investments. He was highly active in the market, selling stocks and buying new stocks in accord with his expert judgment to realize very high returns. The identity of the stocks in his portfolio and the market value of his portfolio is known at his moment of death. The widow has no financial expertise whatever. What is the correct size of the dollar amount which will compensate the widow for her loss of support from the assets of her late husband?

One suggestion is to give her the same stocks held in the portfolio in the same amounts as her husband held the day of his death. Another suggestion is to give her the current dollar value of the portfolio as if it had been liquidated on the date of death. Both of these suggestions neglect the future period, when the portfolio would have been repeatedly turned over and likely received a high rate of return of 25% per year or more. They likely significantly understate the support which the widow would have received across future years because the widow has no expertise either to invest the dollar amount successfully, or to know when to sell each existing stock and what new stocks to purchase. If a forecast is made of annual likely cash flows across the husband's life expectancy had he continued to earn 25%-30% on the portfolio, and those future cash flows discounted to present value, the present value may be thought to fairly represent the dollar amount the widow needs to make her whole: the problem is what discount rate to use to compute the present value.

One economist suggested the rate of return the late husband had demonstrated, about 27%. However, the widow has no expertise allowing her to generate such a high rate of return and does not know of the market opportunities available to expert investors, so the computed present value will far understate the loss she has suffered. Actually, given the widow's financial innocence, the best she is able to do is purchase a portfolio of U.S. Treasury securities, with a very small rate of return of about 3% per year.

¹³ Murray N. Rothbard, *Man, Economy and State*. pages 340-345 .

The size of the cash lump sum needed to invest in Treasury securities to provide the given stream of future cash flows is much larger than the size of the cash lump sum which the late husband would have needed to generate the future cash flows if he had been earning 25% per year on the portfolio. Since the widow is unable to generate a higher rate of return than the risk-free rate, clearly the risk-free rate is the proper discount rate to use to compute her loss, and the large present value is the proper award for the court to make.

Valuing the asset by discounting forecasted cash flows at a personally-unique discount rate of known alternative opportunities, adjusted for both time and risk, called the *cost of capital*, each person may forecast different future cash flows, and each person will have a different discount rate dependent on his time preferences, timing of future cash flows, risk perceptions, knowledge of alternative opportunities, and circumstances. If an owner does not know of a particular alternative investment opportunity, or does not know how to gather a particular rate of return from alternative assets, he cannot use those alternatives to provide his discount rate, his discount rate is smaller than what more-knowledgeable individuals may have, and his valuation must be different from that of another person who does have that knowledge or expertise. If the owner perceives a different risk in receiving the forecasted future cash flows (if the one person had operated the firm successfully while the other had not) than is perceived by another person, due perhaps to longer experience operating the asset, then he will use a different--larger or smaller--discount rate based upon this knowledge. (We are omitting from this discussion of risk unestablished businesses, which are intrinsically riskier than previously-operating established businesses.) If that owner wished or wishes to sell the asset, the *fair market value* of the asset is the price agreed upon by this willing owner and a willing buyer, neither of whom is under any compulsion either to buy or to sell the asset. The "willingness" and "lack of compulsion" take into account the knowledge and circumstances of the owner and the possible buyer. If the owner had not wished to sell, but had planned to continue operating the asset with the success he had demonstrated, that fictional selling price must not be used as a surrogate for the true value he placed or places on the asset. In litigation determining damages, the goal is to place the injured party *in the same position* as he would have been in had there been no injury; that is, to compensate for the injury actually sustained.^{14,15} (For example, to replace a burned structure in a similar location and business prospect, as a destroyed structure, and to reproduce profits in the time scale prior to the event, not pushing them far into the future; viz. an operating vs. a planned business.) The consulting economist must be careful to use the *valuing individual's* cash-flow forecasts and the proper time scale, and the *valuing individual's* cost of capital--the rate of return he *knows* how to achieve from another investment, and not what a superior investor could achieve--to value the asset and compute the actual damages suffered by the plaintiff.

¹⁴ Tyler L. Farmer, Esq. and Neil J. Beaton, CPA, CFA, *The Comprehensive Guide to Economic Damages: Volume One*, Fifth Edition, ed. Nancy Fannon and Jonathan M. Dunitz, Chapter 13, "Lost Profits vs. Lost Business Value," Portland, OR: Business Valuation Resources, 2018, Page 277.

¹⁵ Michael A. Crain, CPA, CFA, "Discounting Lost Profits in Damage Measurements--2.0 Objective of Compensatory Damages: making the Plaintiff Whole", *The Comprehensive Guide to Economic Damages: Volume One*, Fifth Edition, ed. Nancy Fannon and Jonathan M. Dunitz, Portland, OR: Business Valuation Resources, 2018, Pages 291-292.

Economists often mistakenly use market variables instead of the actual variables of the injured owner, such as market average rates of return larger than what the expertise of the owner could achieve, or discount rates applicable to the purchase of an unknown risky asset in a market setting and not the discount rate of the experienced successful owner: these mistakes cause the severe under-estimation of the actual damages suffered by the owner.¹⁶

¹⁶ **Cost of Equity in a Market-Exchange Setting**

The "cost of equity capital" of the owner of an asset is the rate of return the owner knows he can earn on the best (alternative highest-valued) opportunity to invest his capital in, if he did not have the subject asset; it is the highest available rejected--because unchosen--rate of return on available project opportunities of similar risk, taking into account the perceived risks of available opportunities. The cost of capital is dependent on the identity of the owner in his situation and with his knowledge and expectations, and the cost of capital changes as the identity of the owner changes to a different person with different knowledge and different expectations and different known opportunities, or the same physical person with changed knowledge and expectations and known opportunities. When the owner discovers a better opportunity than he previously knew about, his cost of capital changes and rises. The cost of capital in a unique, *i.e.*, non-market situation is not a manifestation of the capital-market opportunities known to other investors, but is the rate of return expected on the single best alternative opportunity known and available to this specific individual. The value judged by the owner is therefore unique to him and would not be the judgment of any other human being, who would have different knowledge and different expectations and therefore different available opportunities.

Because there are no "investors" valuing the future cash flows and bearing equity risk, one cannot use market-based techniques, such as "Beta" or "build-up-rates"¹⁶ which are commonly employed in ordinary Financial Management textbooks to estimate cost of equity.

There are four shortcomings of the commonly-taught definition of "cost of capital":

- 1) it assumes a market situation with the investor comparing proposed market-security investments which have not been owned instead of an owner of a specific entire operating company, thereby incorrectly overestimating the risk borne in the non-market situation and overstating the size of the discount rate;
- 2) it confuses the risk faced by a potential investor in market securities or one project within an already-capitalized firm with the risk faced by an owner of an entire specific operating firm, so it overstates the actual risk borne by the operating owner and computes a too-high value of the discount rate for future cash flows of the entire firm;
- 3) it confuses a particular individual owner of an asset with a generic market participant, thereby confusing the actual situation and context of the decision facing the individual with a generic context which is not accurate, and over-estimating the risk actually faced by the real owner;
- 4) it tacitly assumes the owner-investor has wide diversification opportunities and is not plunging all of his capital into a single firm or opportunity.

Hence, the ordinary computation of cost of capital used to discount future cash flows will seriously understate the correct present value in non-market or operating-firm situations, and significantly understate the amount of damages actually suffered by the owner.

The ordinary definition of the "cost of capital" or "cost of equity", the rate of return on a proposed investment asset required or expected to bring forth the necessary financing for its purchase, or the cost of forgoing the next best alternative investment of equivalent risk¹⁶, is tied to the assumed context of a *market situation*, the proposed purchase by an investor-entrepreneur of a business which he does not yet own from a set of alternative equivalent-risk alternative investments, only one of which can be chosen. We say that the greater the risk foreseen by the investor, the larger the cost of capital is. Although Pratt and Grabowski say "the cost of capital [is used] for calculating the value of assets and the amount of damages due to losses" (Page xix) one must keep in mind the identity, knowledge, and situation of the valuing owner and the context of the proposed transaction. One must avoid tacitly assuming an unrealistic market-purchase situation if the individual does not actually face such a market-purchase situation. Incorrect assumption of the unrealistic market-purchase scenario causes the mistaken estimation of the cost of capital, the mistaken estimation of the risk faced by the "investor", and the mistaken calculation of any present-value-of future-lost-income damages, and therefore the miscarriage of justice. In this paper I argue that the situation, knowledge, and risk perception of the litigant must be taken in to account in properly valuing the damages.

Other commonly-observed definitions of "cost of capital" or "cost of equity" are:

"*Expected return* that is foregone by investing in a project rather than in comparable financial securities."¹⁶ Notice the clearly-stated market-only context, and the confusion of risk of investment in unknown general businesses by a market participant with the risk faced by an existing owner of a particular operating firm.

Brealey, Myers, and Allen are consistent in using only market financial securities as the alternative comparison in real tangible capital investments in machinery: "The rate of return r is called the **discount rate, hurdle rate, or opportunity cost of capital**. It is an opportunity cost because it is the return that is foregone by investing in the project rather than investing in financial markets."¹⁶

BMA continue in Chapter 9, "Risk and the Cost of Capital--Company and Project Costs of Capital": "The **company cost of capital** is defined as the expected return on a portfolio of all the company's existing securities. It is the opportunity cost of capital for investment in the firm's assets, and therefore the appropriate discount rate for the firm's average-risk projects. The company cost of capital is *not* the correct discount rate if the new projects are more or less risky than the firm's existing business. Each project should in principle be evaluated at its *own* opportunity cost of capital....*The opportunity cost of capital depends on the use to which that capital is put*....It is clearly silly to suggest that [the firm] should demand the same rate of return from a very safe project as from a very risky one." (Page 214) This is correct; however, in practice most economists do not apply this principle when valuing an individual firm which has been operating successfully, showing its reduced risk and safety; they build up very large costs of capital, as if the situation did not involve an already-known and successful firm.

See the list in Crain's Chapter 14 of *Comprehensive Guide*.¹⁶

Estimating the Discount Rate in a Market Setting: The Cost of Equity Capital

A very good reference is Shannon P. Pratt, *Cost of Capital, Estimation and Applications*, Second Edition. John Wiley & Sons, Inc., 2002, Chapters 1-13.

Definition: The *cost of equity capital* is the rate of return required by the equity suppliers in the capital market to bear the risk they perceive from owning the business during the future; it is the rate of return they judge to be available on an alternative investment opportunity of equivalent risk to this one which they might purchase instead. If there is no known definite alternative opportunity available, then a hypothetical alternative must be considered.

The cost of capital is an *opportunity cost* in the terms of economic theory: the rate of return which could be earned by owning the most valuable alternative investment of the same risk as this one, which could be purchased instead. An opportunity cost is the cost of foregoing the next-best alternative of the same risk available to the investor.

The cost of capital is a rate of return, denoted by a fractional pure number without dimension, or by a percentage. We usually state the cost of capital on an annual basis; *e.g.*, "the required rate of return on this investment opportunity is 0.17 per year, or 17% per year."

The cost of equity capital is used by the equity supplier to discount the future **free cash flows** (sometimes called "leveraged free cash flows to equity") which the business is expected to provide him each year in the future; the result of this discounting is the "present value" of those expected future free cash flows. A "free cash flow" is the annual cash benefit which the owner can take out of the firm without adversely affecting its current and future operations and its anticipated growth; it can be viewed as the potential cash dividend which the firm can afford to pay to its equity suppliers each year after paying all debt service and after expending the outlays for fixed assets and associated net working capital required to maintain and grow operations. Subtracting the outlay required to purchase the business from the present value of the benefits computed the Net Present Value of the business, the increase in the owner's wealth which the purchase will bring about.

If the potential investor expects to receive the rate of return he requires, then he will purchase the investment or business in question. If he thinks the offered rate of return is smaller than his required rate, then he will not purchase the investment or business. Alternatively, the investor can compute the Net Present Value of the investment by discounting the future expected cash flows over the lifetime of the business at the cost of capital and seeing whether that value of the future expected cash benefits exceeds the purchase price of the business; if so, then the Net Present Value is positive (> 0) and the investor will be better off if he purchases the business, so he does so. A business judge by a potential investor to have a negative Net Present Value will not be purchased.

The cost of equity capital is affected by the portfolio within which the owners will own the business: if the portfolio is efficient and well-diversified, so that only the systematic risk of the business is borne by the owners, then the cost of equity capital is smaller than if the business is owned alone or within a small undiversified portfolio so that much or all of the unique risk of the business is borne by the owners. All of the risk perceived to be borne by the equity holders must be considered in computing the cost of equity capital.

It must be kept in mind that the risk borne by the equity holders is a perception they hold within their minds: risk is subjective; hence, different individuals perceive differently the risk of owning the business, so they may have different costs of equity and may value differently the very same future stream of anticipated expected cash flows. The cost of equity capital

depends not only on the investment, but also on the specific investor and his risk perceptions and risk aversion. Different individuals with different risk aversions, perceiving the same risk, will create different costs of capital. Different individuals with the same risk aversion, perceiving different risks, will create different costs of capital.

The risk borne by the equity holders is generally thought to be divisible into three overall components. The cost of equity capital must reflect all appropriate borne risk.

1) Maturity risk or interest-rate risk, which is related to the span of time of the potential investment, or to the lifetime of the firm, and arises from the fluctuation in the present value of streams of future cash flows as the size of the market discount rate changes with changing economic conditions. The longer time spanning investments have greater interest-rate risk.

2) Systematic risk or market risk, which is the risk due to participation in the general economy, in which the unique components of risk have been diversified away within a large and efficient portfolio containing the asset in question. This risk results from the interrelationship of the return of the asset in question with the broad market index as a whole.

3) Unsystematic or unique risk of an asset, which is borne if the asset is not held within a well-diversified efficient portfolio. This is all of the risk elements other than the systematic risk of the investment, and can include factors for the industry and the firm itself; some people believe also that there is an additional risk involved in holding a smaller company than in an identical but larger company.

The cost of equity capital is a market rate or a "nominal rate"; *i.e.*, it includes the anticipated rate of inflation during the lifetime of the investment in addition to the "real" rate (*i.e.*, the rate net of inflation). The cost of capital depends on the total risk perceived to be borne by the investor in owning this business. The cost of equity capital is a subjective magnitude—formed in the mind of the equity supplier based on the risk he perceives and his risk aversion. However, it is usually estimated by adding together market estimates of various risk factors to compute a definite number.

The cost of equity capital is generally computed as the sum of a number of terms which adjust for the risk perceived to be borne by the equity supplier and arising out of the uncertainty of future expected returns to the investor. Greater uncertainty or greater risk requires a higher return applied by the investor.

1. the "risk-free" rate of return currently available over the term of the investment; this is usually the rate of return on United States Treasury Securities of the appropriate maturity for the lifetime of the business; this market risk-free rate includes the real risk-free rate (often called the "pure time-preference rate" plus the anticipated rate of inflation (the annual reduction in the purchasing power of money) over the lifetime of the investment;

2. a "market" or "equity" or "systematic" risk premium which will compensate the owner or equity supplier with a rate of return to justify bearing the systematic risk, or market risk, of the investment; this is often based on the Capital Asset Pricing Model (the Beta-factor of the investment multiplied by the Excess Expected Rate of Return on the Market above the Risk-Free Rate), or on the Excess Return on the Market Portfolio (the difference between the expected rate of return on the whole stock market over the relevant period minus the risk-free rate of return over the period);

3. one or more additional unique or specific risk premia to compensate the investor for additional risk he may bear, such as the unique or non-systematic risk of the investment, the additional risk over the average risk of the industry of the business, and perhaps a risk premium because of the size of the business.

The cost of equity capital to an investor in the equity of a firm is larger than the cost of debt capital to the firm or the investor, and larger also than the rate of return required by the debt suppliers to that same firm because the equity supplier has only a residual claim to the cash which he cannot receive until after the debt suppliers' claims are serviced. The cost of equity capital also is a positive function of the capital structure of the firm (defined as the ratio of the value of debt to the value of debt plus equity).

GENERAL EQUITY RISK PREMIUM OR SYSTEMATIC RISK PREMIUM

Computations of the numerical value of the cost of equity capital in a market-exchange setting begin with a risk-free rate, which is denoted by R_F and ought to be the long-term (20-year) rate of interest offered by U.S. Treasury Bonds because of the unlimited time scale of equity ownership. To this risk-free rate is first added a general market or systematic risk premium, chosen by the person computing the cost of equity. There are two forms generally seen for this general basic risk premium:

1. General equity risk premium: $E[R_M] - R_F$
2. Systematic-risk (CAPM) equity risk premium: $\beta (E[R_M] - R_F)$

The Systematic equity risk premium is based on the Capital Asset Pricing Model and uses the beta factor (β) for the firm or, if the firm is not publicly traded, a beta factor for a comparable publicly-traded firm. For both risk premia, the term $(E[R_M] - R_F)$ is estimated by a historical long-term arithmetic average of annual excess returns of the market index or average over the same-year long-term Treasury Bond rate. The actual numerical value of the risk premium depends on the exact years used in the averaging process.

See Pratt, page 119 for the two methods compared.

BUILD-UP MODELS FOR THE COST OF EQUITY

The "build-up" model of the cost of equity is distinguished from the "Capital Asset Pricing" model because of the lack of a beta factor in the general equity risk premium of the build-up model.

The build-up model adds one or more risk premia to the risk-free rate to compute the cost of equity capital. The risk premia always include a general equity risk premium (also called the "excess return on the market") and measured by $(E[R_M] - R_F)$; in addition to the general equity risk premium, the model may also include an industry-specific risk premium, a company-specific risk premium, or a small-size premium. In some cases, an additional risk premium for excessive volatility of operating income or stock returns, or an additional risk premium for excessive financial leverage compared with the average comparison firm, might be appropriate. Some people will add a second size premium, or a "company-specific risk premium" also if the firm is smaller than the smallest decile of NYSE stocks. An example is given in Pratt, pages 67-68.

CAPM-SYSTEMATIC RISK BUILD-UP MODELS FOR THE COST OF EQUITY

These models are very similar to the build-up models discussed above, except that the general equity risk premium is multiplied by the beta factor (β) of the firm, so that this premium becomes a measure of systematic risk. This addition of the systematic-risk term beta may include a portion of the size premium and most or all of the industry portion of the specific risk premium which might be used in the build-up model (see Pratt, page 68).

If the subject firm is privately held, then it does not have a beta factor of its own which can be measured. In this case, the beta factor for the subject firm is estimated by averaging (appropriately adjusted for financial leverage) the beta factors of comparable and similar publicly-held firms which do have betas. Alternatively, of course, one might then just use the build-up model. Or else, lacking comparable publicly-held firms, one might just estimate a beta using some other method.

The use of the Capital Asset Pricing Model is merely a different method of estimating the cost of equity capital for a particular firm. The true cost of equity capital does not change; the true cost of equity capital does not depend on the method we use to estimate it. The CAPM is merely an estimation technique.

The beta factor considers only the systematic risk, which is the relationship between the return on the security in question and the wide market within which that security trades. Other elements of risk are not considered by the beta factor. These other elements of risk are called "non-systematic risk" or "unique risk" or "specific risk"; they are also called "diversifiable risks" because if the investor diversifies his portfolio sufficiently (that is, purchases enough different securities and adds them to the portfolio), the unique risks can be "diversified away" and not affect him (these other securities have appropriate correlations with the already-existing securities in the portfolio, so that at the end of the process, no unique risk of any security within the portfolio is not counteracted by another opposite unique risk of another asset within the portfolio). These other elements of risk are not related to the interaction of the return on the security with the return on the general market; rather, they result from other causes. If the security is held by its owner within a well-diversified efficient portfolio, we believe that only the systematic risk is relevant; however, if the portfolio of the investor is not completely diversified and efficient, then other elements of risk will affect him as he owns this security or business, and he will require a higher return because he bears these additional risks.

To the risk-free rate plus the CAPM general equity systematic-risk premium, the model then adds a company-specific risk premium, or a small-size premium, as is appropriate in the specific situation. Rarely, an industry-specific risk premium may be added, as in the build-up model, but Pratt believes the industry-specific risk is captured by the beta factor (see Pratt, page 76 and page 92). Also, the numerical value of the company-specific risk premium may be different in the CAPM model than in the build-up model "because some portion of the company-specific risk may have been captured in beta" (Pratt, page 76, also Pratt, page 92). In some cases, an additional risk premium for excessive volatility of operating income or stock returns, or an additional risk premium for excessive financial leverage compared with the average comparison firm, might be appropriate. Note that a leverage adjustment is not made if the beta factor used is that of the subject firm itself; only if the subject firm is privately held is an adjustment necessary. If the firm is privately held, then the beta factor used is taken from the market data of comparable publicly-held and traded companies; if these companies differ in their financial leverage, then their beta factors must be adjusted appropriately to take account of the differences in financial leverage.

Such additional risk premia over the systematic-risk general equity risk premium are necessary if the subject firm is not held in an efficient well-diversified portfolio, so that the owner does bear non-systematic or unique risk. These additional risk premia estimate various components of unique risk which have not been diversified away and are borne by the owner.

If the beta factor of the subject company is measured from market data regarding the company's own common stock, then that beta factor already includes the effects of the firm's financial leverage. However, if the beta factor is modeled from comparable publicly-traded firms because the subject firm is privately held, the comparison average beta must be adjusted for the difference in financial leverage (if any) between the subject firm and the comparison firms.

It must be firmly borne in mind that the market setting discussed in this section is inherently different from the litigation setting, which does not involve a purchase choice.

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Trial and Deposition Testimony in 2011 – 2019

2011:

- 03/30 *Joshua M. Menard vs. Zurich American Ins. Co.* (deposition) 15th JDC Lafayette Parish, C-2009-7413 "D"
06/23 *Kenner Acquisitions, LLC vs. BellSouth Telecommunications* (deposition) USDC EDLA #06-3927 "A" (3)
07/26 *Larry Scott Abshire vs. Boh Bros. Construction* USDC ED LA C.A.#2010-0838 "S" (Lemmon)
09/22 *Adrienne Stermer vs. Archer-Daniels-Midland, et al* 27th JDC St. Landry Parish, LA #08-C-6424-B (Daigle)
10/06 *James M Smith, Jr. et al vs. Ronnie Stelly, et al* USDC WDLA C.A.#6:08-CV-1554 (Haik)
11/09 *Christie C. Murden vs. Wesley K. Ezell, et al* 23rd JDC Ascension Parish, Gonzales, LA #00091756C (Holdridge)

2012:

- 01/20 *National Food & Beverage Co, Inc. vs. The United States* United States Court of Federal Claims #10-152L (Deposition)
02/29 *National Food & Beverage Co, Inc. vs. The United States* United States Court of Federal Claims #10-152L (Lettow)
03/12 *Logan R. Holton vs. Warren L. Harris, et al* 14th JDC Calcasieu Parish, LA #2008-00401,-461 A (Deposition)
03/26 *Kenneth A. Breaux, Jr. vs. Halliburton* Lafayette, LA. No. 70-480-0122-10 (Arbitration)
04/13 *Cindi Hedgepeth vs. Diamond Offshore Drilling, Inc.* No. 2010-61705, 13 JDC Harris, Cy. Texas (Deposition)
05/03 *Cindi Hedgepeth vs. Diamond Offshore Drilling, Inc.* No. 2010-61705, 133rd JDC Harris, Cty., Texas (McFarland)
12/07 *Bobby J. Fabre vs. Mega Transportation, Royal Freight.* USDC MD LA C.A.#3:11-cv-00800-JJB-DLD, 23JDC#104221
12/18 *Jimmy W. Finley vs. Diamond Offshore Drilling, Inc.* USDC WD LA-Lafayette. C.A.#6:11-CV-00693 (Hanna)

2013:

- 05/02 *Catherine Matthews vs. National Medical Enterprises, Inc.,* 22nd JDC No. 07-13370 "F" (deposition)
05/15 *Jennifer M. Bourgeois vs. Rural Healthcare Developers LA, et al* 38th JDC Cameron Parish, LA #10-18825 (Richard)
07/03 *Laurel A. Salley Sammy vs. Thomas W. Traylor, et al,* LA 24th JDC Jefferson Parish, No. 705366 "D" (deposition)
07/23 *Horacio Soto vs. Sentry Select Insurance Company, et al,* USDC ED LA No.12-01431 "B-2" (deposition)
08/06 *Joanell M. Darnell, M.D. vs. Louisiana Health Service & Indemnity Co.,* LA 24th JDC No. 614-556 "K" (deposition)
09/04 *NOLA Ventures, LLC et al vs. Upshaw Insurance Agency, Inc., et al,* USDC ED LA "G-2" 12-1026/12-1834 (depo)

2014:

- 07/14 *Alana R. McCart vs. Steven Gilbert. et al,* Caddo Par. LA 1st JDC #5540103-A (deposition)
09/24 *Sandra Garner vs. State of LA DOTD,* 22nd JDC, Div. "I", Par. of Washington, Franklinton, LA No. 96139.
11/24 *NOLA Ventures, et al vs. Upshaw Insurance Agency, et al,* USDC ED LA C.A.#12-1026/18534, Sec.G (2), (Brown)

2015:

- 11/23 *Hal Collums, et al vs. Gary Solomon, et al,* New Orleans CDC Div. K Sect. 5 No. 2011-2040 (deposition)

2016:

- 04/07 *Thad Desormeaux vs. Forum Energy Technologies, Inc. et al,* 16th JDC Iberia Parish, LA #125172 Div.E (deposition)
04/19 *Jamie Habetz vs. Republic Underwriters Insurance Co., et al.* 14th JDC Calcasieu Parish, LA #2011-5085 (Ware)
05/11 *Nathaniel Faulk vs. Ace American Insurance Co.,* 27th JDC St. Landry Parish, Opelousas, LA #14-4373 (Caswell)
11/03 *David J. Bellow vs. BNSF Railway Co.* 15th JDC Lafayette, LA #2015-0259-C (Broussard)
12/22 *Michael D. Jacobs vs. LSU Board of Supervisors.* 18th JDC Iberville Parish #72348 "C"

2017:

- 04/08 *Patrick St.Onge vs. Norwegian Cruise Line, Ltd. Videotaped deposition in advance of Miami trial*
10/12 *Alan Goodman vs. H.I.G. Capital,L.L.C vs. Gulf Fleet Holdings,Inc.* US Bankruptcy Ct,WD LA11-05006 (Deposition)
11/17 *Rafael Campbell III vs. Jaron Scott Veron, et al* .LA 15th JDC Lafayette Parish #C-20154695C (Broussard)

2018:

- 01/16 *Courtney D. Gray vs. UV Logistics, LLC* St.Mary Parish, LA 16th JDCNo. 128324 "C" (Deposition)
03/29 *John H. Thibodeaux vs. Gulfgate Construction, LLC et al* Lafayette Par. LA 15th JDC 2015-4167 "B"
07/11 *Madison Garraway vs. Jamee Raye Allen* 19th JDC, East Baton Rouge No. C631,668 (Deposition)
11/07 *Jeromy Wayne Cotton vs. Larry Lambert, et al* USDC WD LA Shreveport No. 6:17-cv-0732 (Deposition)
11/16 *Tammy Bloxham vs. HDI Gerling America Insurance Co.* 26th JDC Bossier Par. Benton, LA No. C-149515

2019:

- 03/28 *Zydeco's II and Gainneys vs. Certain Underwriters, et al* 29th JDC St. Charles Par. No. 82255, Div.E (St.Pierre)
10/23 *Anthony Migliaccio vs. Bolivar Cleaning Svcs,LLC* , USDC ED LA #:18-cv-08184, Sec H, Mag 2 (Milazzo)