Ekonofizyka Wprowadzenie | e34c7dfda22ea0dee19bed2189c3e1f

Patterns of Speculation | The Prism and the Pendulum | Stochastic Processes | Acta Physica Polonica | Storm of Steel | The Black Swan | Modelowanie w naukach o zarządzaniu

The Black Swan

In this comprehensive, state-of-the-art overview of risk communication, the field's leading experts summarize theory, current research, and practice in a range of disciplines and describe effective communication approaches for risk situations in diverse contexts, such as health, environment, science, technology, and crisis. Offering practical insights, the contributors consider risk communication in all contexts and applications—interpersonal, organizational, and societal—offering a wider view of risk communication than other volumes. Importantly, the handbook emphasizes the communication side of risk communication, providing integrative knowledge about the models, audiences, messages, and the media and channels necessary for effective risk communication that enables informed judgments and actions regarding risk. Editors Hyunyi Cho, Torsten Reimer, and Katherine M Comas have significantly contributed to the field of risk communication with this important reference work—a must-have for students, scholars, and risk and crisis communication professionals.

Wprowadzenie do ekonofizyki

Theory of Financial Risk and Derivative Pricing

The Black Swan is a standalone book in Nassim Nicholas Taleb's landmark Incerto series, an investigation of opacity, luck, uncertainty, probability, human error, risk, and decision-making in a world we don't understand. The other books in the series are Fooled by Randomness, Antifragile, and The Bed of Procrustes. A black swan is a highly improbable event with three principal characteristics: It is unpredictable; it carries a massive impact; and, after the fact, we concoct an explanation that makes it appear less random, and more predictable, than it was. The astonishing success of Google was a black swan; so was 9/11. For Nassim Nicholas Taleb, black swans underlie almost everything about our world, from the rise of religions to events in our own personal lives. Why do we not acknowledge the phenomenon of black swans until after they occur? Part of the answer, according to Taleb, is that humans are hardwired to learn specifics when they should be focused on generalities. We are, therefore, unable to truly estimate opportunities, too vulnerable to the impulse to simplify, narrate, and categorize, and not open enough to rewarding those who can imagine the "impossible."

For years, Taleb has studied how we fool ourselves into thinking we know more than we actually do. We restrict our thinking to the irrelevant and inconsequential, while large events continue to surprise us and shape our world. In this revelatory book, Taleb explains everything we know about what we don't know, and this second edition features a new philosophical and empirical essay, "On Robustness and Fragility," which offers tools to navigate and exploit a Black Swan world. Elegant, startling, and universal in its applications, The Black Swan will change the way you look at the world. Taleb is a vastly entertaining writer, with wit, irreverence, and unusual stories to tell. He has a polymathic command of subjects ranging from cognitive science to business to probability theory. The Black Swan is a landmark book—itsl a black swan. Praise for Nassim Nicholas Taleb "The most prophetic voice of all."—GQ Praise for The Black Swan "[A book] that altered modern thinking."—The Times (London) "A masterpiece."—Chris Anderson, editor in chief of Wired, author of The Long Tail "Dizynamically brilliant."—Niall Ferguson, Los Angeles Times "The Black Swan changed my view of how the world works."—Daniel Kahneman, Nobel laureate [Taleb writes] in a style that owes as much to Stephen Colbert as it does to Michel de Montaigne. . . . We eagerly romp with him through the follies of confirmation bias [and] narrative fallacy."—The Wall Street Journal "Hugely enjoyable—compelling . . . easy to dip into."—Financial Times "Engaging . . . The Black Swan has appealing cheek and admirable ambition."—The New York Times Book Review From the Hardcover edition.

The Black Swan

Modelowanie w naukach o zarządzaniu oparte na metodzie programów badawczych i formalizmie reprezentatywnym

A rachaelogy is perceived to study the people of long ago and far away. How could archaeology matter in the modern world? Well-known archaeologist Jeremy Sabloff points to ways in which archaeology might be important to the understanding and amelioration of contemporary problems. Though archaeologists have commonly been associated with efforts to uncover cultural identity, to restore the past of underrepresented peoples, and to preserve historical sites, their knowledge
and skills can be used in many other ways. Archaeologists help Peruvian farmers increase crop yields, aid city planners in reducing landfills, and guide local communities in tourism development and water management. This brief volume, aimed at students and other prospective archaeologists, challenges the field to go beyond merely understanding the past and actively engage in making a difference in the today's world.

Financial Management

Stochastic Processes in Physics and Chemistry

This is a major, and deeply thoughtful, contribution to understanding uncertainty and risk. Our world and its unprecedented challenges need such ways of thinking! Much more than a set of contributions from different disciplines, this book leads you to explore your own way of perceiving your own area of work. An outstanding contribution that will stay on my shelves for many years. Dr Neil T. M. Hamilton, Director, WWF International Arctic Programme This collection of essays provides a unique and fascinating overview of perspectives on uncertainty and risk across a wide variety of disciplines. It is a valuable and accessible sourcebook for specialists and laypeople alike. Professor Renate Schubert, Head of the Institute for Environmental Decisions and Chair of Economics at the Swiss Federal Institute of Technology

This comprehensive collection of disciplinary perspectives on uncertainty is a definitive guide to contemporary insights into this Achilles heel of modernity and the endemic hubs of institutional science in its role as public authority. It gives firm foundations to the fundamental historic shift now underway in the world, towards normalizing acceptance of the immanent condition of ignorance and of its practical corollaries: contingency, uncontrollability, and respect for difference. Brian Wynne, Professor of Science Studies, Lancaster University Bamber and Smithson have assembled a fascinating, important collection of papers on uncertainty and its management. The integrative nature of Uncertainty and Risk makes it a landmark in the intellectual history of this vital cross-disciplinary concept. George Cvetkovich, Director, Center for Cross-Cultural Research, Western Washington University Uncertainty governs our lives. From the unknowns of living with the risks of terrorism to developing policies on genetically modified foods, or disaster planning for catastrophic climate change, how we conceptualize, evaluate and cope with uncertainty drives our actions and deployment of resources, decisions and priorities. In this thorough and wide-ranging volume, theoretical perspectives are drawn from art history, complexity science, economics; futures, history, law, philosophy, physics, psychology, statistics and theology. On a practical level, uncertainty is examined in emergency management, integrate uncertainty into risk management, communicable diseases and illicit drugs. Opening and closing sections of the book provide major conceptual strands in uncertainty thinking and develop an integrated view of the nature of uncertainty, uncertainty as a motivating or de-motivating force, and strategies for coping and managing under uncertainty.

Przewodnik bibliograficzny

In this fascinating account of the battle tanks that saw combat in the European Theater of World War II, Mary R. Habeck traces the strategies developed between the wars for the use of armored vehicles in battle. Only in Germany and the Soviet Union were truly original armor doctrines (generally known as "blitzkreig" and "deep battle") fully implemented. Storm of Steel relates how the German and Soviet armies formulated and chose to put into practice doctrines that were innovative for the time, yet in many respects identical to one another. As part of her extensive archival research in Russia, Germany, and Britain, Habeck had access to a large number of formerly secret and tesp-secret documents from several post-Soviet archives. This research informs her comparative approach as she looks at the roles of technology, shared influences, and assumptions about war in the formation of doctrine. She also explores relations between the Germans and the Soviets to determine whether collaboration influenced the convergence of their armor doctrines.

Levy Statistics and Laser Cooling

The world's foremost experimental physicist uses humor, metaphor, and storytelling to delve into the mysteries of matter, discussing the as-yet-to-be-discovered God particle.

Archaeology Matters

Risk control and derivative pricing have become of major concern to financial institutions, and there is a real need for adequate statistical tools to measure and anticipate the amplitude of the potential moves of the financial markets. Summarising theoretical developments in the field, this 2003 second edition has been substantially expanded. A didactical chapters now cover stochastic processes, Monte-Carlo methods, Black-Scholes theory, the theory of the yield curve, and Minority Game. There are discussions on aspects of data analysis, financial products, non-linear correlations, and herding, feedback and agent based models. This book has become a classic reference for graduate students and researchers working in econophysics and mathematical finance, and for quantitative analysts working on risk management, derivative pricing and quantitative trading strategies.

Levy Processes in Finance

Uncertainty and Risk

This book concerns the use of concepts from statistical physics in the description of financial systems. The authors illustrate the scaling concepts used in probability theory, critical phenomena, and fully developed turbulent fluids. These concepts are then applied to financial time series. The authors also present a stochastic model that displays several of the statistical properties observed in empirical data. Statistical physics concepts such as stochastic dynamics, short- and long-range correlations, self-similarity and scaling permit an understanding of the global behaviour of economic systems without first having to work out a detailed microscopic description of the system. Physicists will find the application of statistical physics concepts to economic systems interesting. Economists and workers in the financial world will find useful the presentation of empirical analysis methods and well-formulated theoretical tools that might help describe systems composed of a huge number of interacting subsystems.

Ekonofizyka

Quantum Mechanics
The main objective of this 2002 book is to show that behind the bewildering diversity of historical speculative episodes it is possible to find hidden regularities, thus preparing the way for a unified theory of market speculation. Speculative bubbles require the study of various episodes in order for a comparative perspective to be obtained and the analysis developed in this book follows a few simple but unconventional ideas. Investors are assumed to exhibit the same basic behavior during speculative episodes whether they trade stocks, real estate, or postage stamps. The author demonstrates how some of the basic concepts of dynamical system theory, such as the notions of impulse response, reaction times and frequency analysis, play an instrumental role in describing and predicting speculative behavior. This book will serve as a useful introduction for students of econophysics, and readers with a general interest in economics as seen from the perspective of physics.

**Niels Bohr**

This study on government debt brings together a number of reports on best practices for managing market risk, credit risk, operational risk and contingent liability risk. It was prepared by the OECD Working Party on Public Debt Management.

**Visions and Ideas of Europe During the First World War**

This book introduces the theory of stochastic processes with applications taken from physics and finance. Fundamental concepts like the random walk or Brownian motion but also Lévy-stable distributions are discussed. Applications are selected to show the interdisciplinary character of the concepts and methods. In the second edition of the book a discussion of extreme events ranging from their mathematical definition to their importance for financial crashes was included. The exposition of basic notions of probability theory and the Brownian motion problem as well as the relation between conservative diffusion processes and quantum mechanics is expanded. The second edition also enlarges the treatment of financial markets. Beyond a presentation of geometric Brownian motion and the Black-Scholes approach to option pricing as well as the econophysics analysis of the stylized facts of financial markets, an introduction to agent based modeling approaches is given.

**Notes wydawnicze**

This is a detailed study of Niels Bohr's work on an epistemological foundation for 20th century physics. The connections he drew between physics, language, and philosophy, are traced historically and their validity is analyzed in the light of contemporary science. (Philosophy)

**Introduction to Econophysics**

Kwartalnik naukowy BiTP. Bezpieczeństwo i Technika Pożarowa Safety & Fire Technique is a pismem recenzowanym kierowanym do kadr kierowniczych ochrony przeciwpożarowej, pracowników jednostek administracji państwowo i samorządowej zajmujących się problematyką ochrony przeciwpożarowej, ochrony ludności i bezpieczeństwa powszechnego. W okresie czasopisma Mistrzów Nauki i Szkolnictwa Wyższego (Komunikat nr 2 z dnia 18 grudnia 2015 r.) Kwartalnik otrzymał 13 punktów. ISSN 1995-8443 W rolce informacji na stronie bitp.cnbo.pl Spis treści numeru: http://bitp.cnbo.pl/archiwum/bitp-vol-21-issue-1-2011/ Wydawnictwo CNBOP-PIB

**A lma Mater**

**Why Stock Markets Crash**

Given the destruction and suffering caused by more than four years of industrialised warfare and economic hardship, scholars have tended to focus on the nationalism and hatred in the belligerent countries, holding that it led to a fundamental rupture of any sense of European commonality and unity. It is the central aim of this volume to correct this view and to highlight that many observers saw the conflict as a ‘European civil war’, and to discuss what this meant for discourses about Europe. Bringing together a remarkable range of compelling and highly original topics, this collection explores notions, images, and ideas of Europe in the midst of catastrophe.

**Nowe książki**

Fractional calculus is a collection of relatively little-known mathematical results concerning generalizations of differentiation and integration to noninteger orders. While these results have been accumulated over centuries in various branches of mathematics, they have until recently found little appreciation or application in physics and other mathematically oriented sciences. This situation is beginning to change, and there are now a growing number of research areas in physics which employ fractional calculus. This volume provides an introduction to fractional calculus for physicists, and collects easily accessible review articles surveying those areas of physics in which applications of fractional calculus have recently become prominent. Contents: An Introduction to Fractional Calculus (P L Butzer & U Westphal) Fractional Time Evolution (R Hilfer) Fractional Powers of Infinitesimal Generators of Semigroups (U Westphal) Fractional Differences, Derivatives and Fractal Time Series (B J West & P Grigolini) Fractional Kinetics of Hamiltonian Chaotic Systems (G M Zaslavsky) Polymer Science Applications of Path-Integration, Integral Equations, and Fractional Calculus (J F Douglas) Applications to Problems in Polymer Physics and Rheology (H Schiessel et al.) Applications of Fractional Calculus to Problems in Biophysics (T F Nonnenmacher & R Metzler) Fractional Calculus and Regular Variation in Thermodynamics (R Hilfer) Readership: Statistical, theoretical and mathematical physicists. Keywords: Fractional Calculus in Physics; Reviews: “This monograph provides a systematic treatment of the theory and applications of fractional calculus for physicists. It contains nine review articles surveying those areas in which fractional calculus has become important. All the chapters are self-contained.” M Mathematics Abstracts

**Advances in Risk Management of Government Debt**

The Theory of Business Enterprise

Financial mathematics has recently enjoyed considerable interest on account of its impact on the finance industry. In parallel, the theory of Lévy processes has also seen many exciting developments. These powerful modelling tools allow the user to model more complex phenomena, and are commonly applied to problems in finance. Lévy Processes in Finance: Pricing Financial Derivatives takes a practical approach to describing the theory of Lévy-based models, and features many examples of how they may be used to solve problems in finance. * Provides an introduction to the use of Lévy processes in finance. * Features many examples using real market data, with emphasis on the pricing of financial derivatives. * Covers a number of key topics, including option pricing, Monte Carlo simulations, stochastic volatility, exotic options and interest rate modelling. * Includes many figures to illustrate the theory and examples discussed. * A voids unnecessary mathematical formalities. The book is primarily aimed at researchers and postgraduate students of mathematical finance, economics and finance. The range of examples ensures the book will make a valuable reference source for practitioners from the finance industry including risk managers and financial product developers.

Dynamiczne modele ekonometryczne

Financial Market Analysis provides an up-to-date and authoritative analysis of financial markets from within the framework of modern finance theory. The eagerly awaited second edition of this highly successful book has been greatly expanded from 400 to over 700 pages and contains new material on value at risk, speculative bubbles, volatility effects in financial markets, chaos and neural networks. Financial Market Analysis deals with the composition of financial markets and the analysis and valuation of traded securities. It describes the use of securities both in constructing and managing portfolios and in contributing to portfolio performance. Particular attention is paid to new types of investment product, different portfolio management strategies, speculation, arbitrage and risk management strategies and to financial market failure. Financial Market Analysis is an essential text for all finance-related degree courses at undergraduate, postgraduate, and MBA level. It also provides a useful source of reference for financial institutions and professionals in the financial markets.

Basic Bond Analysis

Applications of Fractional Calculus in Physics

Is science beautiful? Yes, argues acclaimed philosopher and historian of science Robert P. Crease in this engaging exploration of history’s most beautiful experiments. The result is an engrossing journey through nearly 2,500 years of scientific innovation. Along the way, we encounter glimpses into the personalities and creative thinking of some of the field’s most interesting figures. We see the first measurement of the earth’s circumference, accomplished in the third century B.C. by Eratosthenes using sticks, shadows, and simple geometry. We visit Foucault’s mesmerizing pendulum, a cannonball suspended from the dome of the Panthéon in Paris that allows us to see the rotation of the earth on its axis. We meet Galileo—the only scientist with two experiments in the top ten—brilliantly drawing on his musical training to measure the speed of falling bodies. And we travel to the quantum world, in the most beautiful experiment of all. We also learn why these ten experiments exert such a powerful hold on our imaginations. From the ancient world to cutting-edge physics, these ten exhilarating moments reveal something fundamental about the world, pulling us out of confusion and revealing nature’s elegance. The Prism and the Pendulum brings us face-to-face with the wonder of science.

Critical Phenomena in Natural Sciences

Financial Market Analysis


Przegląd statystyczny

World Economic Outlook, October 2013

On the Electrodynamics of Moving Bodies

A graduate-level book demonstrating the application of Lévy statistics to understand laser cooling of atoms.

The SAGE Handbook of Risk Communication

Global growth is in low gear, and the drivers of activity are changing. These dynamics raise new policy challenges. Advanced economies are growing again but must continue financial sector repair, pursue fiscal consolidation, and spur job growth. Emerging market economies face the dual challenges of slowing growth and tighter global financial conditions. This issue of the World Economic Outlook examines the potential spillovers from these transitions and the appropriate policy responses. Chapter 3 explores how output comovements are influenced by policy and financial shocks, growth surprises, and other linkages. Chapter 4 assesses why certain emerging market economies were able to avoid the classical boom-and-bust cycle in the face of volatile capital flows during the global financial crisis.

BİTP 1/2011

The third edition of Van Kampen's standard work has been revised and updated. The main difference with the second edition is that the contrived application of the quantum master equation in section 6 of chapter XVII has been replaced with a satisfactory treatment of quantum fluctuations. A part from that throughout the text corrections have been made and a number of references to later developments have been included. From the recent textbooks the following are the most relevant. C. W. Gardiner, Quantum Optics (Springer, Berlin 1991) D. T. Gillespie, Markov Processes (Academic Press,
The God Particle

The scientific study of complex systems has transformed a wide range of disciplines in recent years, enabling researchers in both the natural and social sciences to model and predict phenomena as diverse as earthquakes, global warming, demographic patterns, financial crises, and the failure of materials. In this book, Didier Sornette boldly applies his varied experience in these areas to propose a simple, powerful, and general theory of how, why, and when stock markets crash. Most attempts to explain market failures seek to pinpoint triggering mechanisms that occur hours, days, or weeks before the collapse. Sornette proposes a radically different view: the underlying cause can be sought months and even years before the abrupt, catastrophic event in the build-up of cooperative speculation, which often translates into an accelerating rise of the market price, otherwise known as a “bubble.” Anchoring his sophisticated, step-by-step analysis in leading-edge physical and statistical modeling techniques, he uncovers remarkable insights and some predictions—among them, that the “end of the growth era” will occur around 2050. Sornette probes major historical precedents, from the decades-long “tulip mania” in the Netherlands that wilted suddenly in 1637 to the South Sea Bubble that ended with the first huge market crash in England in 1720, to the Great Crash of October 1929 and Black Monday in 1987, to cite just a few. He concludes that most explanations other than cooperative self-organization fail to account for the subtle bubbles by which the markets lay the groundwork for catastrophe. Any investor or investment professional who seeks a genuine understanding of looming financial disasters should read this book. Physicists, geologists, biologists, economists, and others will welcome Why Stock Markets Crash as a highly original “scientific tale,” as Sornette aptly puts it, of the exciting and sometimes fearsome—but no longer quite so unfathomable—world of stock markets.