



COURNOT'S LEGACY

“ The actions of intelligent and moral beings cannot be explained, given the state of our knowledge, and we can boldly say that they will never be explained by the mechanics of geometricians. They do not, therefore, fall within the domain of numbers by reason of geometry or mechanics, but inasmuch as the notions of combination, chance, cause and randomness are superior in abstraction to geometry and mechanics, and can be applied to the events of nature, to those in the intellectual and moral realms, as well as to phenomena produced by the motion of inert matter. ”

Augustin Cournot, *Exposition of the Theory of Chance and Probability* [*Exposition de la théorie des chances et des probabilités*], 1843



The Cournot Centre is an independent French-based research institute. It is supported by the Cournot Foundation, which operates under the Fondation de France. The Centre takes its name from the pioneering economist, mathematician and philosopher **Antoine Augustin Cournot** (1801–1877).

The Centre enjoys the special independence of a catalyst. My old student dictionary (dated 1936) says that catalysis is the “acceleration of a reaction produced by a substance, called the catalyst, which may be recovered practically unchanged at the end of the reaction”.

The reaction we have in mind results from bringing together (a) an issue of economic policy that is currently being discussed and debated in Europe and (b) the relevant theoretical and empirical findings of serious economic research in universities, think-tanks and research bureaux. Acceleration is desirable, because it is better that reaction occurs before minds are made up and decisions taken, not after. We hope that the Cournot Centre can be recovered practically unchanged and used again and again.

Today, much of the activity of the Centre is about the integration of probabilistic thought into other branches of science. Its focus has shifted away from what conventional economics was at the time the Centre was created in 2000. I began academic life not 20 years ago, but more than 70 years ago, with an interest in applying probability models to economics. I wrote my PhD thesis as an example of the sort of thing that could be done at that time, when we had to wait a full quarter to have updates on our inputs. Today, data is not a scarce resource for economists. Our profession has followed the path paved by probability and statistics, as it needed to adapt to the growing availability of data.

The available information may not be exactly relevant. Interpretations are therefore uncertain. Different studies, by uncommitted scholars, may give different results. When those controversies exist, it is our hope that the Centre’s events will discuss them. Live debate at that fundamental level is exactly what we are after.



Robert M. Solow

Robert M. Solow, Co-Founder of the Cournot Foundation and Centre

COURNOT'S HERITAGE

THE CENTRE AND FOUNDATION

The Cournot Foundation takes its inspiration from the French mathematician and philosopher Augustin Cournot (1801–1877), whose work was a precursor to the fields of economics and probability. Under the aegis of the Fondation de France, the Foundation puts into perspective the probabilistic paradigm shift originating in mathematics and spreading across disciplines. The Foundation was created by Cournot Centre originators **Jean-Louis Beffa**, **Robert Solow** and **Jean-Philippe Touffut**, who continue to guide its work.

With the support of the Foundation, the Cournot Centre advances theory and publishes in the economic and social science tradition of Cournot. Since 2000, the Cournot Centre has been contributing to the development of theories and stimulating critical thinking about their hypotheses and reasoning. It is guided by a Scientific Team of renowned economists, scholars and scientists.

Catalysing ideas

The Centre organizes conferences and panel discussions to explore contemporary issues from a theoretical perspective.

The role of probability in the sciences is a special focus of the Centre's transdisciplinary research seminar. Scientists present the development of the study of randomness in their disciplines, comparing definitions, methods and results. The probabilization of disciplines has been sometimes driven, sometimes followed, by a proliferation of available data. The Cournot Centre is interested in the nature of this process and the consequences of such abundance.

Publishing theoretical contributions

Selected by the scientific team, contributors of the Cournot Centre's conferences, panels and seminars write essays focused on timely theoretical issues. Their original contributions are published as part of conference proceedings in an edited volume, as a monograph in book form, or as a booklet in the *Prisme* series. Cournot Centre publications are published in English and in French and are available on-line or in bookstores. They can also be found in Francophone and Anglophone university libraries.

Since March 2020, the Cournot Centre's network of researchers has been keeping a blog alive on timely subjects and events: "Les Cournotiennes".

To access videos of the Centre's conferences, panel discussions and seminars, or the blog, go to www.centre-cournot.org or cournottiennes.blogspot.com.



Jean-Louis Beffa
Founder and President
Cournot Foundation



Jean-Philippe Touffut
Founder
Cournot Centre



THE SCIENTIFIC TEAM



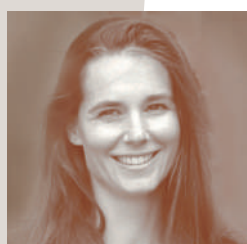
Robert Boyer is an economist at the

Institute of the Americas in Paris and Vice-president of its scientific committee. Former Director of Research at the French National Centre for Scientific Research (CNRS) and Professor at the School for Advanced Studies in the Social Sciences (EHESS), he is President

of the association *Recherche et Régulation*.



Jean-Bernard Chatelain is an economist and Professor in the Economics Department at the University Paris I Panthéon-Sorbonne and at the Paris School of Economics. He is Director of the European Research Group (GdRE) "Money, Banking and Finance" and is Treasurer of the Cournot Centre.



Laure Dumaz is a mathematician and junior researcher at the French National Centre for Scientific Research (CNRS). She works in the field of probability theory. She has been in the Department of Mathematics and Their Applications (DMA) at the École Normale Supérieure (ENS) in Paris since

2020, where she currently holds a professorship.



Josselin Garnier is a mathematician and Professor at École Polytechnique. He is head of the Mathematics Department and a researcher at the Centre de Mathématiques Appliquées (CMAP). Professor Garnier received the Blaise Pascal Prize in 2007, the Felix Klein Prize in 2008 and the *Grand prix scientifique*, awarded by the French Academy of Sciences, in 2021.



Bernard Gazier is an economist and Professor emeritus at the University Paris I. He was a member of the Institut Universitaire de France from 2007 to 2012. He is a researcher at the Sorbonne Economic Centre (CES). Professor Gazier is President of the Société de Port-Royal and Co-president of the Cournot Foundation.



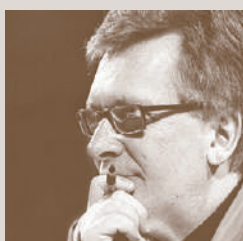
Alice Guionnet is a mathematician and a CNRS Director of Research at the Unit of Mathematics, Pure and Applied (UMPA), a mathematics laboratory of the École Normale Supérieure de Lyon. She sits on the editorial boards of *Annales de l'Institut Henri Poincaré* and *Annals of Probability*. Professor Guionnet

was awarded the Loève Prize in 2009. She is a member of the French Academy of Sciences, of the European Academy of Sciences, and of Academia Europaea.



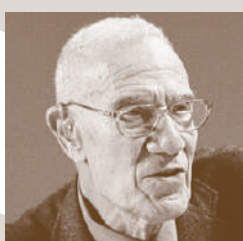
Hans-Helmut Kotz is an economist and a Resident Fellow of the Center for European Studies and a Visiting Professor of Economics, both at Harvard University. A Senior Fellow of the Center for Financial Studies and a Program Director of the SAFE Policy Center at Goethe University, Frankfurt, he is also a member of

Freiburg University's Economics Faculty where he teaches monetary policy. In addition to his academic positions, Professor Kotz sits on the board of Caixa Geral de Depósitos.



Thierry Martin is a philosopher and Professor emeritus of Philosophy of Science at the University of Franche-Comté. Serving as its Director from 2004 to 2018, he is a researcher at the Centre on the Logic of Action in Besançon, France, and a research associate at the Institute for History and Philosophy

of Science and Technology (IHPST). He is a founding member of the French Society for the Philosophy of Science (SPS). Professor Martin is co-editor of the complete works of Augustin Cournot and President of the Cournot Centre.



Robert Solow is an economist and Institute Professor emeritus at the Massachusetts Institute of Technology. In 1987, he received the Nobel Memorial Prize in Economic Sciences for his contribution to economic growth theory. In 1999, he received the US National Medal of Science, and in 2014, the

Presidential Medal of Freedom. He is former President of the American Academy of Sciences and of the Econometrics Society. Professor Solow is Founder of the Cournot Foundation and Centre.

RESEARCH THEMES

- **Multifractal Analysis of Price Fluctuations**
A Categorization of Cryptoassets, Currencies and Commodities
in Terms of Regimes

Work carried out as part of an initial Alfred P. Sloan Foundation project has demonstrated the analytical power of multifractal methods for understanding financial market mechanisms. These methods seem suitable for qualifying the changes in the International Monetary System (IMS), which have led to significant ruptures with the rise of cryptoassets.

Monetary relations are classically analysed by economists based on classifications of exchange rate regimes, first official (de jure), then observed (de facto), but the new classifications do not take into account all the dimensions of the transformations. Is the traditional notion of exchange rate regimes still relevant in the emerging IMS? The interrelations between currencies and cryptoassets require the establishment of a common analytical framework.

Cournot's approach is based on statistical methods, implemented to quantify the proximity between the different assets. The project focusses simultaneously on the comparison of the fluctuation regimes of cryptocurrencies, currencies, and commodities, to determine the differences and similarities both from a mathematical and an economic point of view. Can similar behaviours be detected in a set of different cryptoassets? Do crypto-market dynamics lead to greater efficiency over time? Do political tensions between the main market players strongly influence these dynamics?

This quantitative and analytical base serves as a starting point for reflection on the economic nature of these assets and for a new look at the oil market and the classification of exchange regimes based on a mathematical categorization. It also makes it possible to confirm the methodological interest of the analysis of persistence regimes established during the previous Sloan project, to make it a systematizable tool.

• Greening the Economy: Theoretical Challenges

Since the late 1980s, major international institutions have been using economic models and quantitative assessments to inform policymakers about the potential costs, benefits and trade-offs of environmental policies and climate change mitigation scenarios. This mainly concerns the costs of environmental inaction, as well as the benefits of policy action on issues such as climate change, air pollution and resource use.

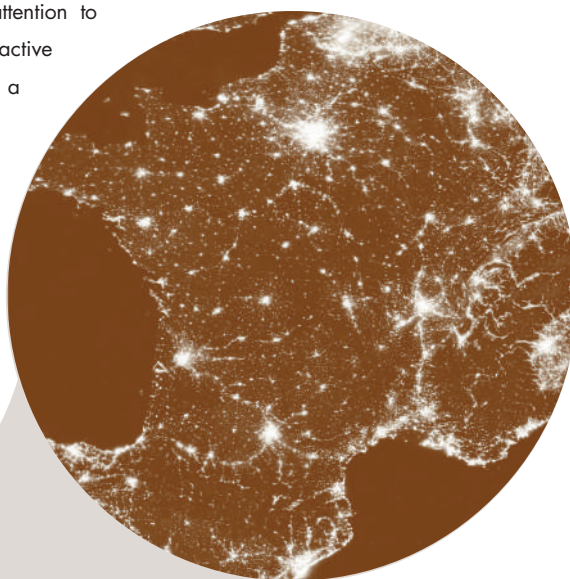
More recently, modelling issues have also become financial and accounting issues: by calling on the mathematicians, economists and accounting researchers in its network, the Cournot Foundation is helping to enrich the debate by recalling the underlying theoretical foundations and promoting modelling that takes account of the turbulence affecting economies, crises or wars.

The first step was to develop and promote a specific model for estimating the climate risk embedded in a bank loan portfolio (Garnier, Josselin, "The Climate Extended Risk Model (CERM)", 2020), a model that continues to drive financial debate. For some months now, these debates have focussed on accounting issues, the main stakes of which also feed into the most fundamental debates between accounting theory and corporate law theory. The Cournot Foundation brings to these debates the original contribution of its theorists.

• Spatial Dynamics in France After the Pandemic (supported by the Caisse des Dépôts)

Studies of the spatial dynamics in France pay little attention to micro-level trends, yet migration towards already attractive regions since the pandemic cannot be understood at a macro level. The new data available help, in particular, to characterize urban reorganization. Is it just peri-urbanization whose determinants have changed, or rather an accentuation of disparities between catchment areas?

Data on employment at job sites, home-to-work commuting, housing occupancy and construction, and energy consumption can all be used to confirm what the French Institute of Statistics has described as a possible urban exodus. What geographical reorganization is France facing? Distinguishing between isolated phenomena linked to the pandemic or the energy crisis and their underlying trends enables us to understand long-term trends.



JUNIOR PROGRAMMES



- **Recording the living memory of young probabilists**



The Cournot Foundation is collecting interviews with young researchers in probability. How do they define probability? How do they relate to its past, and how do they see its future? How did their own knowledge develop? How do they work and interact with each other? Is probability a field of mathematics like any other?



The interviews provide a picture of the contemporary development and the recent history of probability through their perceptions of the discipline, of their own work and of the diffusion of probability in society. A film, based on the interviews, will present a collective portrait of today's young probabilists.

• Initiation to probability

The "Initiation to Probability" programme introduces probability theory and economics to middle-school students in Priority Education Networks in France. The volunteer students from 6th to 9th grades are guided by a mathematics teacher and École Polytechnique Professor Josselin Garnier. The aim of the Cournot workshops is to have the students work on a probability research project throughout the school year. The workshops take place at the school.

At the end of their research project, the students participate in an annual conference. They present the results of their work using different media: an auditorium presentation, a stand with posters and interactive games, and an article published in the conference proceedings.



Professor Josselin Garnier (École Polytechnique) with middle-school students.



Mathematician Laure Dumaz with high school girls at the "Girls and mathematics" workshop.

• Promoting mathematics to high school girls

Workshops are organized to give high school girls the opportunity to discuss mathematics as a path to success. They interact with renowned female mathematicians and outstanding women working in jobs that require a high level in mathematics. The meetings focus on the use of probability and statistics in the physical, economic, financial and social spheres and their diffusion and application in these fields.

The girls benefit from the presence and support of a group of women mathematicians (Laure Dumaz, Nicole El Karoui, Alice Guionnet, Yuko Harayama...) coordinated by the Cournot Foundation.

CONFERENCES

Winter 2024

Neural Networks: The Fundamental Years

Unlike most technologies, which fail immediately or quickly become popular, neural networks were successful for a short period, virtually disappeared for two decades, and became popular again when computer processing capabilities were sufficient to make them applicable on a large scale.

The research coordinated by the Cournot Foundation focusses on the 1980s and 1990s, which laid the foundations for the theoretical and practical developments of what the general public has perceived as fundamental over the last 10 years. While the first trainable neural network – the perceptron – was developed by Frank Rosenblatt in 1957, it was not until the mid-1980s that researchers built sufficiently efficient algorithms for networks with more than one layer. The resurgence (the deep learning revolution) was triggered by industrial applications, and the use of neural networks has been spreading to all digital spheres.



November 2023

Conference in honour of Robert Boyer

Celebrating 60 Years of the *Théorie de la Régulation*

Sorbonne University

Co-organization of the international conference with the International Labour Organization, the OFCE and the University of Geneva

Speakers: Michel Aglietta (CEPII), Bruno Amable (Université de Genève), Benoît Bazin (Saint-Gobain), Robert Boyer (Institut des Amériques/Centre Cournot), Christophe Clerc (Descartes Legal), Giovanni Dosi (Scuola Superiore Sant'Anna), Ekkehard Ernst (ILO), Agnès Labrousse (SciencesPo Lyon), Thomas Lamarche (Université de Paris), Frédéric Lordon (EHESS), Nelo Magalhães (LADYSS), Sandrine Michel (Université de Montpellier), Sabine Montagne (Université Paris Dauphine), Mary O'Sullivan (Université de Genève), Stefano Palombarini (Université Paris 8), Xavier Ragot (OFCE), Laurence Scialom (Université Paris Nanterre), Évelyne Serverin (Université Paris Nanterre), Bruno Théret (Université Paris Dauphine).



Robert Boyer

October 2023

Maurice Fréchet: Mathematics, the Abstract and the Concrete

Institut Henri Poincaré

International conference sponsored by the Fondation Cournot and Pascal Remy, IHP, Laboratoire SPHERE, LPSM Sorbonne Université, SFdS, CNRS GDR Histoire des mathématiques, Aix-Marseille Université

The year 2023 marks the 50th anniversary of the death of Maurice Fréchet (1878–1973), one of the most influential French scientists of the 20th century. Author of major discoveries in analysis, notably in topology and integration theory, Fréchet was also a pioneer of modern probability and statistics, to which he made fundamental contributions. He was also a great organizer of the mathematical life of his time, in particular at the University of Strasbourg after 1919, and then in Paris, at the Institut Henri Poincaré, where Émile Borel made him project manager from its opening in 1928. Fréchet was also concerned with other aspects of intellectual life, making important epistemological reflections, playing a leading role in the establishment of new institutions, such as the French Centre for Scientific Research (CNRS) and the French Standardization Association, and making a strong commitment to the development of Esperanto, of which he was a passionate promoter. Maurice Fréchet was also a polyglot who travelled the world for six decades, creating an impressive network of colleagues and friends.



Maurice Fréchet

2022

The Modeling of Markets with Complex and Rough Regimes

Sloan Conference Series

From Microscopic Models to Rough Macroscopic Models

Sloan Conference Series

Europe Supporting Young Researchers in Times of Uncertainty

Participation in the 4th Gago Conference on European Science Policy

2020

Fractional Calculus in Finance

Sloan Conference Series

Insights from US Antitrust Enforcement History (1918–1941) for Competition Law and Economics in Times of Crisis

Data and Society: The Role of Women?

Co-organization with Institut Louis Bachelier, LPSM Sorbonne University and ENSAE Paris

2019

Women scientists Step Out of the Shadows

Co-organization of the international conference held in honour of Nicole El Karoui for her 50 years of scientific contributions.

A day was dedicated to Women in Science (WiSE), and three to the advancement of Nicole's mathematical heritage.

The Game of Maximum

As part of its Initiation to Probability programme for middle-school students from Priority Education Networks in France, the Cournot Foundation sponsored students from the Collège des Petits Ponts in Clamart, near Paris, to attend the annual national conference of the association Math en Jeans at CentraleSupélec Higher Education and Research Institution in Saclay. The students had a stand, presenting the methods and results of their work through interactive games.



2018

Mathematical Economics after WWI

Within the framework of the conference commemorating the end of WWI: "Mathematical Communities in the Reconstruction after the Great War (1918–1928)"

International Conference on Economic and Financial Risks

Participation in the international conference organized by IRIAF (Institute of Industrial, Insurance and Financial Risk) and CRIEF (Research Centre on Economic and Financial Integration), both of the University of Poitiers.

Fractional Processes in Finance

Organizers: Josselin Garnier (École Polytechnique), Mathieu Rosenbaum (École Polytechnique) and Knut Sølna (University of California at Irvine/École Polytechnique; Cournot senior scholar 2017–2018)

2017

What's Happening on World Energy Markets?

Hosted by the Alfred P. Sloan Foundation

2015

Kiyosi Itô's Legacy from a Franco-Japanese Perspective

2014

Financing Science or Innovation? Lessons from Europe, Japan and the U.S.

2013

Are There Limits to the Probabilization of Science?

Organized with Harvard Medical School

2012

The Limits of the Probabilization of Science

Organized with Harvard Medical School

2009

The New International Division of Labour

2008

The Economic Cost of Climate Change

2007

Does Company Ownership Matter?

2005

Augustin Cournot, Economic Models and Rationality

2004

France and Germany in the International Division of Labour

2003

Public Sector, Private Sector: New National and International Frontiers

2002

Organizational Innovation within Firms

Work and Work Skills in a Changing Economy

2001

The Transformations of Finance in Europe

The Sources of Technical Change

2000

Institutions and Growth

PANELS

Autumn 2023

The Duty of Vigilance Law: An Assessment Before Its Entry into European Law

Tatiana Sachs (Université Paris Nanterre)
and Christophe Clerc (Descartes Legal)

May 2022

How Can Banks Take into Account Climate Risk in Their Lending Portfolio?

Josselin Garnier (École Polytechnique) and
Anne Gruz (Ilggaak)



January 2021

Economic Outlook 2021

Xavier Timbeau, Hans-Helmut Kotz, Robert Boyer,
Ekkehard Ernst, Bernard Gazier

March 2020

The Coronavirus Shock: A Look at an Unpre- cedented Crisis

Robert Boyer, Ekkehard Ernst and Xavier Ragot

December 2018

Is It All About Risk? From Life Insurance to Space Surveillance

Nicole El Karoui and George Papanicolaou

June 2017

Organized with the OFCE

Market Volatility in a Rough State?

Nicole El Karoui, Josselin Garnier, Mathieu Rosenbaum

December 2016

Have Big Data Really Changed Financial Mathematics?

Nicole El Karoui, Mathieu Rosenbaum, Knut Sølna

December 2015

Would France Be Better Off with Two Germanys?

Robert Boyer, Ekkehard Ernst, Baptiste Françon, Bernard
Gazier, Xavier Ragot

December 2014

Does Social Democracy Have Economic Foun- dations?

Jean-Louis Beffa, Olivier Boylaud, Bernard Gazier,
Xavier Ragot, Udo Rehfeldt, Jean-Marc Vittori

June 2012

Redefining Potential Growth

Olivier Boylaud, Ekkehard Ernst, Xavier Timbeau

December 2011

Organized with Johns Hopkins University

Europe's Economic Crisis: Transatlantic Perspectives

Martin Baily, David Calleo, Benjamin Friedman, John
Gabriel Goddard, Daniel Hamilton, Hans-Helmut Kotz,
Robert Solow

October 2010

Organized with Johns Hopkins University

The Feasibility of Monetary and Fiscal Policies

Martin Baily, David Calleo, John Gabriel Goddard,
Daniel Hamilton, Jacob Kirkegaard, Hans-Helmut Kotz,
Xavier Ragot, Robert Solow, Jérôme Vandenbussche

February 2009

Towards a Common Fiscal Policy: Relaunching the Eurozone Economies

Jean-Louis Beffa, Gerhard Illing, Inge Kaul, Günther
Schmid, Robert Solow

February 2008

A Call for a European Macroeconomic Policy

Jean-Louis Beffa, Robert Boyer, Bernard Gazier, Gerhard
Illing, Robert Solow

December 2007

The Search for a Macroeconomic Policy for Europe

Jean-Louis Beffa, Robert Boyer, Edouard Challe, Gerhard
Illing, Xavier Ragot, Robert Solow, Eloïse Stéclébout

May 2006

Fiscal Harmonization in Europe: Laying the Foundation

Patrick Artus, Alain Bassière, Lars Feld, Philipp Genschel,
Gebhard Kirchgässner, Hans-Helmut Kotz, Amina
Lahrèche-Révil, Évelyne Serverin

June 2005

Defining the Foundations for a New European Industrial Policy

Jean-Louis Beffa, Robert Boyer, Lionel Fontagné, Andrei
Klepatch, Hans-Helmut Kotz, Mario Monti

March 2004

Fair-Value Accounting at Stake

Jean-Louis Beffa, Vincent Bignon, Yuri Biondi, Robert
Boyer, Eve Chiapello, Nicole El Karoui, Alain Joly,
Michel Pébereau, Michel Prada, Xavier Ragot

March 2003

Interpreting the European Takeover Bid Directive

François Bayrou, Jean-Louis Beffa, Robert Boyer, Nicholas
Clegg, Simon Deakin, Philippe Herzog, Hans-Helmut Kotz,
Frédéric Lordon, Antoine Rebérioux, Ieke Van Den Burg

SEMINARS

2023

Does Non-transferable Parental Leave Have an Effect on Employment?

Hélène Périvier (OFCE)

The End of an Era for Local Finances?

Luc-Alain Vervisch (La Banque postale)

The Problem of Social Income from an Accountancy Point of View

Yuri Biondi (Université Paris Dauphine)

Fiscal Policies for Inclusiveness: A Review

Rossana Merola (International Labour Organization) and Hélène Périvier (OFCE)

What is the Legal Nature of Crypto?

Pierre-Charles Pradier (Université Paris I)

Public Debt as a Marker of French Economic History 1945–2021

Robert Boyer (Institute of the Americas/Centre Cournot) and Hans-Helmut Kotz (Goethe University/Harvard University)

Some Aspects of the Anderson Hamiltonian in 1 Dimension

Laure Dumaz (École Normale Supérieure)

Could the Cryptocurrency Crash Have Been Forecast? Lessons from Multifractal Analysis

Vincent Clerc (Lusenn)



2022

Economists and Mathematicians Debate Currency Misalignments (Sloan Seminar)

The Impact of the Health Crisis on Local Government Finance

Russia's Economy: From Economic Rent to War – And After?

Are Taxes on Production Responsible for the Growth Deficit of French Companies?

Macroeconomic Modelling in the Face of the Pandemic

2021

The Territorial Dynamics of the Pandemic Crisis in France

How to Monitor Debt

The Impact of Public Policy on Economic Activity: Micro/Macro Perspectives

What is Happening to the Productive Fabric in France?

Statistics of the Pandemic: What Should We Be Looking At?

The Metamorphoses of Neoliberalism: The Italian Case

Girls and Mathematics: A Bright Equation (4)

From Unequal Societies to Unjust Societies: The Effects of the Pandemic in Developed Countries

Book Presentation: *Le temps retrouvé de l'économie*

2020

Girls and Mathematics: A Bright Equation (3)

The Pandemic and Managing the New Trilemma: Health, Economy and Freedom – What solutions?

The Coronavirus Crisis: Adjustments to Employment and Unemployment in Europe and the United States

Why Has National Accounting Withstood the Pandemic (But Not Its Diffusion Models)?

EU Reaction to the Coronavirus Crisis: Dispersed Order or Applied Subsidiarity?

Modelling the Pandemic, Health and Economic Responses to the Crisis: Elements of Comparison

The Concentration of Economic Power: The Current State of Affairs and Potential Paths Out of the Crisis

Which Data for Which Models? A Look at Employment Uncertainties Regarding the Modelling of the Pandemic

Which Data for Which Models? Diagnosis of the Pandemic, Diagnosis of the Crisis

Girls and Mathematics: A Bright Equation (2)
Girls and Mathematics: A Bright Equation (1)
Initiation to Probability: Middle-School Students Test Games of Chance

2019

Book Launch: *Économie du travail et de l'emploi* by Bernard Gazier and H  lo  se Petit
Financial Regulation of Online Games
How to Found a European Welfare State
Modelling the Transformation of the Age Pyramid
Probability in France: From Disdain to Triumph
The Microeconomic Turning Point at the OECD
Middle-School Students Take on Martingales

2018

How to Model the Trajectories of Debris in Space
Foundations and Challenges of the Platform Economy
Fractional Randomness and Statistics
The Social Sciences Face Up to the Abundance of Digital Data
Estimating Persistence and Regimes in Economics
EU Competition Law and Policy in Light of the Genealogy of US Antitrust Law

2017

The End of Oil?
Is the Slowdown in Productivity the Sign of the Exhaustion of Technical Change? Lessons from the French Automobile Industry since 1945
Political Economy of the French Crisis
Can We Learn Something Philosophical from Experimental Philosophy?
Modelling Wind Ressource with Diffusion
Why Europe Needs a Funding Markets Union

2016

Economic Crises and the Lender of Last Resort: Evidence from 19th Century France
Bugs, Tariffs and Colonies: France and the Mediterranean Wine Trade in the 19th and 20th Centuries
What Forces Govern the Evolution of CEO Pay in France?
Growth Theory and the Environment: Dematerializing Economic Analysis?
Jevons and the Dynamics of Industrialization
Prouver et gouverner: Presentation of Desrosi  res' Posthumous Book
Have We Entered a New Energy Price Regime?
The Role of Sector Dynamics in Financial Crises

2015

The Implications of Prudential Regulation for Competition and Consumer Policy in the Banking Sector
"Social Dialogue" and Varieties of Capitalism: A Long-Term Analysis
Why Speech and Language Technology (almost) Works
A Historical Analysis of Transnational Company Agreements
How to Identify an Object Using Electric or Acoustic Senses
Where Does a Random Walk Lead?
Counting in Single Cells

2014

Three Kinds of Crisis, Three Ways Out: Viewpoints from the Disciples of Keynes, Polanyi and Marx
What We Can Learn from the Electric Senses of Fish

Can the U.S. Shale Revolution Be Duplicated in Europe?
Quantum Turing Testing
The Role of Economic Models in Low-carbon Policymaking
The Nature of Oil Shocks Matters

2013

Proximity as a Source of Comparative Advantage
Does France Have a Productive Model?
Correlation-based Imaging in Random Media
30 Years of Developing Public-Private Partnerships: A Macroeconomic Assessment
Exiting Deflation: When and How?
Can Energy Be Reduced to Probability?
Co-determination and the Crisis
Making Noise to Hear Better? Regularization by Noise in Analysis

2012

Is Co-determination Compatible with French Capitalism?
Co-determination *   la fran  aise*
The Universality of Probability Methods in Systems Biology
Is Probability Redefining Biology?
A State of Macroeconomics: Is Economics already Probabilistic?
The Probabilistic Shift in Biology

2011

Information and Probability in Biology
Noise from a Stochastic Perspective
The Emergence of French Probabilistic Statistics

2010

Is Everything Stochastic?
Quantification of the Brain
Speech Recognition as a Probability Science
Spurious Regressions
What Do Probability Applications Say About Their Meaning?
Probabilities of Probabilities

2009

The Keynesian Concept of Uncertainty
Three Sources of Probability Calculations in the 18th Century
The Probabilization of Risk
An Economic Analysis of Panics
Bayesian Confirmation Theory
Stochastic Models of Decision Making

2008

Probabilism Theories: From Bayes to Reichenbach
Determinism and Freedom
How Probability Became Its Own Science
Probabilism in Natural History
Probability Theories of Causality
The Random Expression of Genes

2007

Controversies of Quantification since Cournot

PUBLICATIONS

BOOKLETS The Cournot Centre's *PRISMES*



The Fractional Brownian Motion in Volatility Modelling
Elisa Alòs
N°42



The Concentration of Economic Power since the Pandemic
Frédéric Marty
N°41



Technical Change and Probability Theory: How Automatic Translation Has Transformed Speech
Alexander Waibel
N°40



Space Surveillance and Risk Assessment: The Economics of Debris
George Papanicolaou
N°39



Fractional and Statistical Randomness
Charles Tapiero and Pierre Vallois
N°38



Abstraction vs. Application: Itô's Calculus, Wiener's Chaos and Poincaré's Tangle
Daniel Goroff
N°37



The Reconciliation of Betting and Measure
Glenn Shafer
N°36



Big Data: A Game Changer for Quantitative Finance?
Mathieu Rosenbaum
N°35



Saturation and Growth: When Demand for Minerals Peaks
Raimund Bleischwitz and Victor Nechifor
N°34



A Time-Frequency Analysis of Oil Price Data
Josselin Garnier and Knut Sølna
N°33



Why Speech and Language Technology (almost) Works
Mark Liberman
N°32



How to Flee Along a Straight Line: Tracking Self-Repelling Random Walks
Laure Dumaz
N°31



The Evolving Connection between Probability and Statistics: Do Statisticians Need a Probability Theory?
Noureddine El Karoui
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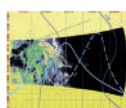
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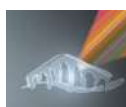
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