

viaSarfatti25

BOCCONI UNIVERSITY, KNOWLEDGE THAT MATTERS

Issue 1 - 2 / January-February 2019

ISSN 1828-6313



- ✓ Face-to-Face with Four Top Alumni: Francesca Bellettini (Saint Laurent), Andrea Coscelli (British Competition and Market Authority), Davide Grasso (Converse), Riccardo Taranto (Bocconi)
- ✓ Find out How Bocconi Research Impacts Economy, Society and Everyday Life
- ✓ The Map of Bocconi Alumni's 81 Chapters and Topic Leaders

Beyond startups: businesses and their leading players are the focus of our researchers. Four success stories told by alumni that made them happen

The Beat of ENTREPRENEURSHIP

Bocconi

FUNDRAISING
CAMPAIGN
2015-2020



Within our reach.
Together for a new vision of the future.

PROPOSE

equal, sustainable
and feasible solutions
is our goal.

INVEST

in young people and
in scientific research
is our commitment.

ENGAGE

you in this vision
is our challenge.

One Century of Entrepreneurial Spirit

Since its foundation in 1902, Bocconi has embodied the entrepreneurial spirit of its founder. Innovative and attentive to the development of skills, Ferdinando Bocconi can be considered a startupper before the term was coined. Starting as a street vendor of fabrics and haberdashery, he continually invested in his business to transform it into a real company, capable of innovating and growing constantly. From shop to department store, following the example of his experiences in London and Paris; from the beginnings in Lodi to development in Milan and then Turin, Genoa, Trieste and Rome; from a family business to a company capable of providing work, in the Milanese area alone, to thousands of people. This growth was often driven by studies and market surveys, which determined new management and technical requirements requiring diversified skills. This led him to send his three children to study in Switzerland and expose them to intense international experiences in Europe and the United States. We, however, are his biggest and most revolutionary enterprise. For Bocconi, entrepreneurship is at the same time a genetic trait and a mission. Capable of innovating in all its dimensions, from our governance to our educational project, Bocconi is committed to training generations to recognize a competitive advantage in the entrepreneurial spirit. To do this, we act on three closely interrelated factors: scientific

research in the field of entrepreneurship, targeted training and new programs, and support for entrepreneurial development. Our commitment on these rapidly growing fronts convinced us to appoint a Dean for Innovation, Professor Markus Venzin, who will help us manage the many initiatives linked to the theme of entrepreneurship that is increasingly central to the Bocconi ecosystem – as highlighted by the cover story of this special issue.

Gianmario Verona,
rector



VIDEO

In the latest Executive Chats encounter, Rector Gianmario Verona meets Cristina Scocchia, a Bocconi alumna of 1999, currently CEO at Kiko, a cosmetics retail company. Enjoy her takes on how retailing now means serving experiences, the workings of diverse teams and the fulfilment of professional dreams.



EXECUTIVE CHATS In the Executive Chats video series, Rector Gianmario Verona meets top executives on the frontline in facing the challenges of the digital century and discusses leadership and the evolution of their industries. Watching the seven instalments of the series, we can understand the seismic changes every sector has been through in the last years and tear up some pages from great executives' books on how to manage companies and lead people.



Giovanni Caforio,
Chairman and CEO,
Bristol-Myers Squibb



Federico Marchetti,
Founder and CEO,
YOOX NET-A-PORTER
GROUP



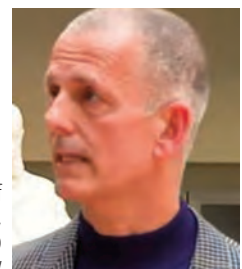
Luca De Meo,
Chairman of the
Executive Committee,
SEAT



Giovanni Ciserani,
Former Group
President, P&G Global
Fabric & Home Care,
Global Baby and
Feminine Care



Paolo Merloni,
Executive Chairman,
Ariston Thermo



Luca Mignini, Chief
Operating Officer,
Campbell Soup
Company

VIEWPOINTS

by Paolo Tonato





A Celebration of Europe and Research

Photos from the Opening Ceremony of the new Academic Year with European Commissioner for Research, Science and Innovation, Carlos Moedas

CONTENTS



Issue 1-2
January-February 2019
Publisher: Egea Via Sarfatti, 25
Milano

Editor-in-Chief
Barbara Orlando
(barbara.orlando@unibocconi.it)

Senior Editor
Fabio Todesco
(fabio.todesco@unibocconi.it)

Editorial Office
Andrea Celauro
(andrea.celauro@unibocconi.it)
Benedetta Ciotto
(benedetta.ciotto@unibocconi.it)
Susanna Della Vedova
(susanna.dellavedova@unibocconi.it)
Tomaso Eridani
(tomaso.eridani@unibocconi.it)
Davide Ripamonti
(davide.ripamonti@unibocconi.it)

Contributors
Paolo Tonato (photographer)
Ilaria De Bartolomeis, Emanuele Elli,
Claudio Todesco

Secretariat and iconographic research:
Nicoletta Mastromauro
Tel. 02/58362328
(nicoletta.mastromauro@unibocconi.it)

Layout project: Luca Mafechi
(mafechi@dgtpoint.it)

Production:
Luca Mafechi

Registered at Milano's Court
number 844, 31/10/05

1 HOMEPAGE

One Century of Entrepreneurial Spirit
by Gianmario Verona

VIEWPOINTS
A Celebration of Europe and Research
By Paolo Tonato

8 KNOWLEDGE

Mariano Max Croce. Proving that “Enigmatic”
Exchange Rates Can Be Explained After All.
Bocconi Second in Europe for ERC Grants in Economics,
Finance and Management
Annita Florou. Understanding the Impact of Transition to IFRS
on Capital Markets and Cross Border Investments
Vodafone Chair Aims for Large-Scale Application
of Machine Learning

Giacinto della Cananea. Bringing Expertise
in EU Administrative Law

Gruppo Generali Chair Analyzes Risk Management
in Industrial Firms

Anthony Bertelli. When Economics
Meets Public Administration

BNP Paribas Chair Looks at Impact
of New Technologies on Customer Experience

Eleanor Spaventa. A New Center
of Excellence for European Law

Infrastructure Finance Professor Gatti Fills
Academic Void as Investments Grow

Peter Pope. Looking at Accounting through
a Social Sciences Lens

Michael Trusov. Giving Hands-on Training
in Digital Marketing Tools

Roger O’Keefe. Putting Bocconi Legal
Studies Dept on the World Map

Playlist of Bocconi Research
by Fabio and Claudio Todesco

COVER STORY

Entrepreneurship Goes Beyond Startups
by Nicolai Foss

Alisée De Tonnac. Good Business Plan Not Enough for Success
by Jennifer Clark

Alessandro Biggi. Avocado Toast Leads to Hot Brooklyn Startup
by Jennifer Clark

Predicting Startup Success with Data
by Carlo Mammola and Luigi Mastromauro

Turning “Spotify for Textbooks” into \$4.8 mln
by Tomaso Eridani

Dario Calogero. Taking Texting to
the Next Level with Kaleyra
by Jennifer Clark

Research storytelling: Mario Daniele Amore, Arnaldo Camuffo,
Alessandra Casarico, Andrea Colli, Nel Dutt, Alessandro
Minichilli, Simone Santamaria, Chiara Spina, Diego Ubfal,
Fernando Vega-Redondo
by Claudio Todesco

40 **TAXATION**
The Strange Relationship Between Taxation and Time Spent
with Children
by Alessandra Casarico and Alessandro Sommacal

SECURITY
AI Can Be an Ally Against Terrorism
by Nicola Limodio **38**

44 **GEOPOLITICS**
Part of the Political Toolkit
by Lanny Martin

SKILL
In A World of Likes and Fake News, Critical Thinking Is Crucial
by Damiano Canale **42**

54 **ENTREPRENEURSHIP**
Small (African) Entrepreneurs are Growing
by Fernando Vega-Redondo

MANAGEMENT
The Theory of Secession
by Massimo Morelli
Research storytelling: Carlo Altomonte, Andrea Colli,
Livio Di Leonardo, Guido Tabellini, Arianna Vendaschi
By Claudio Todesco

58 **MANAGEMENT**
Consumer Communities Make Innovation Take off
by Alfonso Gambardella

ANTITRUST
As Long as It's Fair Competition
by Chiara Fumagalli **60**

62 **INNOVATION**
Three Rules for Selection in Innovation Processes
by Thorsten Grohsjean

DATA SCIENCE
Teaching Machines How to Learn to Improve Business and Health
by Riccardo Zecchina **64**
Research storytelling: Carlo Baldassi, Marco Bonetti,
Daniele Durante, Dirk Hovy, Antonio Lijoi,
Alessia Melegaro, Raffaella Piccarreta, Igor Pruenster
By Claudio Todesco

74 **SHARING ECONOMY**
Smart Cities Lead to Better Understanding of Markets
by Marco Percoco

ACCOUNTING
Expatriate CFOs Have an Impact on Corporate Performance
by Antonio Marra **76**

78 **STRATEGIES**
Innovate or Exploit? Achieving Balance
Through Alliances or Acquisitions
by Dovev Lavie



36

BOCCONIPEOPLE
Riccardo Taranto
(Managing Director,
Bocconi University)
Back at Bocconi

CONTENTS



52

BOCCONIPeOPLE
Francesca Bellettini
(President and CEO,
Saint Laurent)
Putting Creativity at
the Center of Luxury
Goods Magic

72

BOCCONIPeOPLE
Davide Grasso
(President and CEO,
Converse)
Success in
Management
Includes Learning
to Deal with Failure



80

E-LEARNING

When Learning Becomes an Augmented Experience

by *Leonardo Caporarello*

Business Schools Should Learn from Netflix

by *Gabriele Troilo*

Research storytelling: Massimo Magni,
Beatrice Manzoni, Ferdinando Pennarola
by *Claudio Todesco*

FINANCE

When Dealing with Risk, You Need
a Seasoned Professional

by *Stefano Rossi*

88

90

IMMUNIZATION

Choosing Immunization Is a Question of Information

by *Maria Cucciniello and Alessia Melegaro*

MANAGEMENT

The Rise of the Superhero CEO

by *Gianmario Verona*

92

Camilo Pane. To Have an Impact, You Need
to Get People Involved

by *Ilaria De Bartolomeis*

Vittorio Colao. It Takes an Athlete's Stamina to Be a Good CEO
by *Ilaria De Bartolomeis*

Research storytelling: Mario Daniele Amore, Arnaldo Camuffo,
Guido Corbetta, Viktor Fedaseyev, Alessandro Minichilli
by *Claudio and Fabio Todesco*

102

LEARNING

When Words Aren't Enough

by *Dirk Hovy*

FISCAL POLICY

When Tax Credits Help Employment Recovery

by *Thomas Le Barbanchon*

104

106

MIGRATION

The Great Migrations and Their Impact

by *Andrea Colli*

Research storytelling: Massimo Anelli, Alessandra Casarico,
Carlo Devillanova, Joseph-Simon Goerlach, Paolo Pinotti,
Graziella Romeo by *Claudio Todesco*

INNOVATION

Those Exaggerated Prototypes Designed to Capture the Consumer
by *Paola Cillo and Irene Scopelliti*

114

116

FINANCIAL SHOCKS

Macroeconomic Shocks Have a Major Effect on Politics

by *Alberto Manconi*

POLITICAL SCIENCE

Democracy Between Representation and Social Media Likes
by *Damiano Canale*

118

Research storytelling: Elisa Bertolini, Livio Di Lonardo,
Justin Frosini, Giunia Gatta, Anna Grandori, Massimo Morelli,
Arianna Vidaschi
by Claudio Todesco

GENDER GAP

The Stork Brings Women a Reduced Paycheck
by Jérôme Adda

128

130 CORPORATE STRATEGY

Globalization Backtracks! How Will Companies React?
by Torben Pedersen

AGEING POPULATION

Good News: We Will Grow Old
by Francesco Billari

132

Research storytelling: Luca Buccoliero, Carlo Favero,
Vincenzo Galasso, Francesco Longo, Francesco Vallacqua
by Claudio Todesco

140 BUSINESS

To Grow, You Need to Know How to Prune
by Nilanjana Dutt

MONETARY POLICY

How Do Women Affect Decisions?
by Paola Profeta

142

144 AUTOMATION

How to Survive Changes in Employment, Without Creating
Winners and Losers
by Italo Colantone

Research storytelling: Antonio Aloisi, Massimo Anelli,
Vincenzo Baglieri, Alfredo Biffi, Alberto Bramanti,
Beatrice Manzoni, Anna Omarini, Anna Prenestini
by Claudio Todesco

POLICYMAKING

If Friends Choose for Us
by Massimo Anelli and Giovanni Peri

152

154 THE FUTURE OF MONEY

Money in the Past, Present and Hybrid Future
by Tommaso Monacelli

How Will We Pay for Things in the Third Millennium?
by Donato Masciandaro

The Risks of Monetary Democracy
by Andrea Munari

Michele Centemero. Smile at the Camera, Your Train Is About to Leave
by Claudio Todesco

Giovanni Abbondandolo. Making Online Payments Easier
by Claudio Todesco

Research storytelling: Massimo Amato, Filippo Annunziata,
Alessandra Cillo, Anatoli Colicev, Leonardo Maria De Rossi,
Luca Fantacci, Anna Omarini
by Claudio Todesco

BOCCONI@ALUMNI

The Map of 81 Chapter and Topic Leaders
by Andrea Celauro and Davide Ripamonti

164



86

BOCCONIPEOPLE

Andrea Coscelli,
CEO, British
Competition and
Markets Authority
Antitrust and Market
Liberalization in the
Brexit-Era UK

#BocconiPeople Mariano Max Croce

Proving that "Enigmatic" Exchange Rates Can Be Explained after All

Exchange rates were considered to be enigmatic mechanisms when Mariano Max Croce enrolled in Economics at Bocconi University, in 1997. "No other financial index was surrounded by so much mystery. They could not be explained -- or so they said," he recalls. Professor Croce has devoted part of his research career to prove this idea wrong. He did so at the Kenan-Flagler Business School at the University of North

Carolina and from now on will do so at Bocconi's Department of Finance as a Full Professor. In Milan, he will also carry out research

on human capital, student debt and other issues that share the same common thread: long-term economic growth.

Mariano Massimiliano Croce was born in 1978 in Pantelleria, a small island in the Mediterranean Sea between Sicily and Tunisia. He completed his studies in Economics at the time of the euro transition. The event prompted him to develop an interest in international economics and exchange rate theory. After graduating from Bocconi, he applied for a PhD in Economics at the New York University. There he met his main advisor and



FIND OUT MORE

→ **Colacito, Croce**, "Risks for the Long Run and the Real Exchange Rate," *Journal of Political Economy* 2011, Volume 119 (1).

→ **Croce**, "Long-Run Productivity Risk. A New Hope for Production-Based Asset Pricing?", *Journal of Monetary Economics* 2014, Volume 66.



future Nobel Prize winner Thomas J. Sargent. “I was on the verge of quitting the program,” Croce recalls. “Thomas reignited my love for research and helped me to overcome the third-year crisis, when PhD students must become fully independent.”

Max Croce stayed at Kenan-Flagler for eleven years. There he fine-tuned his research on exchange rates and international economics with his main co-author Riccardo

Colacito. “Some literature considered rates disconnected from macroeconomic variables. We have shown that, on the contrary, they have a lot to do with long-term growth expectations.” Two years at Wharton, a semester at Stern-NYU and time spent working on research on fiscal policy and intangible capital with Duke’s Fuqua School of Business were equally important for Professor Croce.

In another strand of research, Max Croce studies stock markets in the context of macroeconomics and investments. “In a forthcoming paper titled ‘BKK the EZ Way,’ for instance, we put long-run growth in relation to exchange rates and investments among G7 countries.” Professor Croce’s agenda at Bocconi will also include studies on American student debt, which just hit \$1.5 trillion. “I want to understand how the effectiveness of investment in human capital can be enhanced and how it interacts with firm activities and long-term growth.”

In addition to his assignment in the PhD program, Max Croce will teach at SDA Bocconi Asia Center in Mumbai, India, a country that he has been visiting regularly for seven years now. During his stay in the US, he coached a youth soccer team, the sport practiced by his son. “He is 8 years old and is particularly happy moving to Milan. Even though I root for Juventus,” he adds smilingly, “he was admitted to the academy of Inter football club.”

BOCCONI SECOND IN EUROPE FOR ERC GRANTS IN ECONOMICS, FINANCE AND MANAGEMENT

Since 2007, when the European Commission established the European Research Council (ERC) to promote basic research across the continent, Bocconi has hosted 32 research projects, led by 26 researchers, in all areas of economics, social sciences and law, for a total of €34 mln of funding and more than 200 researchers involved. Scientific excellence is the only selection criterion. These results have made Bocconi a center of excellence in its sectors of reference. The University is second in Europe for ERC grants in economics, finance and management, and fourth for grants in environment and demography. For Bocconi, the ERC has been an authoritative organization that, through financing many of its projects, has contributed to its legitimization as a top player in Europe in social sciences research.

In addition to these ERC grants, others have been awarded to faculty members currently at Bocconi, but hosted by other universities: Nicola Pavoni with a project on intergenerational transfer of cultural values and Riccardo Zecchina on the development of new algorithms for machine learning.

The ERC assigns three types of funding to scholars in successive stages of their career (starting, consolidator and advanced) and has recently introduced Synergy Grants to promote collaboration between small groups of principal investigators (from 2 to 4).

In 11 years, the ERC has financed approximately 9,000 projects. Considering that each project is led by a principal investigator but involves, on average, six researchers, the ERC has not only allowed cutting-edge research to be conducted, it has also allowed thousands of young European researchers to expand their networks outside their country of origin and often even outside Europe.

After the opening of the 2018-2019 Academic Year ceremony, Bocconi researchers briefly showcased their projects to an audience including Carlos Moedas, European Commissioner for Research, Science and Innovation, and Jean-Pierre Bourguignon, President of the European Research Council. To see the video projected at the ceremony, please click below.

Bocconi professors who received at least one ERC Grant are: Arnstein Aassve, Guido Alfani, Delia Baldassarri, Pierpaolo Battigalli, Francesco Billari, Valentina Bosetti, Maristella Botticini, Simone Cerreia Vioglio, Francesco Decarolis, Giacinto della Cananea, Nicola Gennaioli, Eliana La Ferrara, Thomas Le Barbanchon, Massimo Marinacci, Alessia Melegaro, Letizia Mencarini, Tommaso Monacelli, Massimo Morelli, Tommaso Nannicini, Marco Ottaviani, Gianmarco Ottaviano, Igor Pruenster, David Stuckler, Guido Tabellini, and Tamás Vonyó.



VIDEO

ERC@Bocconi Since the creation of the European Research Council in 2007, Bocconi has received a total of 34 million euros in ERC research grants for 32 projects covering all the fields of social sciences. Find out more in this video.



VODAFONE CHAIR AIMS FOR LARGE-SCALE APPLICATION OF MACHINE LEARNING

Scientific labs as well as companies face the need to extract information from ever larger datasets -- a task that machines are increasingly good at. "Pattern recognition is the realm of Artificial Intelligence," says Riccardo Zecchina, Vodafone Chair in Machine Learning and Data Science, "a field that is not about creating thinking machines, but about augmenting our cognitive capabilities."

Before even thinking of creating a human-like thinking machine, you must create a machine able to give a meaning to data, the input it receives, and continuously learn from them. And that's exactly what the field of Artificial Intelligence and Machine Learning does. In this field, most of the results go back 30 or 40 years -- but in the last decade machine learning has experienced a dramatic increase in performance, thanks to the combined effect of computational tools, huge and rich datasets, new algorithms. Most of the recent progress has been triggered by one tool of machine learning, called deep learning.

A task that comes easy to humans, such as image recognition, turns out to be very difficult for machines, if we think we can then definitions of things and expect they recognize them in a picture. We've understood that machines have to learn through examples and deep learning is an effective way to reach this result, mimicking the workings of the human brain.

A deep neural network is composed of many layers, and each layer is composed of thousands of nodes, called artificial neurons: you have an input layer and an output layer, and then many intermediate layers, that process the information. The information enters on the left and goes out on the right. For instance, if you plug in the image of a chair, you want to read out in the output layer an answer that says it's a chair. In these systems, you provide a lot of examples of inputs and corresponding outputs to this network and then you progressively and iteratively change all the connection strengths, up to the point in which the network is capable of classifying correctly all the examples. Once the network has learnt to classify all the examples, then you can start using it to make predictions: you feed a new image, that the network hasn't seen before, and you read the answer. The only way in which these machines are superhuman is that they can perform this task in a massive scale and with a very high accuracy.

"Now, there's nothing special about images. All these techniques can be applied to any field of science, human activities in which data are present and important," concludes Zecchina, "and that's what the Vodafone Chair in Machine Learning and Data Science has been established for: combining the use of the most advanced theories and algorithms and their application on a very large scale, for both research and training purposes."



VIDEO

Our Future With Machine Learning

Riccardo Zecchina, Vodafone Chair in Machine Learning and Data Science, discusses the evolution of artificial intelligence, with a focus on machine learning and deep neural networks.



#BocconiPeople Annita Florou

Understanding the Impact of Transition to IFRS on Capital Markets and Cross Border Investments

Being the daughter of the financial manager of the Coca-Cola Company in Greece gave **Annita Florou** the appetite for business studies. "Start with something practical," my father used to tell me. He saw Accounting as a solid educational base to build on. I took his advice." Twenty years later, Accounting is much more than practical for Professor Florou. She studies auditor regulation and the effects of International Financial Reporting Standards

(IFRS). She is a new arrival at the Department of Accounting of Bocconi, coming from Queen Mary University of London. "My research relates to Institutional Economics. Being at Bocconi is also an opportunity to interact with top economists." Annita Florou began to contemplate the idea of pursuing an academic career during studies for the Bachelor's degree in Accounting and Finance at the University of Macedonia in



Thessaloniki, where she grew up. “I always had a curious mind and academia allowed me to search for the answers I was looking for. In addition to this, I enjoyed the autonomy and flexibility that this job promised.” Oddly enough for a student willing to become an academic, she did not leave Greece to do a Master of Science or a PhD, but to enroll in a Master of Business Administration in Manchester. “I thought that this practical orientation would have

eventually turned useful as an academic.” Later on she earned a PhD in Accounting from the University of Warwick.

Professor Florou’s first publications dealt with corporate governance. In the last ten years or so she moved on to study financial reporting and auditing issues. “I am trying to understand the capital market consequences of the harmonization of international financial reporting as well as the interactions between institutional factors and financial reporting regulation. Does the transition to IFRS affect the flow of investments across economic and institutional borders? And what happens to the debt markets? If there are benefits, do they materialize in all countries or do they depend on the underlying institutions of each country?”. The results indicate significant positive capital market effects associated with the transition to the IFRS reporting regime. “My papers also document the importance of the enforcement regime and other institutional reforms in realizing the aforementioned benefits.” The directives of the European Union are at the heart of

Professor Florou’s current research. “The EU usually sets a general framework. For political reasons, it leaves a lot of room for flexibility. These variations are interesting.” She is studying the transition in the regulation of auditors in the EU from the peer review system to the creation of independent monitoring bodies. She is investigating the effects of alternative public oversight designs on the pricing and quality of the audits performed. Having more data would be useful, she says. “Accounting regulators are reluctant to interact with academics and use our findings. They sit on a large amount of useful data, but they are unwilling to share.” Professor Florou is the academic advisor of the Institute of Chartered Accountants in England and Wales (ICAEW), sits on the editorial board of the Contemporary Accounting Research journal and has been the recipient of a Marie Curie grant for a Research Training Network on the topic of international financial reporting standards. “It was also a valuable administrative experience as I acted as a Scientific Coordinator.” In Milan, she is teaching the English class of Financial Reporting and International Accounting Standards. “Some academics say that teaching is our duty and researching is our hobby. I do not agree. I enjoy teaching and interacting with students. In some cases, it can be a stimulus for the research.” She loves to spend time with her children and to exercise. “One of the first things I do when I move to a new town is to look for a good gym. I do pilates and yoga. Keeping your body in shape is good for your brain.”



FIND OUT MORE

→ **Annita Florou, Peter F. Pope**, *Mandatory IFRS adoption and institutional investment decisions*, in *The Accounting Review* 87 (6), 2012

→ **Annita Florou, Urska Kosi**, *Does mandatory IFRS adoption facilitate debt financing?*, in *Review of Accounting Studies* 20 (4), 2015

→ **Annita Florou, Yuan Shuai**, *The costs and benefits of public oversight: Evidence from the EU*, *SSRN Electronic Journal*, 2017



Bringing expertise in EU Administrative

"One of the reasons that led me to Bocconi, apart from its reputation and its well-known research vocation, is the desire to contribute to making the university a centre for European and comparative law." Giacinto della Cananea is the latest arrival at the Department of Legal Studies. Full Professor since 2001, he comes from the University of Tor Vergata. He has taught in Lecce, Urbino and Naples.

He has held various public positions and is currently a member of the Consiglio di Presidenza della Giustizia Tributaria. Giacinto della Cananea was born in 1965. After graduating in Law in Rome, where he was a pupil of Sabino Cassese (a former judge of the Constitutional Court of Italy), he received his PhD from the European University Institute in Fiesole, near Florence. The Institute offered courses in

English and French and promoted the study of supranational administration. "I did deliberately avoid an Italian university. It seemed to me that many Italian scholars at the time neglected the importance of law that was developing outside the boundaries of States. I sensed that there was a large, uncharted territory of public and administrative law waiting to be acknowledged. When I went to Oxford in

1994, this hunch was confirmed and I had the chance to discuss my ideas with jurists, such as Paul Craig, and political scientists." Della Cananea never stopped cultivating this interest. He has edited books on European administrative law such as the "Research Handbook on EU Administrative Law" (Elgar) and took part in a project that addressed the need for simplification of EU

ive Law

administrative law. The project has been awarded the Altiero Spinelli Prize for Outreach. "It is an attempt to improve the 'living law.' The award shows the importance of our research that investigates both theoretical aspects and practical aspects."

In 2008 he taught at Duke Law School, in 2013 at Yale Law School. During his stay in the US, he developed an interest in comparative law, which now covers about half

of his academic work. "Two years ago, I was awarded an ERC Advanced Grant for The Common Core of European Administrative Law. It was the first time ever an ERC was granted to a jurist of an Italian university. The project has already involved about seventy scholars from fifteen different countries." The project focuses on the European dimension of administrative law and aims to investigate similarities and differences, and to shape common legal scenarios.

Della Cananea held several public positions outside of academia. From 2013 to 2018 he was a member of the Italian Court of Auditors (Consiglio di Presidenza della Corte dei Conti). "It was a chance to study the actual functioning of administrative institutions. It has greatly enriched me." Passionate about French cinema and literature, with a predilection for Nouvelle Vague filmmakers and 19th and 20th Century novelists, della Cananea skies and plays doubles tennis. In Milan, he teaches Administrative Law in Italian and Global Administrative Law in English. The latter course is dedicated to supranational bodies and legal regimes that have developed in the last twenty years. "In the past, I worked with the Italian Ministry of Education, Universities and Research. From that position, I could see the limits of our university system, but I could also see the amount of talent and passion that scholars infuse in what they do. This is highly beneficial to research and teaching."

GRUPPO GENERALI CHAIR ANALYZES RISK MANAGEMENT IN INDUSTRIAL FIRMS

Conventional wisdom states that tackling risk in industrial corporations boils down to the usage of derivatives – options, futures, forwards – to cover specific financial risks, such as exchange or interest rates risks. "If this were the case," says **Stefano Rossi**, who's been holding the Gruppo Generali Chair in Insurance and Risk Management since last April, "it would mean that just a tiny fraction of industrial corporations manage their risks, because derivatives are widespread only among the largest firms."

The research projects developed by the Generali Group Chair in Insurance and Risk Management embrace a new approach, which aims at singling out and measuring the relevant risks that a corporation faces. And it turns out that, for industrial corporations, pretty much anything that makes the operating income more unstable is a risk that they should manage.

Operating income volatility, in fact, always translates into a higher cost of capital and this is detrimental both for managers and for investors.

If an operating income's steady flow makes a company more attractive to investors, how could a corporation signal it to the market? Recent research shows that the dividend policy can be an effective tool.

Even if a rise in dividend is often considered a signal of a future hike in operating income, truth is that it is the signal of a more stable operating income, as the historical analysis confirms. Only companies that have stable flows because, for instance, they have reached an optimal size or are active in a mature industry, can raise their dividend with no prejudice to their future growth. That's the reason why pension funds and cautious institutional investors explicit their preference for the shares of companies that distribute dividends.

If they want to manage risk with an integrated approach, industrial corporations must deploy a set of tools that can't be limited to derivatives. Corporate risk management means having procedures in place to figure out which events could happen and which measures to take, should these events happen. At the helm of all this there should be a Chief Risk Officer, capable of acting as a thorough planner and not as an amateur plumber, forced to plug one leak at a time, as they show up.

Before joining Bocconi, Stefano Rossi has been teaching at Stockholm School of Economics, Cornell University, Imperial College Business School and Purdue University. His research interests include law and finance corporate governance, bankruptcy and financial distress, debt financing.



VIDEO

Tackling Risk in Industrial Corporations

In this video Stefano Rossi, Gruppo Generali Chair in Insurance and Risk Management, conveys a modern view of risk management in industrial corporations, beyond the use of financial tools.



BNP PARIBAS CHAIR LOOKS AT IMPACT OF NEW TECHNOLOGIES ON CUSTOMER EXPERIENCE

New technologies -- artificial intelligence above all -- seem poised to revolutionize the customer experience. We repeatedly read about job reductions as a result of technological evolution in services, but empirical evidence is really scant. "The BNP Paribas Chair in Marketing and Service Analytics aims to verify, through research, the real effects of these changes in the sector," says **Andrea Ordanini**, holder of the Chair since September 13, when he delivered his *Lectio Inauguralis*.

While there are examples of the effective introduction of new technologies, in some cases the impact is even counterintuitive, "especially when the important role performed by contact staff is not taken into account," explains Ordanini. For instance, specialists estimate that more than 50 million smart speakers will be present in consumers' homes at the end of 2018 (doubling since last year): considering the other devices that already allow the use of AI assistants, is it easy to imagine the interactions between customers and service companies, such as banks or retailers, are likely to change dramatically in the next few years. At the same time, several consultants predict a shrink in world workforce due to technology evolution: for instance, McKinsey predicts a drop of 15% in service jobs by 2030. However, some analysts suggest that such a shrinkage is likely to affect more office support jobs, while the jury is still out for customer interaction jobs.

With such a scenario, service managers face several challenges: how to redesign the proper customer experience, given the evolution of smart agents and bots? How could the role of contact personnel change? "Current empirical evidence on these phenomena is scarce and mixed. Also, the introduction of new technologies can have unexpected and even counterintuitive consequences," says Prof. Ordanini. His research group recently investigated the effect of the introduction of a digital solution in a fashion outlet. As customers spent much time in front of a counter, waiting for sales assistants to find the right size of their items, managers introduced a new system. Customers would pick a queue number and were free to roam the outlet until an electronic screen would call their number. Customers, the managers thought, would find new merchandise and sales would receive a boost.

On the contrary, sales contracted. While contact people took care of the queuing customers, proposing good matches for their items, people left alone to walk around with their number in their hands only paid attention to the screen, anxious about missing their turn.

"In this case, the efficiency payoff of the proposed technology did not match with the rich human interaction at the basis of the customer experience. But maybe, the situation would change in another service context characterized by a different customer experience," concludes Professor Ordanini.



VIDEO

Making Sense of the Customer Experience

BNP Paribas Chair in Marketing and Service Analytics Andrea Ordanini explains in this video how he aims to verify the impact of artificial intelligence on customers through empirical research.



#BocconiPeople **Anthony Bertelli**



When Economics M

How do democratic values translate into public policymaking? How can political-economic thinking make sense of the structures of public administration? These are everyday questions for **Anthony M. Bertelli**. He recently became Full

Professor in the Department of Policy Analysis and Public Management, coming to Bocconi from the Robert F. Wagner School of Public Service at New York University. "Bocconi is one of the best places in the world to think about social problems through a political-economic lens,"



Meets Public Administration

he says. “In the last few years, my work has become more and more comparative, so I am also interested in analyzing Italian institutions.” Being from an area of Western Pennsylvania that went through massive industrial decline in the 1980s, Tony was

surrounded by economic issues when finishing high school. “Understanding economics meant understanding what was happening in my community.” A first-generation college student, his father wanted him to do something practical, so he majored both in Economics

and Business at the University of Pittsburgh and then completed a master’s degree program in Economics at Pennsylvania State University. “Microeconomics was interesting, but not completely captivating to me, so I decided to go to law school. It was there that I

realized I was much more interested in the way policies are made than I was in practicing law.” He therefore applied for a PhD in Public Management and Policy at the University of Chicago. Tony found his research niche in analyzing the way institutions influence public policymaking. “I began focusing on the ways judges force administrative agencies to change their policies. In the United States, school desegregation or prison reform were largely done through courts”, he reminds. He broadened his research using a comparative perspective, focusing particularly on the United Kingdom and European countries, finding for himself “a very comfortable middle ground between political science and public policy and administration.” At the top of his agenda now is a book project about how democratic values such as accountability or participation are translated into the structure of public administration in different countries. He is also studying how private-public partnerships are structured. Professor Bertelli is Senior Executive Editor of the *Journal of Public Policy* and a member of the National Academy of Public Administration, an institution that gathers distinguished public administration practitioners and scholars in the United States. He is a second-generation Italian-American. “This is a good starting point to develop a connection with this country.”



A New Center of Excellence for Euro

Where do national jurisdictions end and where does the European Union jurisdiction begin? This is a recurring question in Eleanor Spaventa's research. A recently appointed Full Professor at the Department of Legal Studies at Bocconi

University, coming from the Durham Law School, she specializes in projects on European law, free movement of persons in the EU, fundamental rights, and Brexit. She is now back to Italy after spending twenty years abroad. "Bocconi offers the opportunity to work on

exciting projects and to interact with distinguished economists dealing with EU-related subjects. The idea is to create a center of excellence for the study of European law," she says. Had it not been for an ad she found in a library, Eleanor Spaventa's academic path would have

been different. That leaflet announced a vacancy at the University of Cambridge. After graduating in Law, she was looking for "a right middle way between the analytical and the humanistic disciplines that were fascinating me." She worked for a short period of time at a law firm in Rome.



European Law

“I wanted to experience the practical side of law. I realized I was not interested at all and went to Oxford for a PhD in European Law.” She taught at Cambridge for four years before moving first to Birmingham and then to Durham. Eleanor fell in love with European Law during the

master’s program. “I was especially interested in the idea that the EU is a totally new and extremely complex experiment that poses important questions. My first research interest was freedom of movement, which until the 1990s was the main topic in European Law. During the PhD, the debate on European citizenship broke out and became my focus, along with welfare and social inclusion.” She is also interested in fundamental rights within the EU. Eleanor Spaventa collaborates with UK and European institutions. She is a member of MoveS (formerly FreSsco), a network of experts in the fields of free movement of workers and social security coordination funded by the European Commission. She was part of the team asked by the Foreign Office to draw up a draft of the European constitution. She describes the experience as a quantum leap in her way of thinking about the European Law. Her more recent work deals with Brexit, “a lawyer’s dream, a citizen’s nightmare.” She is particularly concerned about the effects of the withdrawal of the United Kingdom from the EU on its most vulnerable citizens and on women. “Think of an Italian woman living in England. She is married with children to an English worker. If the family income is below a certain threshold, she will not be able to apply to stay in the UK under the current agreement. Women are particularly at risk of being excluded. Brexit has a gender effect.”

INFRASTRUCTURE FINANCE PROFESSOR GATTI FILLS ACADEMIC VOID AS INVESTMENTS GROW

If a global infrastructure gap is widely recognized -- some \$57 billion infrastructure spending is needed from now to 2030 -- the sector also suffers from an academic gap, due to the lack of a consolidated body of knowledge and the scarcity of articles published by major scholarly journals.

The Antin IP Associate Professorship in Infrastructure Finance, assigned to Stefano Gatti in February, aims at filling this academic void.

“The gap was much wider in the mid-1990s, when I started to tackle the topic,” recalls Gatti. “At that time, there was still not a great deal of interest from financial intermediaries and it was the developers themselves who wanted to understand how to finance major projects.” It was during this period when the World Bank, through its International Finance Corporation, increased its attention to infrastructure in developing countries. “The real turning point dates back to the end of the 2000s, after the financial crisis,” Gatti continues. “With falling interest rates and declining yields, a search for new asset classes was unleashed to ensure reasonable returns with not-unreasonable risks, and thus large private equity and private debt funds entered the infrastructure world. Therefore, I continued to study project financing for infrastructure, but the characteristics of these techniques, now needed to finance what governments are no longer able to finance, have changed markedly with the entry of large financial operators.”

Historically, infrastructure assets have been considered among the safest in the universe of alternative investments. The infrastructure sector is a regulated industry, where high barriers to entry and an often rigid demand have long been factors enabling investors to benefit from stable, long-term cash flows. The ultra-expansionary monetary policy put in place by central banks over the last few years, and the consequent squeezing of returns, have renewed the interest of financial markets for this asset class.

“Investors and asset managers, however, are increasingly attentive to major changes that are going to affect the industry in the coming years. Such megatrends will significantly impact this alternative asset class. One of them is the demographic shock taking place globally. Current changes in global population trends will have a significant impact on the spending in infrastructure: on the one hand, youth (millennials and younger) is growing as a percentage of total population in emerging economies and this spurs infrastructure investment. On the other hand there is the progressive ageing of mature economies (resulting in the so-called silver society) which discourages it,” says Professor Gatti.



VIDEO

The Future of Infrastructure In his Lectio Inauguralis as the Antin IP Associate Professor in Infrastructure Finance, Stefano Gatti outlines sector megatrends for the next 15 years, like population growth, urbanization and environmental awareness.



PLAYLIST OF BOCCONI RESEARCH/1



VIDEO

Now You See It, Now You Don't Caglio looks at communication strategies in corporate reports.



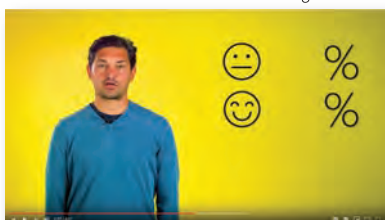
VIDEO

How to Solve the Productivity Puzzle Ottaviano helps understand the post-crisis slowdown.



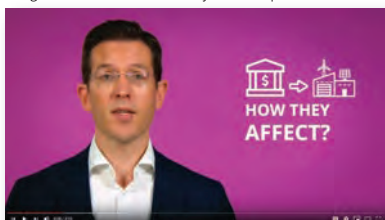
VIDEO

How to Explain Irrational Behavior in Finance and Economics Gennaioli's insights.



VIDEO

Institutional Investors as a Force for Good Wagner finds this is true only for European investors.



Peter Pope is a staunch supporter of the idea that, contrary to conventional wisdom, Accounting can be fun. "It influences many decisions relevant to our everyday lives - wherever there is a financial performance dimension there is an accounting story," he says. Ask for an example and he will talk about the accounting techniques that wealthy owners use to pump money into their football teams and navigate around the rules of financial fair play. Professor Pope is a newcomer at the Department of Accounting of the Bocconi University, coming from the London School of Economics. His current research aims to understand the interface between financial reporting practices and investment strategies. And, yes, he did some work in the area of the regulation of football. Peter Pope was born in Blackpool, in northwest England. At school he specialized in Math and Physics and went on to study Civil Engineering. "But I found I was spending too much time out in the cold Yorkshire weather doing old-fashioned survey field work. So I eventually switched to study Accounting and Economics and later took up a management accounting job in industry before going back to post graduate studies at Lancaster University." His first full professorship appointment was at Strathclyde Business School in Glasgow at the age of 30 and later he moved to Lancaster University, staying for 17 years, then to Cass Business School and, since 2013, the London School of Economics. He has also been visiting professor at the University of

#BocconiPeople Peter Pope

Looking at through a S

California at Berkeley and the Stern School, New York University. His PhD is from Lancaster University, and he is a qualified management accountant (FCMA), the Academic Coordinator for the Institute of Quantitative Investment Research and a Fellow of the Academy of Social Sciences. His research lies at the intersection between Accounting and Finance. "Accounting is a multidisciplinary area of study," he says. His work focuses on the assumptions made by accountants in translating the economic reality into accounting numbers. He is currently working on the role of financial reporting quality for equity and bond markets. "I am interested in identifying the footprint of risk in accounting



Accounting Social Sciences Lens

numbers and the implications for quantitative investors. Many of the inputs to investors' decisions come from accounting numbers, and investors who understand accounting have an advantage."

As an example, he quotes the accounting for Research & Development expenditures. This is a risky activity for companies: the payoffs can be high, but very often R&D is unsuccessful. "Because the payoffs are so uncertain, accountants record research expenditure as an expense in the income statement, rather than capitalizing and recognizing an asset on the balance sheet. This despite the fact that on average R&D creates values for companies and their shareholders." This is the kind of inconsistency between the accounting and

economic realities that Professor Pope delves into. A further example that creates challenges for investors if they do not understand accounting principles is the accounting for news about future prospects. "We might say that accountants are gloomy," he says with a grin. "When a company suffers bad news, for example a reduction in consumer demand for its products, accountants recognize the bad news immediately, the assets on the balance sheet are impaired and profit is reduced immediately. On the other hand, if the news is good, accountants do not recognize the good news in profits until future sales are realized, possibly many years later." Professor Pope supports the Everton football club in Liverpool – his exact words are



FIND OUT MORE

→ **Kevin Aretz, Peter F. Pope**, "Real options models of the firm, capacity overhang and the cross-section of returns," in *Journal of Finance*, 73.3 2018, pp. 1363-1415.

→ **Sonia Konstantinidi, Peter F. Pope**, "Forecasting risk in earnings," in *Contemporary Accounting Research*, 33:2, 2016, pp. 487-525.

→ **Annita Florou and Peter F. Pope**, "Mandatory IFRS adoption and institutional investment decisions," in *The Accounting Review*, 87(6), 2012, pp.1993-2025.

→ **Peter F. Pope**, "Bridging the Gap between Accounting and Finance," in *British Accounting Review*, 42(2), 2010, 88-102.

→ **Kevin Aretz, Sohnke Bartram, Peter F. Pope**, "Macroeconomic Risks and Characteristic-based Factor Models," in *Journal of Banking and Finance*, 34(6), 2010, 1383-1399.

→ **Peter F. Pope, Martin Walker**, "International differences in the timeliness, conservatism and classification of earnings," in *Journal of Accounting Research, Supplement*, 1999, pp.53-87.

"I have had the misfortune of being a lifelong Everton supporter, living in the shadow of Liverpool FC and with many more bad years than good ones to remember." The accountant in him remembers when Wayne Rooney was sold to Manchester United in 2004. "At the time, he was not on the balance sheet of Everton F.C. having been with the club since he was a schoolboy," he says. "Overnight he turned into a 27 million pound asset on the balance sheet of the Manchester United. The same occurs in mergers & acquisitions. Homegrown value is missing from the balance sheet of a company, but it ends up on the balance sheet of the acquirer when the company is the target in a successful M&A deal." Professor Pope is a senior editor of the Journal of

Business Finance & Accounting and has served on the editorial board of many international journals, including the Journal of Accounting Research and The Accounting Review. He has published widely in both accounting and finance journals. He received the Best Paper Award 2004-2008 from the Financial Reporting section of the American Accounting Association for "Which Approach to Accounting for Employee Stock Options Best Reflects Market Pricing?". He says, "I look forward very much to working at Bocconi. This is the perfect place to look at Accounting through the lens of social sciences. The university recruits high quality students and there is a lot going on. Milan will be a delightful place to live and work in."

A hands-on training for students in digital analytics and a stream of research on social media and social networks, search engines and e-commerce. This is the knowledge that Michael Trusov recently brought to Bocconi University, coming from the University of Maryland, Robert H. Smith School of Business. “I see Bocconi as an excellent place to develop new research projects, expand academic collaboration network, and establish new industry connections.”

Born and raised in Latvia, Michael Trusov studied Computer Science and Information Technologies at the Riga Technical University. He never thought of Marketing as his career. Hence, when he decided to go back to school after spending a number of years working in the software development industry in Southern California, his initial focus was on Computer Science. “However, from sharing my academic interests with several Computer Science and business school professors, I realized that for the type of research that fascinated me the most, marketing might actually be a better fit. It naturally suited my research passion that encompasses technology, human behavior and business.”

Timing was perfect. Internet marketing was at the early stages of development and carried the promise of opening up many exciting research opportunities. “Coming from the industry where I was involved in developing online applications, I joined a PhD program with a clear idea that

#BocconiPeople *Michael Trusov*

Giving Hands-on Training in Digital Marketing Tools

I wanted to study how people use and interact on the Internet.” He got his doctoral degree from the University of California, Los Angeles and joined the University of Maryland in 2007 as an Assistant Professor of Marketing. In 2013 he was promoted to Associate rank. Professor Trusov’s publications earned him

several awards, including the prestigious long-term contribution William F. O’Dell Award and the Paul E. Green Best Paper Award. As an empirical modeler, he works on social media, search engines, social networks, clickstream, electronic word-of-mouth, e-commerce, recommendation systems, online reviews,

user-generated content, text analysis, eye-tracking and data mining.

“My research contributes to the field by providing substantive and methodological insights that help in solving challenging problems faced by digital marketing professionals.” His first academic publication in the digital



FIND OUT MORE

→ **Yuchi Zhang, Michael Trusov, Andrew T. Stephen, Zainab Jamal**, *Online Shopping and Social Media: Friends or Foes?*, in *Journal of Marketing*, Vol. 81, No. 6, 2017

→ **Michael Trusov, Liye Ma, Zainab Jamal**, *Crumbs of the Cookie: User Profiling in Customer-Base Analysis and Behavioral Targeting*, in *Marketing Science (special issue on Big Data)*, 35(3), 2016

→ **Michael Trusov, William Rand, Yogesh V. Joshi**, *Improving Pre-launch Diffusion Forecasts: Using Synthetic Networks as Simulated Priors*, in *Journal of Marketing Research*, December, Vol. 50, Issue 6, 2013

→ **Michael Trusov, Anand Bodapati, Randolph Bucklin**, *Determining Influential Users in Internet Social Networks*, in *Journal of Marketing Research*,

marketing domain was motivated by a question posed by the manager of a popular online social networking site: what is the dollar worth of a word-of-mouth-referral to the firm? “Searching for the answer opened up several other academically interesting questions on how firms can measure the effects of word-of-mouth communication and how it compares to other forms of marketing communication.” He later focused on the mechanisms through which the social networking sites keep their customers engaged. “From a managerial perspective, understanding who keeps the social networking site attractive – specifically, identifying those users who influence the site activity of others – is vital.” He proposed a technique for discovering latent characteristics of the unobservable network of consumer interactions, showing that these characteristics can significantly improve a product’s pre-launch

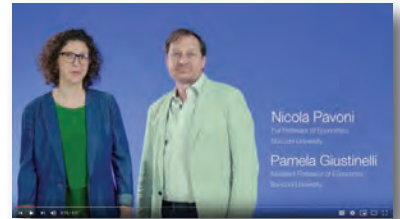
forecasts. He also researched digital profiling and advertising, search engine marketing, and the mechanisms through which consumer-generated product reviews influence firm’s sales. His most recent topics of interest are Internet of things, artificial intelligence, and online privacy. Michael Trusov first came to Bocconi in 2015 as a Visiting Professor. He is currently teaching Web and Social Analytics and Marketing Analytics. “Since my first days as an Assistant Professor I was fortunate to teach almost exclusively on the topics which perfectly align with my research interest. This allows me to incorporate recent developments in the academic world into my classes. I try to create value for students by providing a hands-on training in digital marketing tools, methods, and technologies, while keeping a big picture perspective on how these all fit into business strategies employed by leading digital firms.”

PLAYLIST OF BOCCONI RESEARCH/2



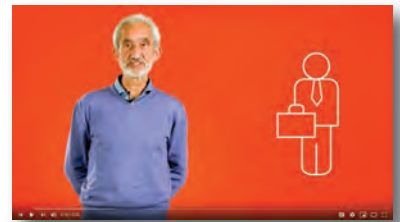
VIDEO

How We Choose a High School Pavoni and Giustinelli help avoid potential cognitive mistakes.



VIDEO

Why Globalization Starts With Strong Local Ties Redondo says global trade is rooted in trust.



VIDEO

Harvesting Value from Brokerage Soda and Tortoriello look at workplace interpersonal dynamics.



VIDEO

How Independent and Minority Directors Enhance Transparency with Marco Ventoruzzo



The Roman philosopher Seneca once wrote that each individual belongs to two republics. The first one includes gods and human beings, the second is that in which the circumstances of our birth have enrolled us. Professor Roger O'Keefe knows this paragraph of "De otio" very well. An international lawyer who has published on topics of international criminal law and international cultural heritage law, he likes to explore the points of contact and tension between the global and the local, the universal and the specific. He is incoming Full Professor of International Law at the Department of Legal Studies at Bocconi, coming from University College London. He was born and raised in Australia. "My family started out on the wrong side of the law," he says. "My father's ancestors in fact were sent as prisoners from Ireland to Australia. But my father served as a judge. Nothing is predestined."

In Australia, extra training is required alongside a Law degree. Roger O'Keefe, who was born in Sydney in 1968, did not choose Economics as many colleagues did. He opted for History and Italian. "I used to travel a lot with my family. We did these long trips to Europe during the Australian summer. I adored Italy and I wanted to speak your beautiful language. It was a completely uninstrumental choice which proved unexpectedly useful." The young O'Keefe was interested in what he calls the legal way of thinking,

#BocconiPeople Roger O'Keefe

Putting Bocconi Legal Studies Dept on the World Map



FIND OUT MORE

- ➔ *The Protection of Cultural Property in Armed Conflict* (Cambridge University Press, 2006)
- ➔ *International Criminal Law* (Oxford University Press, 2015)
- ➔ *Universal Jurisdiction: Clarifying the Basic Concept*, in *Journal of International Criminal Justice*, Vol. 2, Issue 3, pp. 735-760, 2004.
- ➔ *The Doctrine of Incorporation Revisited*, in *British Year Book of International Law*, Volume 79, Issue 1, pp 7-85, 2009.
- ➔ *Curriculum vitae: A Prequel*, *Current Legal Problems*, Volume 69, Issue 1, pp. 1-27, 2017.

which he sees as a form of play within a framework of freedoms and limitations. "Then, in my fourth year, I discovered international law. In Australia we put emphasis on it because we feel we are – to use the colorful words of one of our prime ministers – at the 'arse end of the world.' There is a sense that everyone else knows much more than us and we have to keep pace with them." At first, Professor O'Keefe did not plan to pursue an academic career. He was working at a law firm when

a secretary asked him to assign her something to do. He gave her an essay he wrote to type. It was eventually published by a leading UK law journal. “Maybe I am good at this,” I thought.” He moved to England to do a Masters and a PhD in International Law at the University of Cambridge. He taught there for “fifteen exciting years.” In 2014 he moved to University College London. In his inaugural lecture, available on YouTube, he told the tale of Dionisio Hans Georg Hans-Georg Salamander, an entertaining story of an academic international lawyer. It mixed law, history, philosophy and fantasy with a witty sense of humor. “I love performing,” he admits. “My uncle Johnny O’Keefe was the Elvis of Australia, an old school rock star who appeared with Little Richard. One brother is a TV personality.” At one point, Salamander says that international law is a conversation. “It is a discursive process that involves States, courts and academics. That is what makes it so fascinating.” Professor O’Keefe has a variety of research interests inspired by a concern for the point where the local meets the global, where the national meets the international. The subject involves complicated political questions. He is interested, for instance, in the right of the International Criminal Court to force States to act unlawfully in relation to other States. Another strand of research is the international law of cultural heritage. What rights does a

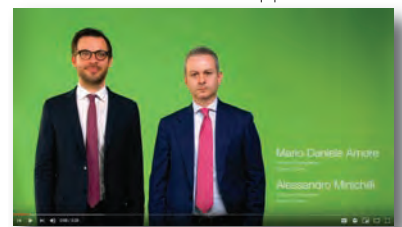
state have over artifacts that are valued by the global community? And what interest does the global community have in their protection? “Most recently, I was in charge of an international team that put together for UNESCO a military manual for soldiers deployed in culturally rich areas, like Mali.” In Milan, Professor O’Keefe will teach Law of International Organizations and intends to turn his research to the role of cities in international law. “Local municipalities now have their own ‘diplomatic’ departments that engage with questions like climate change and human rights, yet international law is still framed around States,” he says. He was attracted by what he calls the entrepreneurial spirit of Bocconi. “Having passed 15 years in an institution 900 years old that moves slowly, I found the internationalization process going on in Bocconi very exciting. I look forward to contributing, alongside my colleagues, to putting the Department of Legal Studies on the world map.” O’Keefe is on the editorial board of several scientific journals, has given evidence before British and European institutions, and has contributed to the United Nations Audiovisual Library of International Law. “This is all part of the ongoing conversation that is international law,” he says. Passionate about swimming, he has already discovered the Bagni Misteriosi in Milan. “Going to swimming pools is a great way to know a city,” he says.

PLAYLIST OF BOCCONI RESEARCH/3



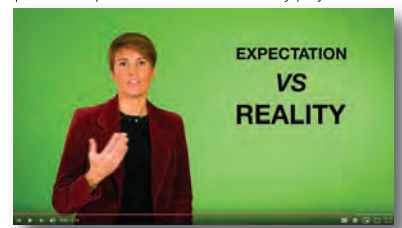
VIDEO

Sacrificing the Firstborn in a Family Firm
Amore and Minichilli find it can help performance.



VIDEO

Happy Fathers, Fatigued Mothers Balbo explains how parental satisfaction actually plays out.



VIDEO

How Turkish Welfare Policies Bring Children
Billari tells how Turkey halted demographic decline.



VIDEO

How the EU is Exporting its Policies via Bilateral Trade Agreements With Dordi and Borlini.



by Nicolai Foss - Research storytelling by Claudio Todesco @

Entrepreneurship G

Entrepreneurs have long been the missing piece in social science research, but this is changing



oes beyond Startups

g. We now need to understand the company-level drivers of entrepreneurial ideas

On October 8, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2018 was awarded to Paul Romer for his contributions to what is often called the “New Growth Theory.” (Romer shared the Prize with William Nordhaus). The Prize Committee explained its reasons for picking Romer in the following way: Romer demonstrates how knowledge can function as a driver of long-term economic growth. When annual economic growth of a few per cent accumulates over decades, it transforms people’s lives. Previous macroeconomic research had emphasised technological innovation as the primary driver of economic growth, but had not modelled how economic decisions and market conditions determine the creation of new technologies. Paul Romer solved this problem by demonstrating how economic forces govern the willingness of firms to produce new ideas and innovations.

→ A MISSING PIECE

While Romer’s Nobel Prize is no doubt fully deserved, it can be argued that one key factor is missing from his account of “how economic forces” influence “new ideas and innovations” -- namely, entrepreneurship. After all, it isn’t really “knowledge” per se that functions “as a driver of long-term economic growth.” Rather, entrepreneurs see possibilities in commercially leveraging what happens at the expanding knowledge frontier.

Those entrepreneurs whose judgment indicates that such knowledge may be profitably deployed towards producing new goods or services or using the knowledge directly in production have a strong incentive to do so. However, intuition (as well as a huge body of research) also suggests that entrepreneurs differ in ways that have implications for the extent to which new knowledge is noticed and put to good commercial use.

Intuition (and, again, research) also suggests that the institutional matrix of an economy also plays a key role here, notably by incentivizing or discouraging entrepreneurs to exploit the relevant knowledge. And, as entrepreneurs are usually embedded in (existing or start-up) companies, key aspects of companies also influence the extent to which entrepreneurs will and can act on possibilities for profitably deploying new ideas to commercial uses.

In other words, entrepreneurs, acting under institutional and organizational constraints and enablers, are the missing piece in the knowledge-and-growth puzzle. I deliberately say “missing,” for if truth be told, the



NICOLA FOSS
Rodolfo Debenediti
Chair of Entrepreneurship
at Bocconi University

entrepreneur has been missing from much social science research, in spite of his or her centrality in driving economic dynamics. The late economist William Baumol spoke of “playing Hamlet without the Prince of Denmark” (i.e., the central character is missing!). By way of example, there has not, so far, been a Nobel Prize for entrepreneurship research.

→ THE ENTREPRENEUR

However, research in entrepreneurship has been booming over the last few decades (including in economics), as new chairs and programs are created and huge funds are put into entrepreneurship programs, in response to demand from corporate and public-sector decision-makers. As is typical of an emerging scientific field, knowledge is, however, quite fragmented and tends to accumulate within silos defined by disciplines. For example, economists tend to think of entrepreneurship as self-employment. Many management scholars associate it with startups and the creation of a new organization. Psychologists highlight the psychological profiles of entrepreneurs. Sociologists stress how entrepreneurs are embedded in networks that provide access to resources, including advice. Within these fields are further divisions. For example, in management research, at least four distinct approaches exist, namely the “opportunity recognition,” “creation,” “effectuation,” and “judgment-based” views.

The most general view of the entrepreneur probably is that he or she is a decision-maker who exercises judgement over scarce resources in a state of uncertainty in the hope of making a profit by satisfying customer/consumer preferences in the future. Executing such judgment requires having the support of organizational infrastructure and investments in complementary assets (production, sales, marketing). The extent to which such judgement will give rise to actual action and investments depends on institutions and policies. The broader point is that entrepreneurship does not always involve forming a new company. It is fundamentally a particular kind of behavior—forward-looking, uncertainty-bearing, and profit-seeking. This behavior can be exercised not only by startups but also by established companies.

→ ENTREPRENEURSHIP THEORY AND POLITICS

The latter point is an important one. For virtually all of



THE INCUBATOR

Speed MI Up A workshop developing expertise by offering training from Bocconi professors and ongoing business reviews made by qualified advisory boards, as well as physical work spaces and networking.



RESEARCH CENTER

ICRIOS Research Center at Bocconi carries out research on innovation, organization, strategy and entrepreneurship aiming to influence the academic debate and outcomes.

what we call “entrepreneurship policy” is oriented towards startups. Somehow, in the minds of public decision-makers, the vitality of the economy has become associated with startups. This may be problematic. Virtually all startups die again, and very quickly. They create relatively few jobs. Their productivity is much lower than more established companies. Much entrepreneurship policy may be a waste of resources. Indeed, only a tiny fraction of startups succeed. Some of these become engines for jobs, value creation, and growth. But this suggests we should be directing the research attention beyond startups.

Thus, much more research attention needs to be devoted to the entrepreneurial behaviors of established companies. There is, of course, much attention paid to innovation, but entrepreneurship is a broader behavior and is not narrowly about product or process innovation. In particular, we need to become better at understanding the company-level drivers of entrepreneurial ideas and how these get transformed into actual actions and investments, and what roles organizational structure and controls play in this process. This will allow us to better link the company-level component to research such as Romer’s Nobel-prize winning contributions. Entrepreneurship is an exciting and important area. However, it is vital that it is not confined to a narrow silo, solely preoccupied with startups and self-employment. ■



THE EVENT

Bocconi Startup Day is now entering its fourth year. It gives young entrepreneurs a chance to compete for the prize of Best Startup, and to hold one on one meetings with potential investors.



Good Business Plan not Enough for Success

Market changes can derail the best-laid business plans. To succeed as an entrepreneur, Bocconi alumna De Tonnac advises self-awareness, the right partner and passion

by Jennifer Clark @

Alisée de Tonnac is CEO and Founder of Seedstars World, a global startup competition started in 2013 that helps entrepreneurs in emerging markets get started. Born in France, she graduated the Bocconi with a Masters in International Management in 2010. She has been nominated Social Entrepreneur Forbes 30 under 30 and as an Innovation Fellow of Wired UK.

→ You did a Master in International Management at Bocconi from 2008 to 2010. How did that help you start your career?

It helped because the job placement network at Bocconi helped me find my first job, at L'Oréal. It was on online portal and we could see the announcements. I answered, and I got the job.

→ Did the degree later help you in becoming an entrepreneur?

The Bocconi brand certainly helped at the start. And now I really can see that the courses helped too. When I was in class, it was all theoretical at the time. Now I understand what we were talking about when we studied cash flow, brand values and things like that. It would have helped if I were doing it simultaneously with the startup. One of my co-founders did the course as he was building up the business.

→ Anything else in the Masters that was useful?

We did have an entrepreneurship course, even though today I would not say the business plan would come first!

→ Why do you say that?

You can't really see your product at five years out and then at seven years out. The market doesn't work like that. The market does not fit into a five-year plan. You have to fit the market and tweak your plan as you move along. A good business plan does not guarantee success.

→ But you do need one, right?

Yes! But it's not because you have the plan that you succeed.

→ Do you have advice for entrepreneurs starting out today?

It is very important to understand what type of person you are. I am not comfortable if you give me a blank sheet of paper where you build from scratch. I am comfortable with scaling up. So when you know your comfort zone, you can pick the right team to support you.

Then, secondly, align yourself with the values. It is so much more important to find the right partner. Do you have the same vision of work? How much work? The same principles? This is what makes the difference, day in and day out.

Because you will have a lot of long days, and a lot of stretches where nothing much happens.

Then, thirdly, find something you are passionate about. I think that the word is overused. But it needs pointing out.

→ Are startups different today from when you began five years ago?

I don't believe that's the case. One thing I can say is I believe the voice of the Millennial generation is becoming louder and louder. Looking at studies, the Millennials starting out now as leaders have a strong sense of doing well by doing good. So I am very optimistic about this.

→ Did you ever find it difficult being an entrepreneur as a woman?

No, it has never been an issue. Maybe that's because in my family we didn't distinguish. So I simply didn't pay attention. Now that I am a manager, I find at the start that I had an unconscious bias and I am working on that. I see that women tend to under-sell themselves.

→ Why did you leave L'Oréal for the startup? Did you feel stuck in a rut?

I knew my partners from university. I felt I was in a separate work world from people who were deciding for themselves each day what they want to do, and it was frustrating. I left L'Oréal to join them. It was an easy decision, because I was 24. I had no real responsibility. That is compared to others who make the choice against family and community. It is not the same thing.

→ Let's talk about Seedstars, which is a global entrepreneurship competition selecting the best ideas, held each year. What do you look for in an idea?

We're actually looking for more than an idea. They have already done a fund raising. They have a unique selling point already. So it comes down to the team. Are they right to grow the business over the next 5 years? We try to start early and can invest as little as \$15,000. We can go up to \$500,000. The amounts invested don't necessarily make the difference. In some cases what they need are people or access to markets.

→ How do you tell if the team is right?

By looking to see if they have complementary skills, a track record as a team, and how they look at their strategy. It takes time to understand.

→ What sort of trends are you seeing in the startup world?

We see a lot of fintech and insurtech. Education and health care. In some markets where there haven't been tech changes, we are seeing leapfrogging where new technologies can be adopted more quickly. So all the major sectors that have a strong sustainable impact on the ground. ■

ALISÉE DE TONNAC
Bocconi Alumna and
Founder of Seedstars
World



ANDREA COLLI Creating an Identikit of Entrepreneurs from 1850 to Present

A few years ago, Andrea Colli was contributing to a biographical dictionary of Italian entrepreneurs, when he had the idea of using Quantitative Prosopography to analyze



the biographies of world businessmen to identify the qualities of a successful entrepreneur. The project is currently self-financed and carried out with the help of some Bocconi students. The database features entrepreneurs in Europe and North America from 1850 to the present. "The entrepreneurial dictionaries are not written following scientific criteria, but they have two positive features: they are similar to each other and offer a

good overview of business histories in different contexts," says Colli, Head of the Department of Social and Political Sciences. The biographies have been summarized in a database with around 90 variables ranging from education to kinship to political connections. Multiple regression models were used to understand which variables are most relevant in explaining three types of entrepreneurial success: economic success, fame, social mobility. "Our first result is somehow surprising: a high level of education is not necessary for success. After all, an entrepreneur with a low level of education tends to be more risk willing and is more likely to climb the social ladder." It is no surprise that in Italy, France, the US, England, Scotland and Spain, entrepreneurs participating in politics or having family members involved in politics are more successful than the average. "It is an intuitive fact, but it is also measurable," Colli says. "Successful entrepreneurship is a mixture of luck, energy and the will to create."

ANDREA COLLI
Head of Department
of Social and Political
Sciences at Bocconi

ALESSANDRA CASARICO The Key Role of Taxation Regimes for Startups

Well-designed taxation schemes are a way to stimulate entrepreneurship, according to the 2017 report delivered by the Carlo F. Dondena Centre for Research on Social Dynamics and Public Policy (see below). It was presented at the EU Commission-IMF Fiscal Affairs Department conference on "Taxation, investment and innovation: a triptych for balanced growth" in Brussels. The authors highlighted three main policy options. First, governments may incentivize entrepreneurs to take risks by reducing the asymmetric tax treatment of gains and losses. In the case of startup companies that do not have enough income, the report says, "innovative solutions such as the possibility to match losses with taxes other than income tax, or even to transfer and negotiate tax credits, could be tested." Second, the costs of entrepreneurial activity may be reduced by allowing the deduction from the corporate tax base of the imputed cost of equity. Third, a reduction in capital gains taxation may help small



firms that have limited access to venture capital funds. "A reduction in such costs by targeting specific features of the tax system should be part of a reform strategy. Tax compliance costs for small firms can be reduced also by a system-wide digitization of the tax system," says Alessandra Casarico, Associate Professor of Public Finance and Coordinator of the Welfare State and Taxation Unit of the Dondena Research Centre.

SIMONE SANTAMARIA
PhD Candidate at Department
of Management and Technology
at Bocconi

DIEGO UBAL
Assistant Professor
at Department
of Economics

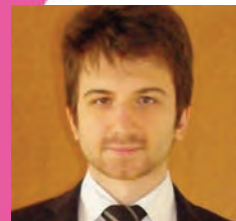
ALESSANDRA CASARICO
Associate Professor
of Public Finance
and Coordinator
of Welfare State
and Taxation Unit
at Dondena Center

SIMONE SANTAMARIA Figuring out Best Growth Model for Businesses

An entrepreneur can grow his business by increasing the size of his company (company growth) or by creating other companies (business group growth). What is the best way to do it? Simone Santamaria, PhD candidate at the Department of Management and Technology, gives an answer in his working paper "Company growth or business growth? Business group formation as a strategic growth option."

He argues that the creation of new companies is a wise strategy. "In a business group growth model an entrepreneur can more easily attract external resources to his non-core business activities, thus reducing the risk of losing control of his firm." Simone Santamaria has tested this hypothesis on 4,000 Italian entrepreneurs featuring data on the creation of new businesses and their growth. The entrepreneurs who opt for business group growth experience a faster growth. It is easier for them to attract external resources and create partnerships.

This effect is stronger in Italian regions with a higher rate of litigation. This growth pattern is most frequently used when there is a narrow choice between different ways of financing the business. "The paper provides a formal model that shows which growth pattern is more advantageous than others and when. Italy's market is characterized by a lack of large firms. This study argues that a possible reason is that entrepreneurs use these strategies for minimizing risk."



DIEGO UBAL A Small Fee for Business Training Improves Course Attendance

A vast amount of money is spent every year subsidizing free business training programs in developing countries. Their effectiveness is unclear. Diego Ubal, Development Economist at the Department of Economics, is studying this question with co-authors. "Most of the experiences of business training focuses on encouraging entrepreneurs to adopt good business practices," he says. The researchers conducted an experiment in Jamaica and found that programs focusing on soft skills have larger effects on personal initiative, profits and sale, but only in the short run. After 12 months, without any form of mentoring, the effects disappear. The authors asked whether charging for the programs would encourage attendance, more effort, adoption of the recommended practices. They conducted another experiment in Jamaica. They elicited the willingness to pay in a incentivized way and then randomly varied the price charged for the program. The training was eventually provided only to micro-entrepreneurs whose willingness to pay was bigger than the price randomly assigned. By doing so, the researchers were able to assess the real willingness to pay and to test whether those who pay for the course are the ones who benefit more from it. The problem is that some people did not show up to pay. So, when they moved the experiment to Mexico, the researchers asked people to sign a commitment to pay and leave a deposit. "Now, we are collecting the follow-up survey to check the training effects, but we already have some results on attendance. Charging partially reduces the number of participants, with lower participation rates at a higher price, but it increases attendance at courses. Only 59% of people who were offered the program for free attended at least 5 classes (out of 10). This figure rises up to 90% among those who purchased the course at 50% of its cost. This could be important. Since most of these programs are offered for free by NGOs, making people pay at least a part of the cost would help these organizations to achieve sustainability."



THE PAPER

"Literature review on taxation, entrepreneurship and collaborative economy" led by the Dondena Center with CASE, IEB and PwC outlined ways to support startups through tax reforms.

MARIO AMORE Family Ownership Helps Cope with Political Uncertainty

The nexus between uncertainty and firms' investment policies has been discussed at length in literature. Uncertainty is considered detrimental for investments because it increases the benefit of delaying irreversible decisions. Are there exceptions to this rule? Does family ownership shape the relationship between uncertainty and investments? This is the question that Mario Daniele Amore and Alessandro Minichilli addressed in "Local political uncertainty, family control, and investment behavior," recently published in the *Journal of Financial and Quantitative Analysis*. Policy uncertainty is shaped by the electoral cycle: it spikes at every new election and tends to recede once the winning party clarifies and implements its policies. "Most of the literature so far has been concerned with national elections. We focused on regional elections instead because local politics can be a much more important arena for small and medium-sized enterprises," Mario Amore says. "We found out that political uncertainty leads to declining investment, but also that family control neutralizes this effect." The family firms better-equipped to invest during uncertain times are the ones that are highly reliant on public demand and/or are managed by family members. Why does this help deal with uncertainty? "First: family-centric firms are less sensitive to uncertainty because their owners are more adept at establishing connections with the political system. Having access to information and being better positioned to deal with the political system enables them to navigate through uncertainty. Second: family firms usually invest for the long term which may even exceed the lifespan of the current owners. This attitude makes them less sensitive to temporary uncertainty, and it translates into significantly greater profitability and growth once the uncertainty is over."



MARIO DANIELE AMORE
Associate Professor
Department
of Management
and Technology

CHIARA SPINA
PhD Candidate
at Department
of Management
and Technology



THE PAPER

"Local political uncertainty, family control, and investment behavior" by Amore and Minichilli shows that local political uncertainty reduces investment, and family control can offset this.

ARNALDO CAMUFFO Entrepreneurs Who Act Like Scientists Get Better Results

Entrepreneurship theory and practice emphasize the role of intuition, individual characteristics and chance in determining the business outcome. What happens if the entrepreneur acts like a scientist and chooses to articulate a theory, develop hypotheses, test them, and critically evaluate the results? Arnaldo Camuffo, Alessandro Cordova, Alfonso Gambardella, and Chiara Spina tackled this question in "A Scientific approach to entrepreneurial decision-making: evidence from a randomized control trial," a paper that was recently accepted for publication in the journal *Management Science*. The study was conducted in

2016-17 at Bocconi University and ICRIOS (Invernizzi Center for Research in Innovation, Organization, Strategy & Entrepreneurship). The authors split a hundred Italian startups into two groups. Both were treated with the same training programs, but only one group was taught to rigorously apply the scientific approach to business decision making. "We showed that entrepreneurs who behave like scientists perform better," Camuffo says. "They earn more revenues and pivot to a greater

ARNALDO CAMUFFO
Full Professor
at Department
of Management
and Technology
at Bocconi

CHIARA SPINA Experimental Decision-Making Approach Attracts Funding

When you are an early-stage entrepreneur, you should inform potential resource providers that you used an experimentation-based approach to decision-making. They may be more inclined to invest in your business. This is the preliminary result of an ongoing study by Chiara Spina, PhD Candidate at the Department of Management and Technology and Charles Williams, strategy scholar at Bocconi University. A growing number of entrepreneurs engage in experimentation activities in early-stage projects. Even though existing literature has focused on the benefits of this approach, the reaction of investors to the description of experimental activities has been overlooked. To investigate this issue, the authors performed text analysis on the descriptions of 54,377 projects launched and concluded on Kickstarter from March 2016 to February 2017. "We created a dictionary of words that signal experimental activities (experimental approach) or of the careful planning of each step of the process (planning approach) or none of the above," Chiara Spina says. After accounting for the effect of a number of other variables (credentials, goal



amount, length of funding period, number of Facebook friends, etc), they found that entrepreneurs that describe experimental activities are 41% more likely to achieve their funding goal than those who do not describe activities related to create their product/service. Entrepreneurs who described planning-related activities are also more likely to achieve funding than those who do not describe activities, but to a lesser extent (27% increase in likelihood). The effect is stronger for entrepreneurs at their first or second project.



THE PAPER

"A scientific approach to entrepreneurial decision-making" by Camuffo, Cordova, Gambardella, and Spina found that a scientific approach to decision-making improved startup performance.

Avocado Toast Leads to Hot Brooklyn Startup

Focus on a viable and demonstratable concept before searching for investors, Bocconi alumnus and Avocaderia founder Alessandro Biggi tells new entrepreneurs

by Jennifer Clark @

Though the connection is not so obvious, the trendy Brooklyn eatery Avocaderia was actually “Made in Bocconi” back in 2006. That’s when Avocaderia partners Alessandro Biggi and Francesco Brachetti met and became best friends as undergraduates. Their startup “avocado bar” opened its doors in April 2017, and was packed on its very first week. In November they announced their third New York location, and are eyeing expansion to new cities.

“The university experience at Bocconi was 360 degrees, it went beyond academics to relationships and building a network,” says Alessandro Biggi, 31, in an interview with ViaSarfatti25. “We organized everything from parties to a small investment fund to test out the stock market.”

Biggi’s first experience with entrepreneurship came when he was at high school in his home town of Modena, where he created and sold a t-shirt brand called “Be Natural” from his desk as a science student.

“I liked the idea of building a brand and working with people at my high school,” he says. “I’ve always been fascinated by starting my own business and wanted to do it.”

After a year in a finance job at JP Morgan starting in 2010, he worked briefly at Boston Consulting Group, where he created a mobile photo-editing app called Mashup. With the Mashup team he started 20Lines in 2012, an app that lets users and writers share “snackable” short stories which was selected for H-Farm Ventures incubation program. Biggi soon had to quit his day job at BCG. The startup raised a total \$800,000 from venture capital funds before the founders sold it to Harper Collins in 2016.

After the sale of 20Lines he went to run another startup, Zooppa, in 2016, an online agency where creatives from around the world produce content, mostly video, for large brands. He now serves as Zooppa CEO in addition to handling people management, branding and communications at Avocaderia. He restructured Zooppa by adding a new business line, Z Production, a platform that brings

together professional directors curated by Zooppa with corporate clients looking for the next viral video. Zooppa now has 400,000 users and it has worked with brands including Nestle, Reebok, Fiat Chrysler Automobiles, P&G and Viacom. It has offices in New York City, where Alessandro lives, and in Los Angeles, Venice and Milan.

“What’s interesting is at Zooppa right now I get to work with marketing majors who were with me at Bocconi, so this is another example of the network that Bocconi provides,” he says.

The idea for Avocaderia grew out of Biggi’s experience living in Seattle when he started at Zooppa.

“The real story is I am very bad at cooking,” he explains.

“When I was in Seattle I conducted a healthy lifestyle and I made a lot of avocado toast. So I started thinking about this idea and the first person I started talking about it to was Francesco.”

With \$70,000 in seed money from family, friends and their own savings, Alessandro, Francesco and a third partner, Alberto Gramini, 32, found a location in Brooklyn which was affordable and had “a very good vibe.” Their journalist preview resulted in a Business Insider video with 67 million views. Brachetti is CEO.

What advice does Biggi have for entrepreneurs starting out?

Firstly, don’t get too obsessed about finding investors at the start.

“You should first concentrate on a viable concept and once you have results or something you can demonstrate, you can look for funds,” he says. “So don’t focus too much on fundraising, focus on making the company work.”

Secondly, commit. “I really don’t believe you can start a company when you are still working full time at another company.”

Lastly, and probably most importantly, choose the people you work with wisely.

“You will have to spend a lot of time with that person,” he says. “You need to be able to share an entrepreneurial dream with someone you trust and that you can have an open communication with.” ■

ALESSANDRO BIGGI
Bocconi Alumnus
and Founder of 20Lines
and Avocaderia



Predicting Startup Success with Data

Some venture capital investors are starting to use data analytics to predict survival or failure. The authors have developed a data matrix identifying four startup archetypes

by Carlo Mammola and Luigi Mastromauro @

According to the latest research, 90% of startups fail and even those funded by venture capital funds (VCs) fail in 50% of cases.

Researchers have always sought to identify the factors that contribute the most to determining future business performance. In recent years, they have shown a growing interest in the world of startups, due to the increasing importance of venture capital.

By reviewing investors' decision-making process during investment selection phases, researchers have identified two main factors: economic performance (the business) and human capital (the team).

In a market where competition decides which companies are able to survive, the race to success requires a good horse (the business) and a good jockey (the team).

If the team is not well trained or the individuals within the team do not know how to work together, the startup will have little chance of overcoming the hurdles of its very first years. Likewise, if the product does not meet consumer needs or the entry strategy is poorly implemented, the chances of surviving decrease.

Given their close relationship, an intense debate has begun regarding which of the two factors is most important. Venture capital investors attribute the team's abilities as the main key to the success (or failure) of their projects, but not everyone thinks the same way. A famous investor, Warren Buffet, said: "When a management team with a reputation for brilliance tackles a business with a reputation for bad economics, it is the reputation of the business that remains intact."

However, it should be emphasized that the analysis methods used in this sector are still traditional. "Data is the new oil" has become a mantra, yet VCs find it hard to use data to identify the most promising startups.

Even today, the process is based above all on networking and the experience of VCs.

Some operators, however, are beginning to apply data analytics to predict the future of startups. Their focus is to identify future business valuations or generate a score representing the probability of success.



CARLO MAMMOLA
Academic Fellow,
Department
of Management
and Technology
at Bocconi



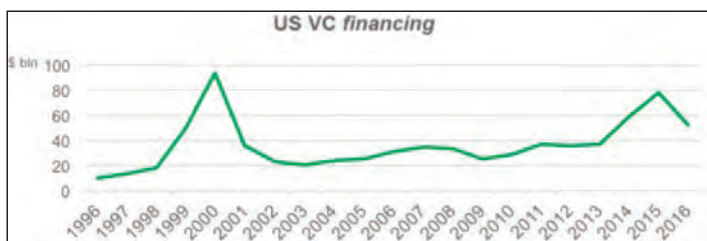
LUIGI MASTROMAURO
Alumnus Bocconi
and Management
Consulting Analyst
at Accenture Italia

On closer inspection, it is clear that there are many events that can influence future chances of success and that valuation methods are greatly weakened by the volatility typical of the first years of a company's life. So, how much does the aforementioned score help investors achieve the desired return?

In our analysis, the problem is approached from a different perspective: if there are in fact at least two factors that determine the success of a startup, a single score does not allow investors to properly analyze the team and the business.

The value of a bilateral approach is twofold: on the one hand, the pool of possible investments expands, as some of those traditionally considered to be of little interest can now be better analyzed. On the other hand, the risk of investment failure decreases, as it is immediately possible to identify the most problematic area in which to intervene, if necessary. Therefore, to support VCs in their investment decisions, a matrix has been developed that identifies four startup archetypes based on their chances of success. "Premature" companies have low scores due to both the size of the team and business model performance. "Ethereal" companies are characterized by strong teams, but have poorly defined business models or products that are still incomplete. "Scalable" companies, on the other hand, show good economic performance, but have a team that is not suitable for sustaining their future growth. Finally, "Stars" are the startups everyone would like to invest in.

The challenge that awaits us, to finally make this a 2.0 sector, is to identify the variables that can quantitatively describe these two dimensions. This will allow venture capitalists to leverage their decisions against not only their instincts, but also a well-structured set of data. ■





Turning “Spotify for Textbooks” into \$4.8 mln

Perlego recently won a new funding round. Bocconi graduates Van Malderen and Muzi-Falconi will now expand from 200,000 UK titles into new markets like Italy

by Tomaso Eridani @

Proposing advantages for both students and publishers, Perlego, the online subscription service described as the “Spotify for textbooks,” founded by Bocconi alumni Gauthier Van Malderen and Oliviero Muzi-Falconi, is busy revolutionizing the academic textbook market. Founded in 2016, Perlego offers students access to a digital library of over 200,000 textbooks for a monthly subscription fee. Students thus save on their outlay for textbooks whilst publishers can counter losses from piracy and the used-book market. The startup has recently closed \$4.8 million in funding to boost its plans for expansion, including offering Italian content next year.

“The idea came to us when we finished our studies and saw the huge amount of textbooks we had amassed – it seemed just such an antiquated and expensive system, compared to how we were now accessing films and music online through subscription services,” says Oliviero, 25-year old from Italy.

Both were in London at the time -- Oliviero working in venture capital and founding a swimwear startup, and Gauthier after a Masters at Cambridge -- and they began putting together their idea, creating a prototype and gathering £500,000 in a first round of funding. “The toughest part was convincing publishers to come on board – ours was a very disruptive model for the industry. But

*PERLEGOS TEAM
Founded by Bocconi
alumni Gauthier Van
Malderen and Oliviero
Muzi-Falconi*

our business model slowly convinced them – publishers know this generation of students is used to streaming online and publishers themselves are worried about online pirating, whilst we guarantee them secure revenue. And authors have their rights protected,” says Gauthier, 26-year old from Belgium.

The digital library currently counts upon collaborations with more than 650 publishers, including Pearson, Oxford University Press, Princeton University Press and Macmillan Higher International who receive a commission based on consumption. The platform currently offers a catalogue of over 200,000 textbooks. Students pay £12 a month for unlimited access to textbooks and the ebooks can be consulted on PCs and tablets, streamed not downloaded, and can be annotated with highlights and notes. The mobile version of the app is to launch by early 2019.

And in a new round of funding Perlego recently raised \$4.8 million from Accelerated Digital Ventures, a UK based VC firm.

“The majority of our library is currently English-language and our customers are mainly students in the UK. But with this new funding we can really build on our plan to expand the team and grow into and across Europe, such as in Italy with specific Italian-language content by September next year, as well as further developing the product, like developing the mobile app,” says Oliviero.

NILANJANA DUTT Looking at Gender Bias in Funding Yields a Surprise Result

In the last few years, accelerator programs across the globe have proliferated. These programs range from three days to six months. Once accepted, startup companies are given access to mentors, feedback on their business plans, and even introduced to venture capital funders. In the same timespan, women are represented in entrepreneurship at a lower rate than their male counterparts, and face greater barriers to funding. In the ongoing study "Acceleration as mitigation: Whether & when processes can address gender bias in entrepreneurship," Nilanjana (Nel) Dutt (Assistant Professor of Strategy at the Department of Management and Technology) and Sarah Kaplan (Rotman School, University of Toronto) try to ascertain if accelerators reduce the gender gap in entrepreneurship. The authors used a database of accelerators and startups collected through surveys by Professor Peter Roberts of Emory University, Atlanta. "We collected additional information about a subset of 54 programs in 14 countries and chose startups focused on social entrepreneurship. This is an area where female-led teams usually do better." The authors are still elaborating data, but they can disclose some results. The accelerators

that claim to embrace female leadership (18 out of 54) get more applicants from female-led teams, whose application rate shifts from 14% (non-women focused) to 31% (women focused). Yet only 25% of the teams accepted are female-led. Surprisingly, female selectors are harsher on female-led teams; having a critical mass of female selectors seems to explain why women are accepted at a lower rate into accelerator programs. "We are trying to understand the reason why the bias spreads through female selectors. Female-led teams differ from what most people consider as the

stereotypical entrepreneur. In a setting of uncertainty about the quality of a startup team, people – including female selectors – may tend to rely on the male stereotype. According to another theory, female selectors, who tend to be concentrated in accelerators that claim to care about women, are simply tougher on everyone, but their selection preferences disproportionately disadvantage female-led teams."



ALESSANDRO MINICHILLI
Associate Professor
at Department
of Management
and Technology
at Bocconi

ALESSANDRO MINICHILLI Family Firm Governance Results Linked to Context

Cultural and institutional differences across geographic regions can have an important impact on the financial performance of family firms. This is one of the results highlighted by "Institutional logics, family firm governance and performance," a paper co-authored by Mario Daniele Amore, Alessandro Minichilli, Guido Corbetta, Danny Miller, and Isabelle Le Breton-Miller. The authors tested the impact of cultural context on the relationship between family governance and financial performance in the 20 regions of Italy. They measured the strength of family and market logics at the regional level using data from the World Value Survey, a collection of individual-level surveys carried out around the world. It contains a large array of questions going from religion to political participation, to attitude towards merit and family ties. "Family-intensive governance does best where market logic predominates," Minichilli says. "In regions where family logic is not counteracted by market logic, firm's performance worsens – possibly owing to a lack of meritocracy inside the firm. In other words, family governance is not positive or negative in itself: it depends on the community context." The analysis was also conducted using family and market logics to construct a value matrix. "This analysis shows that family governance performs the best where both logics are weak."



NILANJANA DUTT
Assistant Professor
at Department
of Management
and Technology at
Bocconi

THE PAPER

"Institutional logics, family firm governance and performance" by Amore, Minichilli, Corbetta, Miller and Le Breton-Miller looks at the interaction between local institutions and family-run firms.

FERNANDO VEGA-REDONDO Social Networks Foster Entrepreneurship

Entrepreneurs should take every opportunity to interact with their peers, exchanging views and sharing skills. They are all chances to create or grow enterprise, Fernando Vega-Redondo says. He is studying Virtual social networks and entrepreneurship in low-income countries to understand how peer networks affect innovation. The project started with a pilot experiment in Ghana and it eventually evolved in a large-scale field experiment that involved 5,000 entrepreneurs coming from 45 African countries. "There is a huge potential for enterprise in Africa where 60% of the population is below 25," Vega-Redondo says. "In many countries there are stable institutions, a significant fraction of well-educated people, and an enterprising population. The environment is ripe for some tool that promotes entrepreneurship." At the beginning of the experiment, participants were divided into two groups. Both followed an online business course, but only the treatment group enjoyed a specially-created Internet-based chatting platform designed for sharing ideas and creating a community of entrepreneurs. The experiment lasted two months and a half. At the end of the process, all business proposals were evaluated by a panel of professionals. The best of them were then subsequently assessed, and some funded, by real investors.

"According to the feedback provided by the professionals and investors, interactions matter: the entrepreneurs of the treatment group did better, especially when all group members belonged to the same country." Diversity is important. If entrepreneurs only interact with people like them, they will not have much to gain. "Our experiment identifies virtually implemented social networks as a cost-effective and scalable way of promoting entrepreneurship."



THE PAPER

"Acceleration as mitigation" by Dutt and Kaplan looks at 3,000 cases in nearly 50 accelerators to assess the effects of selection on women-only, women-led and male-only venture capital teams.

THE PAPER

"Virtual social networks and entrepreneurship in low income countries" by Vega-Redondo and Collonelli finds that social networks can help improve entrepreneurship in low income countries.



Taking Texting to the Next Level with Kaleyra

Kaleyra founder and CEO Dario Calogero is building his 1999 mobile business messaging startup into a global player, staying one step ahead of technological change

by Jennifer Clark @

Dario Calogero, founder and CEO of Kaleyra, which provides mobile phone messaging for banks and large companies, has the knack for being in the right place at the right time since he left Bocconi in 1987 with a BA in economics and a passion for strategic marketing. Even his decision to found the mobile banking applications startup Ubiquity in 1999, the year before the dotcom bubble exploded, turned out to be a success rather than bad timing. Being in the right place at the right time is simply another way of saying that Calogero, 56, seems to possess the knack for reading future trends that is essential to becoming a successful entrepreneur. While still a Bocconi student, he did his thesis in 1987 by seeking out an internship at Olivetti on electronic transfers at point of sale. Debit cards and ATM machines were only just becoming widespread, so there was little to no existing research published about the topic.

"I had to do 25 interviews in the field," he recalled in an interview with ViaSarfatti25. "You don't often get to do that."

As a consultant, he started specializing in telecommunications at Coopers and Lybrand in 1995 – right when newcomers started flooding into a deregulated market. He worked with clients including Omnitel, Infostrada, Enel and Albacom.

In 1997, Oracle recruited him for startup called Network

Computer Incorporated. Oracle chief Larry Ellison had the idea of taking on his rival Bill Gates at Microsoft by using networked computers to "end" the PC. He was about 15 years too soon. The company became Liberate Technologies, and listed on the Nasdaq. Dario soon found himself in Silicon

Valley at the start of the Internet boom, when a generation of young idealists believed they could change the world for the better.

"I was living on a plane," he said.



DARIO CALOGERO
Alumnus Bocconi,
founder and CEO
of Kaleyra

"That's where the idea for 'Ubiquity' came from. I realized I wanted to do my own startup."

He founded Ubiquity in 1999, working with banks to develop mobile banking applications. One year later, the dotcom bubble exploded. Ubiquity lost a lot of money in 2000, 2001 and 2002. But Dario and his team tried to keep their nerves steady. He and his partner Simone Fubini, a former Olivetti engineer, put 1.5 million euros into the company over that period.

By 2016, Calogero realized that he would need to take Ubiquity to the next level. His competitors were scaling up, consolidating and going public. He realized Ubiquity needed to become a global player, and with his partner Fubini decided to take that step. The first stop was Switzerland, where however their organic growth was unsatisfactory. They needed to grow externally, and Dario spent 2015 travelling around the world scouting for acquisition targets. In October 2016 he acquired a company called Solutions Infini in India, choosing that market for its potential in terms of size and growth.

In February 2018 Ubiquity bought US-based mobile messaging company Hook Mobile, giving Kaleyra a significant presence in Europe, Asia and the Americas, with combined revenues of over \$100 million and a team of over 200 people across 12 locations. An IPO is now in the cards.

Any advice for a young entrepreneur?

"It's important to have passion," he said. "That's the only way you'll be able to face the challenge of responsibilities, sleepless nights, and promises to suppliers."

His Bocconi degree helped him prepare for entrepreneurship by giving him both the ability to scan the surface and to do a deep dive. And of course, a feeling of being part of a club.

"There is no such thing as a 'former Bocconi guy,'" President Mario Monti quipped to Calogero recently when they crossed paths at an event at ISPI, the Istituto per gli Studi di Politica Internazionale. Dario would agree. ■

TAMÁS VONYÓ Connecting the Dots on How WWI Unleashed new Business Performance

Ever since the 1919 John Maynard Keynes classic "The Economic Consequences of the Peace," the legacies of the WWI peace treaties have been the topic of hot debate. The disintegration of the Habsburg Empire has long been blamed for the economic troubles of nation states it spawned, but this effect has never been properly examined. Tamás Vonyó, Assistant Professor at Bocconi's Department of Social and Political Sciences, wants to fill this gap with his Spoils of WAR research project, which won an ERC Starting Grant of €1.49 mln hosted by Bocconi's Dondena Centre for Research on Social Dynamics and Public Policy. "The World Wars had a monumental impact on economic development. They caused unprecedented physical destruction and dislocated economies, but they also mobilized new resources and built new capacities," Prof. Vonyó says. He turned to a unique dataset, all but forgotten, that will help him examine both of these

TAMÁS VONYÓ
Assistant Professor at
Department of Social and
Political Sciences

effects. "With the confidential catalogue of all contractors of the Imperial War Ministry in Austria-Hungary, 19,000 firms in total, we can map the allocation of war spending by region and industry. Both spatial concentration and diversification were key strategies adopted by big industry in the war economy, with potentially lasting legacies." The project integrates the toolkits of economic history and business history and Bocconi, says Prof. Vonyó, "is one of a few European centers where both disciplines are thoroughly researched."



THE PAPER

"Spoils of War: The economic consequences of the Great War in central Europe" by Vonyó will look at how the war changed industrial structure, business performance and living standards.



Riccardo Taranto is an elegant man, one of the few who knows how to sport a pair of green socks that pick up the subtle tones of his suit's fabric. But he is, above all, one of those men who interprets elegance from an ethical point of view, combining numbers with virtues, decision-making with courage and empathy. Riccardo Taranto, a 1981 Bocconi graduate, is the newly appointed Managing Director of the Milan-based university. His intention, in this role, is to give back to Bocconi a part of what he has received.

→ **What did you get from Bocconi?**

Bocconi was a good lesson for life, but also a place for friendships and fun. I received excellent professional skills, a wealth of values and a code of ethics similar to fair play in sports.

→ **Why did you choose Bocconi?**

I had finished "liceo classico" high school and, not having a favorite subject, I looked to the future. Many Bocconi graduates I knew had built outstanding careers and I thought that this university could offer fine prospects. Today, even if the world of work is more complicated, Bocconi continues to have excellent placement results.

→ **What do you remember about your classmates?**

Soccer matches. A trip to Cergy-Pontoise was memorable: we had learned that ESSEC in Paris had organized a soccer tournament for economics universities, and we did not let the opportunity go unmissed.

→ **And how did it go?**

We won the first match against Tunisia; then, with Barcelona we drew and we lost against the Berlin team. In the end we did not qualify, but those days were great fun and cemented our friendships. Our team also included Alberto Grando, who later became a professor and dean at Bocconi.

→ **Who were your professors?**

Carlo Scognamiglio, Enrico Valdani, Luigi Guatri, Alberto Martinelli. And then Franco Amigoni, Giorgio Brunetti, Elio Borroni, Vittorio Coda and Stefano Podestà, who was also my thesis supervisor. I had extraordinary teachers: today when I go into Bocconi and go up the stairs that lead to my office I feel moved when I see the portraits of some of my professors in a row, including Claudio Demattè and Carlo Masini and then Giorgio Pivato, Ariberto Mignoli and Aldo De Maddalena.

→ **What was the first course you attended as a student?**

Coming from high school where we studied humanities classics, I did not have a great deal of confidence with math so I chose to start with sociology, specifically with Martinelli, because it seemed to me the most practical way.

→ **Do you recognize a Bocconi grad in the business world?**

Yes, because they exude the same air they breathed during their time at university: commitment and initiative in achieving concrete objectives. My first job was at Honeywell Information Systems, where I met Bruno Pavesi, a fellow alumnus, who filled the role of CFO and then became CEO. Bocconi alumni were also the heads of some areas of the company: I found a family ecosystem, which made it very easy to adjust.

→ **Is there such a thing as the Bocconi method?**

I think so. The history of this university is based on a style of life, that of its founder. Ferdinando Bocconi was a great entrepreneur and decided to allocate important resources to give a concrete future to young people. At Bocconi, in fact, you learn to contribute to the results of the community of which you are part. I have always worked with this spirit and in my new role I will continue to do so: this too is

RICCARDO TARANTO
A 1981 Bocconi graduate with a degree in Economics of Industrial Companies, over the past five years Riccardo Taranto has worked as Group CFO of RCS Mediagroup, for which he also held positions as RCS Sport chairman and served in the Board of other group companies. His career began in Honeywell Information Systems with positions in accounting and planning and control; afterwards he worked as a controller in Motta-Alemagna, Roche, Pirelli Cables and Systems, Cisco System and Telecom Italia, where he was then Chief Accounting Officer and finally Group Compliance Officer. Before joining RCS, he was CFO of the Prelios Group.

Back at Bocconi

Newly-appointed Managing Director Riccardo Taranto reflects on the Bocconi method, on giving back what you receive, spaghetti carbonara, and on the importance of telling it like it is

by Ilaria de Bartolomeis @

part of that desire to give back.

→ **Are we talking about a collective spirit that goes beyond individualism?**

That's right, it's like that, we're all part of something. Lately as I walked around the university and I felt a great spirit of sharing that in some cases is even stronger than in my day. In the library, I saw many study groups and the atmosphere was exciting. I was positively impressed with what has happened in just over thirty years.

→ **But the lions are still there ...**

Yes, indeed. I stopped to observe the comings and goings at the entrance, and still today nobody dares to interrupt the tradition. Sometimes even graduates tend to think that it is better not to cross them. I only did it once.

→ **In your life there are five children and four grandchildren. Have values changed from one generation to the next?**

I believe that everyday behavior changes, but not the underlying values. Today, for example, in a family less importance is given to table manners, but it is balanced by giving importance to affection and mutual support: unity is strength. We must continue to convey the value of autonomy to young people, teach them to recognize what is true, encourage them to give it all they've got and to venture into new challenges.

→ **You mentioned fair play and challenges. Is this striving for improvement inspired by sport?**

Absolutely yes. Sport teaches the value of healthy competition and for this reason it is a model for life. I played tennis for many years and I'm a keen skier. Skiing gives me a certain satisfaction because it is skill and emotion: even today when I come down the San Pietro wall of the Stelvio run in Bormio, which is considered one of the most spectacular of the Skiing World Cup, I feel a certain thrill.

→ **Are you a fan of any team?**

I'm a big fan of AC Milan and soccer in general. I was lucky enough to be able to watch live three very important victories for Milan, in the Champions League in Manchester in 2003 and in Athens in 2007, and also for Italy in Berlin for the 2006 World Cup.

→ **You have also been involved in sports for your work...**

As a CFO and president of RCS Sport, I contributed to the organization of the Giro d'Italia. I believe it is the only event capable of truly uniting Italy and awakening a certain spirit of collaboration among people. Every locality involved in the Giro must make its own contribution. So, this event is a beautiful metaphor that shows how much can be done when there is sharing and participation.

→ **Is Italy a happy country?**

Not really, if you read the statistics. In my opinion, Italy is a beautiful

oni

country with an important history and traditions to preserve, but it cannot isolate itself. Being Italian is a plus, but being only Italian is a minus.

→ *When you were at the university, did you imagine what you would become?*

No, I was thinking about marketing, but then it went differently, and maybe it was better that way. In any case, during my career I have always tried to project myself over the following five years to try to understand if the company I was in allowed me to raise the bar of challenges. The first goal was to become a manager before the age of thirty and I achieved that: at the time it was a bit simpler than today. The secret is in creating the right balance between aspirations and real skills.

→ *What was your biggest challenge?*

It's always the next one. Every challenge I have faced has cost me a lot and has given me back the same.

→ *As a child, who was your hero?*

Gianni Rivera.

→ *And your current one?*

Today sport has many champions, but the real heroes are those people

who work every day with great professionalism and commitment: those who try to give their best even in the face of difficulties.

→ *Is there a place that captures your heart?*

The sea because it has a distant horizon, but reachable.

→ *Your favorite dish?*

It is hard to single out one. I'll choose one I know how to cook: spaghetti carbonara.

→ *Your favorite film and book?*

The film is definitely "Amici Miei," a beautiful mix of friendship and witty Italianness. With my friends I had fun imitating those gags: we liked being "gypsies" like the actors in the film. My favorite book is "Memoirs of Hadrian" by Marguerite Yourcenar: it is the story of great power exerted in a positive way.

→ *Your dream come true?*

It was to be able to undertake a good professional career and be recognized as a reliable person, worthy of the results achieved. The proof of this came in the sincere words of the many messages I received during the days following to my appointment in Bocconi.

→ *A dream yet to be reached?*

To travel the world, and this is linked to my great passion: photography. Probably, if I could have done something different in life, I would have become a photographer.

→ *What is your favorite color?*

Green, like the socks I'm wearing today. This shade has always given me a sense of well-being because it recalls nature.

→ *What is the quality you value most in people?*

Frankness: I appreciate people who tell it like it is, even when it is difficult.

→ *Do we always have to tell it like it is?*

I think so. We can postpone the moment of truth but at some point it is necessary to express it. What makes the difference is the way in which it is communicated.

→ *Is there a component of courage in this?*

In a certain sense, yes, to say something unwelcome, but constructive. It is actually an opportunity.

→ *What is your best quality?*

Desire and enthusiasm. From my father I learned determination and from my mother, passion.

→ *Are men and women equal?*

No, women are better! I have to say that, otherwise I'll be in for family trouble: among all the children and grandchildren, only two are boys.

→ *Is there value in diversity?*

Absolutely, especially today when diversity is objectively real and present, even if sometimes we do not like it. At work, for example, women are fundamental. Talented women must be valued at the same level as talented men. It is not a question of gender, but of people, because we are all individually different.

→ *Do you have a motto?*

My grandfather used to often say: "Step into my shoes for a moment, dear sir!" This expression has always made me smile and I completely share it.

Judging from the outside is easy, and not very edifying. ■



AI Can Be an Ally Against

Investigating the dark web by employing machine learning can bring to light the correlations between terrorist funding, recruitment, and attacks

by Nicola Limodio @

The last decade has seen a surge in the number of terrorist attacks. Although the reasons behind this wave range widely, from religious intolerance to separatist desires, the outcome of such attacks are unsurprisingly the same: a culture of fear and insecurity, emotional and human costs and financial markets depressed by increased risk.

Countless organizations, both national and international, have sworn loyalty to the battle against terrorism by investing time and money to understand its causes and implications. Although some consensus exists regarding the determinants contributing to the birth of pockets of unrest within a country, much still needs to be unveiled regarding the mechanics through which extremist groups operate. Understanding the channels that enable terrorists to function boosts the chances of stopping them. Machine learning and artificial intelligence may be able to provide a groundbreaking set of new tools for this battle.

How are terrorists able to finance attacks, organize operations and recruit people? This is a fundamental question, since as attacks like 9/11 and Bataclan have demonstrated, extremist groups articulate their activities through multiple channels and operational devices. As the literature in this field highlighted, terrorist organizations are structured through sophisticated layers of hierarchy and rely on monetary and career incentives beyond religion and the after-life. This research makes use of a particular media, which enables us to understand and study the behavior of terrorist groups: jihadi-friendly platforms operating in the dark web. Looking at what is going on in those internet domains may represent a true breakthrough in the fight against terrorism.

These platforms are found in non-publically available part of the web, accessible through a specific piece of software called “The



NICOLA LIMODIO
Assistant Professor
at Department
of Finance
at Bocconi

Terrorism

Onion Router” (TOR). They specialize in the exchange of messages on various topics, from commenting news to exchanging information on local events, and also coordinating individual activities and recruiting new terrorists.

How can we make use of the information present on the dark web to counter terrorism? Machine Learning is the science of getting computers to learn and act like humans do, and to improve their learning over time in autonomous fashion, by feeding them data and information in the form of observations and real-world interactions. In a recent study, I used information from 28 online message boards in 5 languages and studied the content of these platforms by focusing on the timing of the messages, the wording and intents.

By using machine learning on data extracted from such message boards, I introduce algorithms that are able to detect messages encouraging terrorist actions or recruiting followers. In order to implement such a method, I scraped data from these platforms operating in the dark web and collaborated with judges, by offering a random sample for evaluation. These judges read, evaluated and categorized which messages were aimed at recruiting terrorists. After this verdict, I fed the results to a machine learning algorithm and trained it to identify the recruitment messages among the remaining 17 million un-categorized messages. These results enabled me to define periods of intense terrorist recruitment as those in which these platforms host a large share of recruitment messages. Such measures were then coupled with a specific setting, in a developing country, in which I could match information on shocks to the funding of terrorist groups. A key result of this research showed that there exists a strong complementarity in the number of terrorist attacks: these are particularly numerous and deadly when both increased financing and intense recruitment take place.

As of now, such an intersection between finance, data science and national security is still in an embryonal phase, but it represents a precious way to use virtual domains to unpack the functioning of terrorist organizations, understand their operations and provide sound counter-terrorism advice. I plan to extend these results over the coming months and exploit this innovative methodology to research the causes of terrorism and the rise of radicalization. ■



THE PAPER

“Terrorism: Financing, recruitment and attacks” by Limodio
is a natural experiment in Pakistan that uses machine learning to look at jihadist finance and recruiting posts on the dark web.

Female labor supply, child care and personal taxation are all part of the same equation. What's important is to understand how we can attain solutions that are optimal for the economic and psychological wellbeing of families and their offspring

by Alessandra Casarico and Alessandro Sommacal @

The Strange Relationship Between Tax

Today, the key issue in taxation concerns the implications of reductions in the tax burden, which in some countries has reached excessively high levels. One of the most recurring arguments, both in policy and academic debates, is that a reduction in tax rates would cause an increase in the volume of hours worked in general, and in particular an increase in the number of hours worked by women, who, according to empirical evidence, appear to be more sensitive to changes in net wages. A significant increase in female participation rates would require changes in the way child care is presently organized, in particular by increasing the reliance on care services performed outside the household, such as nursery schools and kindergartens. Hence the need to increase the supply of day care centers (still too few and heterogeneous in Italy) that ensure high-quality standards in child care. In this regard, recent literature has shown, for example, that the quality of childcare received in the early stages of one's life can have a significant impact on adult life, even influencing one's future productivity on the labor



ALESSANDRA CASARICO
Associate Professor
of Public Economics
at Bocconi



ALESSANDRO SOMMACAL
Associate Professor
of the University
of Verona and Research
Fellow at the Dondena
Center at Bocconi

market (see for example the contributions by Chetty and co-authors). From an empirical point of view, recent contributions have shown that substituting the time spent in maternal care with services offered by other care providers has either negative or null effects on children's abilities. However, if the alternative to parental care is performed by professional providers such as nursery schools, the effects are positive, especially for kids coming from disadvantaged families.

In our theoretical contribution (Casarico and Sommacal, 2018, "Taxation and parental time allocation under different assumptions on altruism," International Tax and Public Finance) we study the impact of a tax reduction on the allocation of parental time. First of all, parents must choose how to allocate their own time between alternative uses: work and leisure. They also need to choose between quality time spent with children (i.e. active interaction that involves playing with and/or reading to their children, something which can contribute to the development of their human capital) and time spent in the presence of children (i.e. passive



Taxation and Time Spent with Children

interaction limited to mere supervision, which therefore plausibly has a lesser or no impact on the child's human capital). Furthermore, the term "allocation of time" refers to the care mix given to children: quality time and supervision time, provided by parents, and hours of care provided by formal actors outside the family, such as nursery schools.

If tax rates are cut, does the resulting increase in work hours lead to substituting the quality time spent with children with time spent in care outside the family? The answer to this question depends on the motivations behind child care decisions. If parents have a form of far-sighted altruism and if

the tax reduction is perceived as permanent, then the optimal choice of parents could be to increase the labor supply without reducing the quality time spent with their children, while replacing standard time with care services outside the family. The intuitive explanation for these results is that when parents make their decisions, they realize that, following a permanent reduction in taxation, their children will also find themselves in the future in the position to sell additional hours on the labor market: a high human capital, thanks to quality time spent with parents and child care workers, will therefore be particularly useful when children reach working age.

This result, that an increase in the labor supply generated by a tax cut does not necessarily go hand in hand with a reduction in quality time spent with children, seems to be in line with the scant empirical evidence available that specifically looks at the impact of taxation on parental time allocation (Gelber and Mitchell, 2012). It also suggests that tax cuts could generate a double dividend, on today's labor supply, and on tomorrow's human capital ■



THE PAPER

"Taxation and parental time allocation under different assumptions on altruism" by Alessandra Casarico and Alessandro Sommacal looks at the impact of taxation on childrearing

In a World of Likes and Fake N



ews, Critical Thinking Is Crucial

The development of the ability to critically assess reality requires an interdisciplinary approach that merges logic, linguistics and cognition theory. More than ever, it's essential to judge what's real and relevant as truth becomes more obfuscated and the world more partisan

by Damiano Canale @

What does it mean to think critically? In ancient Greece, the word *kritikós* indicated the ability to judge and discern things, so as to make the best choice for us and for others. Today, this kind of ability seems to be under threat. The current world of hyper-communication monopolized by social media seems to have impaired our judgement in assessing other people's opinion, discerning the true from the false, and distinguishing good from bad arguments in a given issue. The culprits are well known. The inflation of the information that bombards us every day makes it difficult to distinguish what is actually reliable and relevant from what is not. The phenomenon is exacerbated by the proliferation of fake news, that is, by the deliberate diffusion of false information that panders to widespread prejudice and fears, thus succeeding in attracting the attention of the public. To this must be added the fact that any exchange of views, both on social media and in public discussion, tends to turn into an all-out fight, where insulting, denigrating and ridiculing an opponent's opinion replace well-informed, critical discussion of the issues. All this drastically not only reduces the quality of public debate and collective choice, but also people's ability to make a judgment on issues that are often very relevant to their lives.



DAMIANO CANALE
Full Professor of Legal
Philosophy at Bocconi,
teaching a course in
Critical Thinking from this
academic year

→ FROM REASONING TO JUDGEMENT

It is no coincidence, then, that the most important universities in the world are offering courses in Critical Thinking, which have the objective of refining the student's ability to adequately argue in favor a thesis in both everyday talk and scientific discourse, while also learning how to correctly refute another person's thesis, identify errors in one's own reasoning, and evaluate the reasons that support an opposing argument.

This goal can only be achieved by adopting an interdisciplinary approach, i.e. by drawing from the insights provided by logic, linguistics, argumentation theory, cognitive psychology. The ability to make a good judgment does not only depend on the criteria that make a kind of reasoning valid. It also depends on one's ability to evaluate the strength of an argument, while understanding the rules of linguistic communication, and the cognitive bias that often leads people to make mistakes in selecting a choice -- errors that are due to the very structure of our minds.

Becoming aware of the various aspects that affect the reliability of a judgment within each field of knowledge can make students more confident about their future studies, and especially make them acquire the critical and non-dogmatic spirit of inquiry that is the trademark of a good university education.

Not only that. Today learning how to think critically is essential to make informed choices in every field of public life, thus demolishing the notion that those who have more voice or receive the most likes are necessarily those who are right. ■



THE COURSE

The Critical Thinking seminar is a new undergraduate course introduced by Bocconi, taking an interdisciplinary approach spanning logic, linguistics, cognitive psychology and argumentation theory.





Part of the Political Toolkit

From the World Bank to Obama and Trudeau: how political science research impacts the decisions of governments and institutions all over the world

by Lanny Martin @

Research storytelling by Claudio Todesco



LANNY MARTIN
Full Professor
of Political Science
at Bocconi

How much influence does political science research really have on the major decisions of politicians and other important policy actors? Over the past several decades, perhaps the most common response to this question—from all sides involved—has been “not very much.” On the one hand, political scientists, who certainly want their work to be influential in the public sphere, also want it to be published in top peer-reviewed outlets. And as the discipline has matured as a science, and has thus become more specialized, publication incentives have argued for producing ever more rigorous studies with an ever more limited theoretical and empirical scope. A natural, and unfortunate, side effect of this trend has been the diminishing engagement of political actors with cutting-edge political science research, as they have been either unable, or unwilling, to seriously inspect and consider complex arguments, concepts, and findings from the discipline. Witness the current US Supreme Court case on partisan gerrymandering, in which, during oral arguments, Chief Justice Roberts stridently dismissed a measure used in political science to assess how electoral district maps favor one party over another (the partisan “efficiency gap”) as no more than “sociological gobbledygook.” At least two recent trends, however, suggest that political science is becoming (or, at least, is poised to become) more relevant to the decisions

taken by policymakers. First, key nongovernmental and intergovernmental organizations, whose suggestions and advice governments often follow, increasingly rely on political science research to guide their policy recommendations. For example, the International Bank for Reconstruction and Development (IBRD) has significantly stepped up its commitment in recent years to reduce poverty in low- and middle-income countries. It has pointed out in its policy reports that achieving that goal requires significant reforms in key economic and social sectors, and that implementing such reforms requires knowledge of how domestic political institutions interact with the interests of competing domestic coalitions to affect policy. Thus, in making its policy recommendations, IBRD appropriately turned to the voluminous political science literature in this area, particularly to studies on institutional design, distributive politics, and citizen dissent. Similarly, studies from the World Bank and other institutions have cited political science research in their reports on reducing corruption in both democratic and authoritarian regimes, and on assessing whether foreign aid actually helps developing nations or harms them by providing a “lifeline” to corrupt administrations. On occasion, high-level politicians have relied more directly on political science research. As argued by Professor Marc Lynch in a 2016 Washington Post contribution, for example, President Barack Obama’s policy of not arming Syrian rebels was, purportedly, partly informed by the political science literature on civil wars, which has shown that supplying external support to rebel groups typically serves only to lengthen and intensify conflict, particularly when those groups have markedly different post-conflict goals. In the 2015 Canadian parliamentary elections, Liberal Party leader Justin Trudeau made a campaign promise (which, notably, he has not kept) to change his country’s electoral rules from a first-past-the-post system to an instant-runoff system,



THE BACHELOR

Three years of policy-making studies The International Politics and Government degree course in English directed by Vincenzo Galasso focuses on planning, creating and evaluating public policy.

whereby voters get to rank candidates in descending order of preference. His proposal, aimed at reducing what he perceived as excessive party polarization in Canadian politics, explicitly referenced political science work that argues that preferential voting systems tend to favor the selection of centrist candidates who can “work across the aisle.”

A second favorable trend is that political scientists have generally become much more adept at distilling their research to the general public. In particular, the rise of social media and the blogosphere has had a profound impact on enabling and encouraging political scientists to present their work in a more accessible way. Initially, such efforts were very decentralized and sporadic; nowadays, there are numerous venues that regularly host blogs from political scientists on major events and issues of the day. Early exemplars included FiveThirtyEight (founded in 2008), a forum for political scientists who use extensive polling and statistical analysis to make predictions about US elections and policy change, and The Monkey Cage (founded in 2007), which was created with the express mission of helping policymakers and the public understand how political science research speaks to their decisions and debates. The rapid success and popularity of these sites influenced large mainstream outlets to take notice: The New York Times formed a partnership with FiveThirtyEight in 2010, and the Washington Post partnered with The Monkey Cage in 2013. Although it remains to be seen whether such communication efforts by scholars will have a direct effect on global policy decisions, it is unquestionably the case that political scientists now have an unprecedented opportunity to shape the contours of public debate. This bodes well not only for the discipline, in its continuing quest for relevance, but for all citizens who desire informed civic discussion and public policies grounded in sound academic research. ■



THE MASTER

The Master of Science in Politics and Policy Analysis is a two-year course directed by Paolo Profeta starting with the 2018/2019 academic year offering advanced training in public policy

The New Silk Road Can Be Understood by Looking at the Past

On January 1, 2017 a direct freight train link between Beijing and London started service, which allows goods to travel cheaply across Asia in a couple of weeks. Behind this event there is a fascinating story of geopolitical changes, which history can help us understand for at least seven reasons. A first one is the obvious parallel with the "old" Silk Road, the ancient trade caravan which connected Asia to Europe, travelled by all sorts of people crossing the dangerous lands between the Mediterranean and China. For Westerners, the symbol of this journey was Marco Polo, the Venetian merchant, who indeed travelled eastwards to look at the "core" of the world economy, Asia. Far from being the symbol of European supremacy, Polo (as well as Christopher Columbus, later) was the witness of Asian primacy.

Second, the One-Belt-One-Road, or OBOR, project is a continuation of the "Great Game," in which the Russian and the British Empires covertly clashed. The Chinese project is raising mixed feelings in Russia – it is a new geopolitical challenge to the Russian goal of expanding its influence, particularly in the Southern arena, as once sought both by the Tzarist, and Communist, empires. Third, the end of the Cold War coincided with the dramatic isolation of the Central Asian former Soviet republics. The OBOR project is the chance for states such as Kazakhstan, Turkmenistan and others to re-connect themselves to the world economy. Fourth, the OBOR initiative involves at some point India, the Middle East and, in part, Africa -- a large section of the postcolonial world. The idea of a peaceful coexistence is very familiar to the former colonies, which see China as a former colony successfully developed.

Fifth, the new idea of this Chinese-driven globalization has a reverse side. The relationship between China and South-East Asia, Africa, Central and South America is very controversial. Magazine and newspaper headlines often blame the "Chinese Empire" or "Imperialism" (quite ironically, given the past European performance in the matter). Sixth, the West has a new role in this process. In 2011, the US former Secretary of State Hillary Clinton summarized this in the title chosen for an article published in Foreign Policy, "America's Pacific Century." According to Clinton, the US must firmly keep its role as world "policeman," adapting it however to a new geopolitical scenario gravitating around the Pacific region. The most recent changes in the US administration and in its foreign policy do not seem to point in this direction.

Seventh and last, the role of Europe. Western Europe has been very effective in dissipating, in a long civil war lasting from 1914 to 1945, the leading role she had built up over centuries, in the course of the so-called "Great Divergence." The postwar miracle brought Europe again close to the center of world power – which had, however, implacably shifted across the Atlantic. The recent evolution in world geopolitics, an endemic economic crisis, and the lack of real political unity, however, has thus far not allowed it to reverse a marginalization worsened by mounting nationalism and populism. The new geopolitical order, in sum, seems to push Europe, again, after centuries, to the sidelines.

The sole vestige of its imperial centrality remains the partition of the world established in 1851, the same year of London's Great Exhibition, when Sir George Airy, the Seventh Royal Astronomer – the Astronomer of the most powerful empire in the world, where the sun never set - decided that the first meridian - the zero longitude-line which separated West and East and simultaneously marked the start of the Universal Day - passed through the circle of his telescope in the small London suburb of Greenwich.

ANDREA COLLI
Full Professor
of Global history
at Bocconi



A Court Sentence May Affect International Agreements

An opinion from the Court of Justice of the European Union could change all forthcoming international agreements on the transfer and processing of the so-called Passenger Name Record data, or data of passengers carried by commercial airlines. In July 2017, the Court wrote that the agreement between Canada and the EU, which is similar to those already secured with many countries including the United States, is incompatible with the Charter of Fundamental Rights of the European Union on the matter of privacy and data protection.

"The January 15 opinion is important on many levels," says Arianna Vidaschi, who looks at the ruling in a forthcoming article in Constitutional Law. "On the one hand, the Court recognizes, at least theoretically, the legitimacy of mass monitoring of passengers carried out through the systematic collection and storage of their data. On the other hand, the Court considers the specific regulation to be unlawful." The judges based in Luxembourg did not choose to balance the right of public security and the right of freedom. They rather seemed to want to protect them both at the same time. "There is another side to the story. For the first time ever, the Court sent an opinion on an international agreement. The Court has assessed its legitimacy and has laid down strict guidelines to be followed by the institutions that will rewrite the agreement. The Court has acted as a lawmaker. There will be consequences on the whole EU system."

The agreements currently under negotiation were judicially suspended. Any new agreement will take into account this opinion in order to avoid another ruling of illegality. An impact on European legislation cannot be ruled out either, since "some aspects of the recent PNR Directive are not aligned with the opinion of the Court of Justice."



THE PAPER

"The survival and demise of the state: A dynamic theory of secession" by Massimo Morelli and co-authors looks at how the interaction between groups affects the possibility of secession



GUIDO TABELLINI
Full Professor
of Political
Economics
at Bocconi

ARIANNA VIDASCHI
Associate Professor
Of Constitutional
Law at Bocconi



THE PAPER

"Is Europe an optimal political area?" ask Alberto Alesina, Guido Tabellini and Francesco Trebbi. To find the answer, they look at cultural and institutional change in the EU from 1980 to 2008.





The Theory of Secession

From the Roman Empire to Catalonia, from the Soviet Union to Kurdistan: here's what we can understand by studying the evolution (violent or peaceful) of states

by Massimo Morelli @

The Roman Empire voluntarily and peacefully split into two similarly large and similarly rich halves marked by some salient differences in social and religious norms. Or to take a contemporary case after the collapse of the Soviet bloc, Czechoslovakia was split peacefully into two similarly large and rich halves, marked by ethnic differences. Peaceful secessions are likely to occur precisely in situations like in these two examples, i.e. similar size and productivity of the splitting groups, together with significant differences in preferences over cultural public goods, as is argued in a recent working paper.

On the other hand, the Soviet Union and Yugoslavia broke down violently, and in those cases both sizes and productivities varied widely, with smaller and richer communities being the most interested in secession. This tendency has been even clearer in contexts in which there are natural resource-rich ethnic minorities, which often have a relatively high propensity to engage in separatist conflict. The rebellion of the Aceh Freedom Movement in Indonesia starting in 1976, and the Sudan People's Liberation Army struggle beginning in 1983 are only



MASSIMO MORELLI
Full Professor
of International
Relations
at Bocconi

a couple of examples.

If a country has a clearly identified group (or coalition of groups) in power, typically the members of such group(s) are happy with the status quo, whereas groups out of power may be discriminated or receive unfair surplus shares, hence the first place to look in terms of incentives is the situation of the strongest among the groups out of power – call it minority group for simplicity. If the minority group is relatively small but very important in terms of contribution to total surplus (either because of natural resources or fertility of land or alike), then such a minority group has a potential incentive to secede. When the mismatch between size (small) and productivity (large) is high, bargaining does not work, and conflict may arise, and last potentially a long time.

At the opposite extreme, i.e. when the minority group is very large and very poor in terms of contributions, it is the group in power that would like to “push them



The Obstacle to Integration in Europe Is not Culture

European citizens are more similar to each other than they think they are. The critical issue for the future of the European political integration is thus not cultural diversity across EU members. This is one of the results highlighted by “Is Europe an optimal political area?,” a paper by Alberto Alesina, Guido Tabellini, and Francesco Trebbi that was recently published in the Brookings Papers of Economic Activity.

The literature tells us that the integration of different countries emerges from the trade-off between the economic benefits of integration and the cost due to heterogeneity in preferences. “We try to evaluate this cost by looking at its evolution over time,” Tabellini says. The authors analyzed data from the European Value Surveys between 1980 and 2008. They compared a number of stable cultural traits and values: appreciation of hard work or obedience, gender roles, sexual morality, religiosity, ideology, role of the State in the economy. “We found out that cultural heterogeneity among European countries is not relevant.

Between-country differences in the EU are not larger than within-country differences. The between-states differences are about the same in Europe and in the US. The main obstacle to the process of European political integration may be another one. We think it could be nationalism which leads people to exaggerate differences between countries.”

Our cultural traits are not so dissimilar. There are more remarkable differences in the institutions. The authors state that, despite decades of economic integration in Europe, the quality of public administrations and legal systems did not converge. “The divergence is largely driven by Southern Europe.”

out,” which determines first a discrimination strategy followed by a separatist war. When size and productivity are more proportional, on the other hand, either staying together is particularly valuable because public good sharing is important, in which case the State will function as a peaceful union of groups, or else, if the cultural differences determine significant differences in cultural preferences, then a peaceful split should be expected.

Catalonia and Kurdistan are important recent examples of situations in which an incentive to secede exists (minority size but productive group) and where the bargaining process is trying to avert the risk of conflict. In advanced democracies, there are more legal enforcements and commitment power by States, which make it more likely to transform a secession incentive in a quest for renegotiation of autonomy levels or federal structures. In weaker States like Iraq the most important difference is the difficulty in making credible commitments to surplus sharing, which makes the probability of conflict slightly higher.

Most of the literature on the size of nations concerns the trade-off between the preference heterogeneity of citizens and increasing returns to country size. We point out that remaining united implies that the public decisions will have to be negotiated over every future period by groups with different preferences and priorities, while secession entails a cost today but no need to bargain with the other group ever again. This inter-temporal argument, in our view, is an essential factor in the reasoning for or against secession. One can appreciate its critical importance also by considering the complementary problem of union formation: we should expect such a decision to be guided by the expected future payoffs from the interaction within the union, not by any immediate gains. ■



CARLO ALTOMONTE
Associate Professor
of Economics and
Policy of Global
Markets
at Bocconi

How Multinationals Decide the M

Business groups rule the global economy. Data show that about 70% of the global international trade is linked to multinational groups and about a third is linked to companies belonging to the same multinational group. These large groups with hundreds of subsidiaries all over the world influence macroeconomic phenomena. But why do they decide to perform their activities through subsidiaries? And which hierarchical structure do they choose?

Carlo Altomonte (Department of Policy Analysis and Public Management) and Gianmarco Ottaviano (Department of Economics) provide an answer in the paper co-authored with Armando Rungi “Business groups as knowledge-based hierarchies.” The choice to organize economic activities as a business group rather than an integrated entity is driven by a series of trade-offs between competitive advantages and knowledge dispersion. The authors provide an empirical support exploiting a dataset

Reasons Behind Western Intervention in Regime Change

In recent years, there has been growing debate on regime change. The discussion is about whether Western countries should conceive and execute military interventions such as the one in Libya in 2011. "It was a journalistic, more than academic, debate though," says Livio Di Lonardo, Assistant Professor at the Department of Policy Analysis and Public Management.

In an ongoing project with Scott Tyson and Jessica Sun of the University of Michigan, Di Lonardo deals with the issue asking a few questions: is an external threat a determining factor in overthrowing a regime? Can internal opposition be used to bring down a dictator? The authors provide an answer by distinguishing between the case where the internal threat to the regime is aligned with the external threat and the case where it is not. In the first case, the regime almost certainly falls, but who bears the costs of overturning it? "The international actor threatens to intervene militarily, but it would prefer to avoid an invasion and thus it presses the internal opposition to act. The internal opposition prefers in turn to delegate the overthrow of the regime to the international actor. Incentives such as economic and military support are not enough: the internal faction acts only if the intervention of an external actor is doomed to impose substantial costs on the country."

In the case where the internal and the external threats are not aligned, the regime is likely to survive. This is the Syrian scenario. "The external actor acts prudently because of the presence of a hostile internal opposition. The regime is therefore not encouraged to suppress the opposition: it is an insurance policy to stay in power."



LIVIO DI LONARDO
Assistant Professor
of Political
Regimes
at Bocconi

Make-or-Buy Issue

including 270,000 parent companies controlling more than 1,500,000 subsidiaries worldwide. "The make-or-buy decision is usually studied in relation to outsourcing," Altamonte says. "We applied it to parent companies performing their activities through legally autonomous companies under their control. We found that it is more likely that a company will organize itself through subsidiaries when it operates in a context where intellectual property rights are protected. However, given the risk of knowledge dispersion, the same company does not use independent external subcontractors."

The authors also investigate business groups' hierarchical structure. "A vertical group is more likely to emerge than an horizontal one if the parent company faces lower communication costs between its hierarchical layers. Routine production problems are dealt with by subsidiaries lower in the group's hierarchy. The activities become increasingly complex as we get near to the parent company." This is the case of Alphabet Inc, the multinational conglomerate that owns Google. The most innovative companies such as Deep Mind (artificial intelligence research and application) and Waymo (the self-driving car project) are hierarchically closer to the parent.

«**M**y secret dream? It's always been to manage a company." No sooner said than done. Francesca Bellettini, a Bocconi class of 1994 graduate and 2018 Alumna of the Year, became Saint Laurent's president and CEO in 2013. She then led the brand toward the €1.5 billion-mark in turnover. By delivering steady annual double-digit growth, the manager has put the fashion house in the Olympus of the world's best-performing luxury brands. "My secret? I created a corporate culture that supports creativity and dreams. But at the beginning, there is my personal experience at Bocconi."

→ **You were named Alumna Bocconi 2018 for having represented Bocconi values to the fullest. Which ones do you most cherish?**

Certainly the value of professionalism, and the integrity and responsibility it entails: we cannot strive for a goal solely for the purpose of increasing revenues, because this would lead to the destruction of the brand in the medium to long term. Similarly, we cannot compromise if we feel a market trend is not consistent with the DNA and positioning of the brand. To this, we must add the qualities of the heart that allow every person to make the difference. Passion is what makes it possible to achieve goals, to work well with others and create a team of excellence: a CEO does not get anywhere alone.

→ **Speaking of integrity, did you find it at Bocconi?**

My professor strongly believed in this value and acted accordingly. In particular, Mario Monti was a concrete example of integrity. I was lucky enough to attend his class in Economics just before he was appointed Bocconi Rector: as it was impossible to do both well, he had to leave his beloved course to another professor. This taught me a lot about issues of fairness, consistency, and choice.

→ **What was your greatest satisfaction at Bocconi?**

That Bocconi was not only a personal success but a victory of the whole Bellettini family, which always pushed me to become who I wanted to be: I wanted to be just like Marisa Bellisario. I can't forget the look of satisfaction on my father's face the day I graduated, when I walked with him through Bocconi's main door between the bronze lions. I am sure that today, if he were still here with us, he would be equally proud of my award as Alumna of the Year. He did not leave me a company to run, but rather the chance to graduate at Bocconi and embark on a successful career.

→ **And what competitive assets did you get at Bocconi?**

Bocconi gave me a complete professional education and today it continues doing so with the younger generations: I can still see it through my niece's eyes in her current experience as a Bocconi student. Then as now, Bocconi stays ahead of other universities and this is certainly an advantage. Those who are ready to seize all that the University has to offer can bring

home a wealth of unique knowledge. In my own time, for example, when it came time to choose the foreign exchange program, I went to Chicago where I attended an MBA with students who were already working; my semester in the United States was much more educational than a traditional Erasmus and allowed me to approach the professional world with greater confidence than many other graduates.

→ **Does acquiring excellent skills stimulate ambition?**

Yes, but humility is also needed. Bocconi taught me you have to start from the bottom to get to the top. As a graduate I did an internship at Citibank and my job was to reclassify balance sheets: a totally repetitive job, but I decided this could be an opportunity to understand something more about the companies that worked with the bank, so I started to read balance sheets of companies strategically. That positive and proactive approach ended up making the difference, because it opened the doors of Goldman Sachs for me: I showed I was able to put passion even in what most people considered boring.

→ **What kind of advice would you give to a young Bocconian like your niece?**

Take advantage of everything that Bocconi can offer, without focusing solely on exams and grades. You have to live the University to the full, discussing with professors, creating exchange groups, and actively participating in class. It is essential to immerse yourself completely in the Bocconi culture, and also learn how to deal with what you don't especially like.

→ **And what about the study plan?**

My advice is not to choose only subjects for which you have a natural predisposition, but also to take strategy courses which have the power to open your mind, as well as classes on very technical subjects, such as accounting, because they can be very handy on the job.

→ **How do you become a good manager?**

Apart from specific skills, a good manager must be curious and know how to build a team composed of different people. True equality lies in the recognition of difference: the good manager, like the good parent, is the one who knows how to enhance the specific qualities of each person. Not everyone should pursue a vertical career, because there is value also in activities that are not in the first line of attack. However, all this is possible if a relationship is based on trust and great mutual respect is established.

→ **In a world that is changing so quickly, how do you keep your knowledge current?**

One of the ways is to return to a university desk: I often go back to Bocconi to talk with students, but also to exchange views with faculty members and the Rector. It is an honor to sit on the board of the SDA Bocconi School of Management, as well as on the board of the Kering Foundation and the Kering executive

Putting Creativity at the Center

Francesca Bellettini, Bocconi alumna and President and CEO of Saint Laurent, says passion, integrity and creativity are the keys to success.

by Ilaria De Bartolomeis @

board. These are extraordinary opportunities for personal growth: they allow me to talk with people who are very different from me. The predisposition to listening is a formidable tool for learning and therefore for individual transformation. We need to know how to change because the world and society are constantly evolving.

→ *Young people embody such transformation. Sometimes you get the idea that luxury companies are focusing on teenagers to create consumers in advance of them actually being old enough to purchase. Is that the case?*

Yes, absolutely. Today social media allow you to work in this direction. I do not think that all the followers of Saint Laurent on social networks are consumers of the brand, but surely each of them feels close to the brand and aspires to the dream that it conveys. Young people, in particular, want to enter in an exclusive relationship with fashion houses. Our task is to create content that arouses in users a significant degree of involvement, what we call engagement. To do that, Saint Laurent uses social media in an emotional way: the mood and the aesthetics of the brand become more important than the product itself. The success of this process was largely the work of our creative director, Anthony Vaccarello, who made our Instagram account take off, from 350,000 to over five million followers.

→ *Speaking of Vaccarello, are modernity and creativity closely connected?*

In the luxury industry, being modern means putting creativity at the center. It is an indispensable combination when you are selling dazzling dreams: the spending effort that is required to buy a Saint Laurent garment is repaid by the satisfaction of being able to belong to that world of enchantment. The magic comes alive when our creative director is free to express himself because only he is able to identify taste and translate aspirations into creations: that's why CEO and stylist must respect and count on each other; then they must join hands and take the leap together. □



ter of Luxury Goods Magic

Integrity and teamwork are the ingredients for being a successful chief executive

Small (African) Entrepreneurs

Africa is the second most attractive target in the world for international investment. A population full of young startupper means hope for the future

by Fernando Vega-Redondo @

Africa is a continent with a difficult history, a problematic and heterogeneous present, and a potentially bright -- but also risky -- future. This applies at almost any level: social, cultural, or economic. Nonetheless, it has 760 million reasons to hope, with 60% of its population under 24 years old.

Some African countries are politically stable, some dangerously volatile; many are rich in primary resources, while quite a few lack almost any; some are rather fertile, others are barren and quasi-desertified. Essentially all African countries, however, have a very young population and this is an enormously valuable



FERNANDO VEGA-REDONDO
*Professor of Social
and Economic Networks
at the Bocconi University*

asset if, as it indeed happens in some of the most dynamic countries (e.g. Nigeria, Kenya, Uganda, Ghana, or South Africa), there is a significant fraction of these young people who are reasonably well trained.

Things, however, are far from rosy for young Africans. They experience very high unemployment rates (12-14% in Sub-Saharan Africa), and many of them live well under the poverty line. Indeed, in the words of Tony Elemelu, a prominent Nigerian entrepreneur and philanthropist, "youth unemployment is Africa's greatest challenge." But, on the other hand, as you often also hear typically optimistic Africans say, such large unemployment pushes many of them to become "entrepreneurs" or, at least, to strive hard for it. Of course, not all, not even many, will have the rare combination of skills, creativity, and drive required to be a successful entrepreneur. However, such a large and motivated pool of aspiring entrepreneurs certainly harbors the potential, if properly supported, to have a strong economic impact on African development.

This potential, in fact, is not just an illusion, the result of some naïve and wishful thinking. This is demonstrated by the fact that this high "supply" of yearning entrepreneurs is widely met by an equally strong "demand," in the form of investors (venture capitalists, investment funds, and institutional or state-sponsored investors) looking for good investment opportunities. Pitching events, start-up weeks, accelerator and incubator programs abound throughout Africa – in Lagos, Nairobi, Cape Town, or Accra. Some are organized by locals, and mostly geared to locals. Others are aimed at attracting foreign investors, interested in funding African projects and African entrepreneurs. Let me just mention two

Are Growing

forceful illustrations of this booming trend. First, according to the World Bank, the continent has become the second most attractive investment destination in the world, ranking just behind North America. Second, foreign direct investment in 2015 hit a record \$60 billion, five times its 2000 level!

But, again, that does not mean that everything is rosy in this respect either. It is well understood, and feared, that such promising trends and huge potential are still based on fragile foundations. A primary source of concern is not so much economic but socio-political. In part as a consequence of colonial history, many African countries are not only ethnically diverse but riven by ethnic conflict. And without some political stability, entrepreneurship and economic development can hardly flourish. A related problem is of a somewhat paradoxical nature: in those African countries that are

resource-rich (e.g. in oil or valuable raw materials), the threat of corruption and severe conflict (often inter-ethnic as well) is very high. All this, in turn, substantially impairs the ability of the state to provide the public goods (e.g. infrastructure) and services (e.g. education) that are key preconditions for successful entrepreneurship and development. Despite unquestionable advances in recent times, socio-political fragility remains one of the main problems threatening Africa's economic future ■

In Africa I Discovered My America

The future here is mobile. That summarizes the experience of Massimiliano Spalazzi, who has been developing e-commerce systems from Algeria to Uganda for Jumia since 2012

by Claudio Todesco @

Massimiliano Spalazzi had planned to stay in Lagos for three months for the launch of a new entrepreneurial project. Instead, he stayed there for five years. It was 2012 and Spalazzi, who had graduated two years earlier with a degree in International Management, a double degree program launched by Bocconi with Fudan University, was working at Rocket Internet. After his first experience as Entrepreneur in Residence in Sydney, Australia, he was ready to start the group's new e-commerce company, Jumia, in South Africa, when he was told that the launch would be carried out in Nigeria instead. He took the opportunity at once and flew over to set up the operations in Lagos. Since then, he has been Marketing Manager, then Managing Director, Regional Director and Co-CEO of Jumia e-commerce. Today, he lives in Dubai, but spends a large part of his time in Ghana, Senegal, Cameroon, Uganda, Tanzania, Tunisia, and Algeria.

→ What kind of environment did you find when you first moved to Nigeria?

First of all, I found out that I had a distorted idea of the country. The capital Lagos has nothing to do with the Nigeria we imagine in Italy. I found a very young population growing at a dizzying rate. When I arrived, population of Nigeria was just over 165 million, today is more than 185 million.

→ How about internet penetration?

Tremendous, not in relative, but in absolute terms. Nigeria has 91 million mobile connections, a remarkable figure if you think that the current number in Germany is 83 million. I found an emerging market with a great potential. The difficulty of finding offline products made e-commerce the obvious answer to the demand of a country that was at the beginning of the digitization process.

→ What was the main difficulty you encountered?

Gaining the trust of customers who associated online shopping with the infamous 419 scam. We have responded by offering a pay-on-delivery formula that does not require any advance online paying. Since then, the business has grown at a dizzying pace.

MASSIMILIANO SPALAZZI
*A Bocconi
alumnus, he is
Co - Ceo of Jumia
e-commerce where
he oversees
business
development
in Ghana, Senegal,
Camerun, Uganda,
Tanzania, Tunisia
and Algeria*

→ Are credit cards accepted and widespread?

Not very much. People use mobile money, which is more popular in Africa than in Europe. In Kenyan street markets, for instance, you do not see cash exchanges anymore. Most transactions go through mobile phones.

→ Does the presence of such a young population mean that there is a strong entrepreneurial drive?

Yes it does, and it happens in all African countries I have been to. The challenges for new entrepreneurs and obstacles such as the lack of electric power only stimulate talent. Many startups are emerging -- just think of Yaba, the Lagos technology hub. That's the home of Andela, the coding school that was funded by Mark Zuckerberg. Some African countries that are structurally disadvantaged in the development of the secondary and tertiary sectors are moving straight to the digital economy.

→ Africa is the world's most attractive investment destination, second only to North America...

I see no other place in the world with such a potential. There is an estimated 1.2 billion people now, which will increase to 2.5 billion in 2050. Digitalization is making them the most tech-savvy people in the world. They will master the way to shop, the way to program, the way to build companies online. In the meanwhile, mobile penetration is on the rise, business is done with a mobile phone.

→ What would you recommend to a graduate who would like to follow in your footsteps?

Universities such as Bocconi provide an excellent and necessary knowledge base, but unless you work for a large corporation you need to be street smart. It takes pragmatic, adventurous, easygoing people who are ready to take up new challenges every day. I have seen managers arrive, not adapt to the local context and run away after a few months. ■



Consumer Communities Make

Collaboration between producers and users is good for both, as it helps firms make their products more competitive, improving society's wellbeing in return. That is why policies favoring open innovation are always worth it

by Alfonso Gambardella @

In the first chapter of the “Wealth of Nations,” Adam Smith, the founding father of economics, felt the need to state that “... all the improvements in machinery, however, have by no means been the inventions of those who had occasion to use the machines.” According to Adam Smith, improvements were also made by the “makers of machines.” He could then develop his argument that specialization in “making the machines” was the essence of division of labor. In fact, the word “however” suggests that he was contradicting the common experience of his readers, which was that inventions were typically made by the users of machines.

Today we have come a long way since Adam Smith. The specialization that he predicted has taken place on a large scale, and the makers of machines produce many innovations. However, and it is now my turn to use the word “however,” not only have the users made many innovations, but the rise of new technologies has improved their ability to make these innovations. Computer-aided design and manufacturing (CAD-CAM), the miniaturization of powerful technologies (e.g. computers) or manufacturing tools (e.g. 3D printers) have improved users’ ability to design their objects, technologies (e.g. software), or ideas. Moreover, the web has enabled users to communicate and share among themselves ideas, technologies, and designs on a large scale, giving further impetus to innovation. Examples abound. Lego has realized that users were able to create original objects, and has helped to found communities of users from which they license new ideas of Lego toys or designs. Arduino, an open source chip maker, nurtures a community of users that runs projects that improve and spread its technologies. Facebook has launched the Open Compute Project in which companies and individuals share new technologies for making efficient hardware and data centers. These communities are extensive,



ALFONSO GAMBARDELLA
Professor of Innovation
Management
and Strategies,
and Director
of the Department
of Management
and Technology
at Bocconi

and survey data indicate that individual consumers who tinker and innovate with their products reach the number of a few million in countries like the UK, the US, and Japan. Of course, the quality and quantity of user contributions to innovation is even larger if we consider the innovations of user firms.

Open collaborations between users and producers has now become a diffused mode of innovation. But how does it compare to the closed innovation mode that permeated the 20th century? The upside of openness is that firms benefit from the ideas and contributions of others. The downside is that they cannot prevent others from using their ideas.

Christina Raasch, Eric von Hippel, and I developed a paper that shows that when the community of users that contribute to the innovation is large enough, the inputs that firms receive from participating in an open innovation project justify the loss implied by the fact that users can adopt these ideas to produce competing products. In more recent research we show that the same applies to open projects in which both

Innovation Take Off



users and competitor firms participate.

A large open community produces a larger cake, and the share that each firm enjoys can be larger than the entire cake that each firm can produce by itself. In addition, the paper shows that society benefits from openness because it produces more innovations than the closed model. It also shows that policies that support open collaborations encourage this opportunity, while policies that provide incentives for the traditional research investments of firms encourage them to go back to the closed mode. These incentives create good profits, but the closed innovation mode that ensues indicates that society enjoys fewer innovations and less of a benefit. ■



THE PAPER

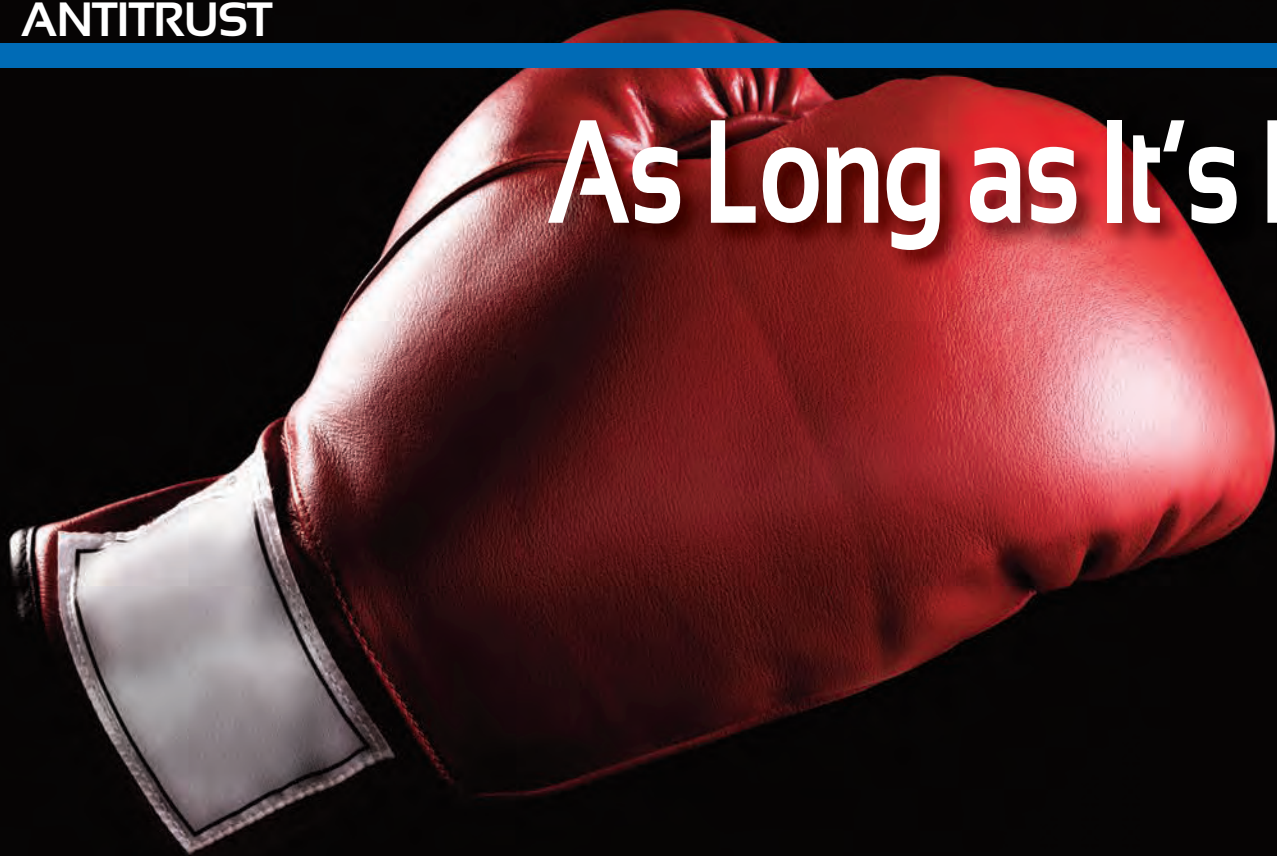
"The user innovation paradigm: Impacts on markets and welfare" by Alfonso Gambardella, Christina Raasch and Eric von Hippel



THE COURSE

Strategic Innovation In The Digital Era On November 11-14 the SDA Bocconi program, coordinated by Alfonso Gambardella, to help managers master and innovate decision-making processes.

As Long as It's F



A company's dominant position is a force behind innovation. However, the abuses is very difficult in the

by Chiara Fumagalli @

Exclusionary practices are contracts, pricing strategies, and more generally actions taken by dominant firms to deter new competitors from entering an industry, to oblige rivals to exit, to confine them to market niches, or to prevent them from expanding, and which ultimately cause consumers harm. Recent prominent cases involving exclusionary practices include Google and Qualcomm: in June 2017 the European Commission fined Google 2.42 billion euros for abusing its dominant position as a search engine giving illegal advantage to its own comparison shopping service; in January 2018 the European Commission fined Qualcomm 997 million euros for exclusive dealing contracts with Apple that excluded rivals. Abuse of dominance is a challenging area of competition policy because it is certainly the most controversial. Indeed, a very important principle that inspires antitrust laws around the world is that obtaining or possessing a dominant position is not by itself a problem: this reflects the idea that it is the prospect of earning profits and market power that is the engine of



CHIARA FUMAGALLI
Associate Professor
at the Department
of Economics,
she is also Director
of BSc in Economic
and Social Sciences

innovation and growth. Firms will innovate, invest, introduce new and higher quality products to be better than rivals, be preferred by customers and hence earn higher profits. If during this process there is a firm that is outperforming rivals and dominating the market, that should be accepted – as long as there has been competition on merit and the firm has not resorted to unlawful means. In practice, however, the distinction between fierce - but fair or lawful - competition and unfair or unlawful competition can be difficult to make.

Another source of controversy is that the enforcement of antitrust laws concerning exclusionary practices is extremely different on the two sides of the Atlantic. In the US it is rare for courts to find that a firm has infringed antitrust laws on the basis of monopolization or attempted monopolization. At the other extreme, dominant firms in the European Union are under close scrutiny, and it is less likely than in the US that cases involving practices such as exclusive dealing, fidelity rebates and price discrimination are decided in favour of a dominant firm. Most economists have denounced this state of affairs

air Competition

osition is often the driving
For this reason, regulating
e absence of illegal behavior

as unsatisfactory for quite some time and have emphasized that these practices may be anti-competitive or efficiency-enhancing depending on the circumstances. As a consequence, they should be viewed neither as under a de facto per se state of illegality nor under a laissez-faire regime, but should be assessed on the basis of the effects exerted on the market. Admittedly though, the guidance that the economic theory has so far been able to provide to competition law enforcement in this area is not fully adequate. Some so-called post-Chicago models

have offered what economists call “possibility results” (namely, the development of models showing that a given practice may have an anti-competitive effect under certain conditions), but offer few ways to identify results that could assist the analyst in uncovering all the potential effects (positive and negative) of an exclusionary practice, as well as their significance in practice. To conclude, such issues are extremely important for a modern economy. Wrong policies in this area can have severe welfare-detrimental effects either by eliminating competition (a hands-off approach would allow incumbent firms to exclude efficient rivals, thereby leading to persistent dominant positions and impeding the Darwinian process of competition that is a major source of productivity gains), or at the other extreme by impeding practices which lead to lower prices or higher investments thereby ultimately hindering innovation (think of interventionist policies which prevent dominant firms from offering good deals, or from introducing new products, or from using contracts which may promote investments). ■



THE BOOK

Chiara Fumagalli (*Bocconi*), **Massimo Motta** (*Universtat Pompeu Motta*) and **Claudio Calcagno** (*KPMG LLC London*) are the authors of *Exclusionary practices, the economics of monopolization and the abuse of dominance*, published by Cambridge University Press. Click on link at right to read introduction.





Three Rules for Selection in

A Bocconi study has uncovered the main aspects companies need to consider when trying to choose

by Thorsten Grohsjean @

Do you know what happens when you ask too many friends what to get for your girlfriend's birthday, where to go for holiday, how to get a stain out of the sofa cushion, or how to open a can without a can opener? You will get myriads of ideas, and chances are you will be not a jot wiser. Then you actually know already what I am going to talk about. Generating ideas is one part of the job. Selecting the best one is another and not necessarily the easier one. How often even the biggest companies fail at this can be witnessed daily by walking down the street. Surely you know your "favorite" car models that make you wonder each time you see them, "Heavens! How could this design go all the way through the company, get the greenlight it needed, and actually be built? It looks



THORSTEN GROHSJEAN
Assistant Professor
of the Department
of Management
and Technology
at Bocconi

like a chimera on wheels!"

To understand which ideas are pursued and developed into innovation projects, I studied the selection of ideas in a large multinational company with my colleagues Paola Criscuolo, Linus Dahlander and Ammon Salter. In this company, every employee is allowed to submit new R&D ideas. When an idea gets selected by the employee, he or she is allowed the required budget and time to fully work on the project. Once they finish their work, the result is rolled out into the whole company.

We found three interesting factors that influence funding decisions in this organization.

First, of course, is the novelty value of an idea. However, the most innovative ideas are not given most preference. Rather, ideas of medium novelty are the ones that hit the target. If a project strays too far from the company's main activities, or if it seems too



Innovation Processes

among innovative proposals: the novelty factor; the people who are deciding; and their workload

difficult to commercialize, it does not get funded. If the idea is considered to be too progressive, such as one that aims to improve existing processes, it meets the same fate. Whereas projects which, say, find a new way to serve increasing client demand by stretching existing capabilities, fall into the sweet spot of novelty and receive funding.

Secondly, we observed the more diverse the decision panel is, the more innovative are the ideas they choose. Decision boards that consist of members from

different departments with diverse professional knowledge welcome more novel ideas than a comparatively specialized decision panel.

Thirdly, the workload of the decision makers has a negative effect on the innovation value of the selected ideas. The more ideas they have to evaluate, the less innovative are the ideas they prefer. For big innovations to get a chance, the company must strictly limit the workload on the decision makers.

So next time you need a birthday present and ask people for advice, bear in mind that the most innovative idea might not be a safe present, it's no use asking only like-minded people and don't overload them by also asking about holiday trips, couch cushions and tin cans.

However, the chimeras on wheels, I am afraid, will go on rolling down the streets in spite of all the research in the world ■



THE PAPER

Evaluating novelty: The role of panels in the selection of R&D projects A paper by Criscuolo, Dahlander, Grohsjean and Salter, finds that companies prefer intermediate levels of innovation.

Teaching Machines to Improve Business

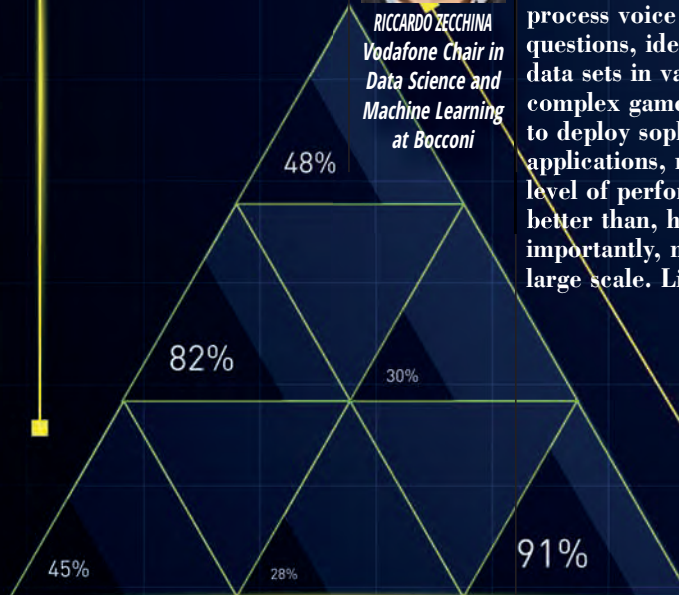
Big data sets and algorithmic analytics have accelerated scientific progress and improved our lives. But the challenge of machine learning has only just begun. Generations must act now or risk falling behind in a game currently being played by machines.

by Riccardo Zecchina @ Research storytelling by Claudio Todesco



RICCARDO ZECCHINA
Vodafone Chair in
Data Science and
Machine Learning
at Bocconi

The proliferation of data and the invention of powerful algorithmic tools for their analysis are powerfully accelerating the progress being made in many areas of science and technology. Computers are now able to recognize objects within complex scenes, process voice expressions and answer human questions, identify relevant aspects of huge data sets in various domains, and compete in complex games that require forms of intuition to deploy sophisticated strategies. In many applications, machine learning is reaching a level of performance comparable to, if not better than, human counterparts. More importantly, machine learning can do so on a large scale. Life sciences and social sciences,



intelligence

intelligence

How to Learn s and Health

*ific and technological progress and already
only just begun, and younger European
ently led by the United States and China*

both characterized by complex sets of data,
are at the cusp of this great revolution.
Machine learning will have a huge impact on
business and personalized medicine, as
demonstrated by revolutionary applications
already in use, such as human-machine
interaction in natural language, and the use of
machine learning tools to predict outcomes of
novel gene-editing techniques (the so-called
CRISPR revolution in biotech).
In spite of recurrent media exaggeration over
the last few decades, all these studies and
applications crucially depend on data and were
still unattainable even as recently as ten years
ago. Current progress has been triggered by
the combined development of new technologies



73%



for the production and mining of data, along with powerful computer platforms and new machine learning algorithms. Currently deep neural networks are the main tools of machine learning, although not the only ones. These artificial systems are a special case of a wide array of machine learning techniques that mimic information and communication processing in the visual nervous system. Their goal is to extract relevant information from huge amounts of data (i.e. to learn so-called data representation) and machine learning has already been applied to a multitude of fields including (but not limited to) computer vision, speech recognition, processing natural language, audio recognition, social networks, machine translation, bioinformatics, drug design, and data analysis in general. Most of these questions have been studied for decades, but only recently has machine learning produced concrete, and unexpected, progress. Just a decade ago it was not possible to apply machine learning tools on huge data sets, either because data were not of sufficient quality and quantity, or because computing platforms were not powerful enough. If you want a reference date, it is only since 2012 that the deep networks have achieved levels of performance comparable to human ones in tasks of image recognition.

continues on page. 69

ALESSIA MELEGARO

Fighting Influenza With a Chip

Chips and coding can help us to understand how infectious diseases spread and which vaccination strategies to adopt. This is the focus of an ongoing project by Alessia Melegaro (Department of Policy Analysis and Public Management), in collaboration with ISI Foundation, Fondazione Bruno Kessler, and Kenya Medical Research Institute.

The goal of "Who contacts whom? Social contact networks in Kilifi" is the development of a model to study the human respiratory syncytial virus that affects infants and for which there is still no vaccine available. In Europe, the virus causes flu-like symptoms, while in poor countries it is associated with a high mortality rate.

The research is based on data collected in 2016-2017. Students from two schools in Kenya and a sub-sample of their families carried around a coin-sized chip for an entire week. The chip, which was developed by SocioPatterns, recorded each time two persons came close enough to transmit an infection.

"Information on these interactions has enabled us to define a network of relationships between individuals and groups," Melegaro says. Before that, researchers had to perform data cleaning. The number of nightly interactions, for instance, was very high because all family members put their chips on the same table before going to bed. "The preliminary work was very long and tricky. We then used a software to analyze the relationship networks and to study and look at them from different angles." Afterwards, they developed a code for that particular demographic -- that is, a code that takes into account information such as age distribution and household size.

The researchers are now integrating the transmission mechanisms of the respiratory syncytial virus into the model and testing its robustness using the existing epidemiological data. "In the past, computer simulation models of the spread of infectious diseases were based on theoretical assumptions about social interactions. Today, realistic network-based models allow us to more accurately identify the most effective practical vaccination strategy."



THE LAB

Bocconi Institute for Data Science and Analytics The goal of BIDS is directed by Igor Pruenster is to promote and carry out research on large data sets and to model complex phenomena.

ALESSIA MELEGARO
Assistant Professor
in Demographics
and Social
Statistics
at Bocconi



CARLO BALDASSI

Learning Is a Quantum Question

We taught machines to learn and now our computers can easily identify a cat from a dog, yet the techniques we have developed are not based on a grounded theory. They are extremely complex “recipes” that aim to minimize errors by gradually changing a large number of parameters. It is like having millions of knobs to adjust at once: you may find the right combination, but it is a time consuming process. The current techniques are the result of decades of empirical research based mostly on intuition. It is therefore important to find relatively simpler systems and to do it in a theoretical framework that allows extension of these results to different fields of application.

This is the kind of work that Carlo Baldassi and Riccardo Zecchina are doing. In “Efficiency of quantum versus classical annealing in non-convex learning problems,” a paper recently published in PNAS, they deal with the subject by comparing the efficiency of two computational techniques in relation to machine learning: the (classical) simulated annealing and the quantum annealing. The former can be roughly described drawing an analogy with a physics phenomenon: it is what happens when a metal in semi-liquid state is gradually cooled. The process lowers the object’s internal energy and optimizes the order of the atoms. In machine learning, that energy is represented by the number of errors to be minimized. “We demonstrate that, in machine learning, simulated annealing does not work, unlike quantum annealing. The latter exploits the quantum properties of matter. It is a magnetic field, rather than a temperature, which is gradually reduced to reach the optimum,” Baldassi explains, pointing to another analogy.

“This is a way to find solutions with excellent generalization capabilities and effectively accessible through algorithms. Beyond any application – the transition from theory to practice is not simple at all, but on the market there are already prototypes that use quantum annealing – the paper fits into the framework of the development of a theory of machine learning and contributes to the understanding of how it works and how it can be improved.”

CARLO BALDASSI
Assistant Professor
in Machine
Learning
at Bocconi



THE PAPER

“Efficiency of quantum vs. classical annealing in non-convex learning problems” by Carlo Baldassi and Riccardo Zecchina is useful for the broader understanding of machine learning.

44%



THE PAPER

"Comparing models for sequence data: Prediction and dissimilarities" by Piccarreta, Bonetti and Lombardi models individual lives over a trajectory rather than in terms of single events.

RAFFAELLA PICCARRETA, MARCO BONETTI
A (Statistical) Model for Life

The social sciences often deal with life trajectories that describe events experienced over a period of time. Think about occupation changes or family formation. In both cases, individuals experience different states over time. Sometimes they go back to past states, sometimes not. Sometimes a subsequent transition to another state occurs, sometimes not. These sequences, their chronological order and the length of stay in a given state describe trajectories.

Predicting them is a difficult task. The most popular models among scholars focus on the transition from one state to

another and on the relationships with a set of covariates observed at the beginning of the process. The goal of the statistical analysis of these transitions is to study, at least in part, life trajectories. Until now, these models have been applied without paying much attention to their functioning in relation to the goal of studying the

evolution of the trajectory as a whole rather than the timing or the duration of specific events. In their working paper "Comparing models for sequence data: Prediction and dissimilarities," Raffaella Piccarreta (Department of Decision Sciences), Marco Bonetti (Department of Policy Analysis and Public Management), and Stefano Lombardi compare models according to their predictive capabilities.

The authors used data on the family trajectories of Dutch women born in 1958-1962 verifying monthly if they are married, cohabiting, single, and with or without children. "In order to compare their predicting power, we used model-generated trajectories and assessed the similarity between them and the observed trajectories," Piccarreta says. The validation process also took into account the relationship between trajectories and a set of covariates. "This is an important problem in many contexts. The study of family trajectories, for instance, must take into account the relationship with a set of characteristics observed at the beginning of the period such as birth cohort, level of education, religious status, and having versus not having divorced or separated parents during their adolescence."

MARCO BONETTI
Full Professor
of Statistics⁴⁸
at Bocconi



82%

45%

follows from page 66

DANIELE DURANTE

How to Model Dynamic Networks

If we could carry a sensor that produces a signal every time we get near another person who carries a similar device, and if these signals were received by a software that records their position in space and time, at the end of the day we would obtain a number of very complex and apparently incomprehensible maps of contacts. They are called dynamic networks, they evolve in time and they are not incomprehensible. Actually, we can model them, study their underlying patterns and forecast their evolution in time. "The most relevant application is in epidemiology," says Daniele Durante (Department of Decision Sciences). "These can be useful tools to try to control the spread of infectious diseases." We can model these networks using statistical learning methods. "A contact network generates a complex data set which is even more complex when it evolves over time. We must reduce the complexity of the problem. We therefore use Gaussian processes to model the actors' behaviors in a mathematical non-observable space called latent space."

This is what happens in "Locally Adaptive Dynamic Networks," a paper co-authored by Daniele Durante with David Dunson based on face-to-face dynamic interaction networks among 232 students and 10 teachers in a primary school in Lyon, France.

In another paper titled "Bayesian Learning of Dynamic Multilayer Networks," Daniele Durante, Nabanita Mukherjee and Rebecca Sterols focus on time-varying interconnections among individuals in a rural area of Kenya and propose a

Bayesian learning methodology to study dynamic multilayer networks.

"Multilayer means that the dynamic network is observed in multiple contexts, in this case during three consecutive days. Every day generates a 'layer.' We can perform better inference and prediction by borrowing information within each network, across time, and among layers."

DANIELE DURANTE
Assistant Professor
in Statistics
at Bocconi

Machine learning and data science are influencing our society and our culture. Man-machine interaction through natural language and data analysis to improve business processes, like recommendation systems to anticipate people's everyday needs, have opened up new forms of market competition. More generally, machines and devices in industrial, business, and consumer settings are achieving a kind of performance that requires new business models. Data analysis and machine learning also have a major impact on the optimization of manufacturing processes. From a purely scientific point of view, the recent success of machine learning has led researchers to think about artificial intelligence in a completely new way.

Although all this is attractive, tangible and effective, there are many aspects of machine learning that need to be developed and understood in greater depth. For example, a complete theory of how deep learning works has not yet been elaborated, and such a theoretical feat would lead to enormous progress. Expanding the spectrum of machine learning applications is the element that will ultimately determine the impact of data science on society.

For Europe's socio-economic system, the challenge is to keep up with this rapidly evolving sector. Otherwise, we would be at a serious disadvantage with respect to competitors around the world. US tech giants, supported by a galaxy of research initiatives and start-up ventures, are industry leaders, as demonstrated for example by the fact that they are ahead of the game in developing self-driving cars. China is also investing enormous resources in machine learning and artificial intelligence. The industry is still in its infancy and the EU can catch up, if it acts now. ■



THE PAPER

"Bayesian learning of dynamic multilayer networks" by Durante, Mukherjee and Sterols observed interactions in rural Kenya to learn about how networks work, with applications in epidemiology.



THE BACHELOR

Bachelor in Economics, Management and Computer Science or Bemacs, is a three year course combining economics, management and law with a solid base in information processing



THE MASTER

A two-year course in data science and business analytics gives students wanting to work with data the most advanced techniques relevant to large companies

IGOR PRUENSTER
Full Professor
of Statistics
and Director
of BIDS, Bocconi
Institute of Data
Science & Analytics



ANTONIO LIJOI, IGOR PRUENSTER

Algorithms for Analysis of Complicated Phenomena

Non-parametric Bayesian inference is a flexible and effective approach for analyzing complex phenomena. It has been proven successful in several applied fields ranging from genomics to functional data analysis, from clinical trials to topic modeling, just to mention a few. Some recent interesting developments have been achieved in the analysis of data arising from DNA sequencing where non-parametric Bayesian models yield simple and intuitive tools to predict the number of new genes that would be discovered in an additional sample by analyzing only a fraction of a genomic library or to estimate the so-called sample coverage.

Things get much more complicated when heterogeneous data are available as in the case of DNA sequences coming from different tissues of an organism. This is the problem that Antonio Lijoi, Igor Pruenster, Federico Camerlenghi, and Peter Orbanz face in "Distribution Theory for Hierarchical Processes," forthcoming on Annals of Statistics. The authors propose a general model for data that are affected by a source of heterogeneity: this is the typical setting that characterizes meta-analysis experiments and is of great interest in machine learning applications. Patients treated in different hospitals or documents issued by different areas of the same organization are both examples of heterogeneous populations that share common features.

"Hierarchical processes are useful to address this problem. They arise as the composition of discrete random probability measures," Antonio Lijoi says. "Our paper presents novel theoretical results and describes two classes of algorithms that can be readily implemented. On the one hand, the so-called 'marginal' algorithms provide approximate samples from predictive laws in heterogeneous populations. On the other hand, 'conditional' algorithms generate realizations of the underlying random probability measures conditionally on the data. They allow us not only to make predictions, but also yield a more reliable evaluation of the uncertainty associated with them."

Some promising new developments in this study concern survival analysis in the presence of covariate-dependent data.

ANTONIO LIJOI
Full Professor
of Bayesian
Statistical Theory
at Bocconi



44%

90%

00%

DIRK HOVY

Preventing Suicide By Algorithm

Imagine a system that learns to detect a user's risk of suicide by using social media text. Some years ago, this would have been futuristic. Today, it's a reality, shown by several studies. "You can assess an individual's risk of having suicidal thoughts by looking at his social media output," Dirk Hovy says.

These methods, the outcome of an interdisciplinary effort, can complement traditional psychological procedures, namely impressions formed during psychologist sessions, and help assess patients on an ongoing basis. Existing studies, however, still need to model each mental condition in isolation, and do not take the patient's demographics into account. But conditions such as anxiety, depression, eating disorders, panic attacks, schizophrenia, bipolar disorder, and post-traumatic stress disorder often occur in clusters, and are highly correlated with age and gender.

In "Multi-task Learning for Mental Health Conditions with Limited Social Media Data," a paper co-authored with Adrian Benton and Margaret Mitchell, Dirk Hovy shows how computers can help psychologists diagnose people's risk for mental health conditions. The authors created an algorithm to take into account not only patients' written texts, but also demographic variables and potential other mental health conditions. "This is the same thing a psychologist does: if the patient is, for example, a man under 30, this guides them to assess the symptoms in a different way than if she were a woman over 60. We showed that a model that does the same can predict the risk for several mental health conditions much better than prior systems." A difference in performance that translates into 120 additional correctly predicted suicide attempts. "This is a promising new direction in automated assessment of mental health and suicide risk, with possible application to the clinical domain." A direction, of course, that needs to include psychologists, computer scientists, and most of all patients.

DIRK HOVY
Associate Professor
of Social Media
Marketing
at Bocconi



73%



THE PAPER

"Multi-task learning for mental health using social media text" by Hovy, Benton and Mitchell creates an algorithm analyzing patients' social media postings along with demographic factors

Converse All Stars is an iconic brand. Chuck Taylor All Star sneakers have remained unchanged for over a century, and represent one of the few cases where the product is stronger than the brand, i.e. Converse. Davide Grasso is currently managing the brand, which has been owned by Nike since 2003. SDA Bocconi Class of 1992, this manager entered the world of sports shoes by first working at Nike, being in charge of marketing strategy. The Oregon-based corporate giant originally gave him the mission of dominating the market for soccer shoes and apparel. Since he managed to meet the company's targets, in 2016 he was rewarded with the position of President and CEO of Converse.

→ What motivated you to pursue an MBA at Bocconi?

Bocconi was a carefully thought out choice. After graduation and some experience in fashion and advertising, I wanted to do an MBA to expand my range of skills and SDA Bocconi was the only school of management that allowed me to combine experience in the field, while also working on projects proposed by fellow grad students. For example, I presented the case of a Brescia-based clothing company going through a transformation period and needed industrial restructuring.

→ What did you expect from SDA Bocconi School of Management?

A lot, but the faculty team had very strong names, people like Mario Monti, Enrico Valdani, Claudio Demattè, and this was already a good starting point. SDA also offered a complete business education in strategy, a decidedly pragmatic approach to issues combined with a profound ethical and social orientation. Basically I expected to be given a set of tools, skills, and values that I would continue to use in my professional future. And that's the way it went.

→ Was there any particular event during the MBA that somehow marked your life?

Yes, I would like to share one in particular. At a certain point, Professor Valdani gave us an analysis of competitive intelligence. He divided the class into two groups and I was chosen as speaker of my team: in that role, for the first time I found myself speaking in public about a complex issue, for which we had had to study everything in a short time in order to arrive at a solution. In that moment I realized I had a gift for it, which later became one of my personal strengths.

→ So what is your advice to young people who want to pursue a career like yours?

First of all, you must be curious: today's business context is global, the inputs are multiple, business dynamics continually change and societies continue to evolve. Then you have to put yourself up to the challenge, get out of your comfort zone, explore new areas. Finally, you must be willing to question your own ideas without losing confidence in yourself. To lead a company, you need to be disciplined and learn how to overcome defeats in a constructive way, a bit like in sports: setbacks are

common in life, even in professional careers.

→ Today there is a lot of talk about soft skills, understood as an asset that can make the difference in one's career. Do you agree?

Definitely. During the MBA we were told this several times: to be accepted you must be equal, to be successful you must be different. The predisposition for listening, for example, is one of the fundamental qualities because it implies the desire to keep learning: this means turning each arrival into a new starting point.

→ But challenges are full of doubt and uncertainty. How do you deal with your being a decision maker?

To answer, I will quote the founder of Nike repeating Winston Churchill's famous phrase: "Success is not definitive, failure is not fatal: what matters is the courage to move forward." Then, experience can come to the rescue, as well as constant exchange with your team: the relationship between a leader and his/her team must be dialectical.

→ So it is true that managers no longer impose their ideas from above?

Since the days I joined Nike, my style has never been autocratic. You must not be in a hurry to impose your own ideas, but you need to be intellectually honest towards everyone. This is the way to win the acceptance of your team and make the right decisions.

→ You have a propensity for dynamic leadership: on one occasion you have argued that digital disruption is an opportunity. In what sense?

Today people want to be free to choose, for this reason brands cannot hold consumers hostage with loyalty marketing, but must know how to satisfy their changing needs and desires. Digital enables us to get to know our customers so well that we can offer them what they want the moment they want it, in order to improve their lives. Digital technology also enables transparency, accessibility and spontaneity, but you need self-control in order not to send out superficial messages. If used well, digital tools can boost the market success of a company.

→ Is there a recipe to make a good manager?

There is no standardized solution, because every company is different. Your need to balance your managerial vision with company values, striving for authenticity, which for consumers translates as truth.

→ Is there a business book that has inspired you recently?

I'm an omnivorous reader, but there are some management books that influenced my thinking: "Judgment" by Noel M. Tichy and Warren G. Bennis, which explains how to make the right calls if you are a leader; "Who Says Elephants Can't Dance?", where Louis V. Gerstner Jr explains how he managed to turn around IBM; "Winning the Brain Game" by Matthew E. May on the logic of cognition and how it can help you avoid flaws in your thinking, and "Do What You Love, the Money Will Follow" by Marsha Sinetar. The latter prompted me to go to Holland and start working for Nike. ■

A portrait of Davide Grasso, a middle-aged man with grey, curly hair, smiling at the camera. He is wearing a dark blue button-down shirt. The background is a colorful, abstract pattern of various shapes and colors, including red, yellow, and blue.

Success in Management Includes Learning to Deal with Failure

*Davide Grasso, Bocconi alumnus
and President and CEO of Converse, says
he values discipline, overcoming defects
and constant exchange with his team*

by Ilaria De Bartolomeis @

Digital technology and multilateral platforms are radically transforming our lives, while smart cities are changing the way services are provided to people and businesses.

The so-called sharing economy, made possible and augmented by digital technology, is improving the match between labor demand and supply. On the supply front, there is a rush to enter the job market by a multitude of people usually primarily engaged in other occupations. These new non-professional operators are interested in profiting, even if only fleetingly, from the market space that opens up thanks to these new technologies. The inherited boundaries between self-employment and employment, and between the status of tenant, owner and user, are now so porous as to make these categories often indistinguishable, if not meaningless, and this confusion is a source of concern for regulatory bodies. Therefore, the issues raised by the sharing economy are many, especially regarding the regulatory requirements that need to be met to compete in certain markets. And digital technologies enabling such competition also open new frontiers for geolocation and transportation services.

The project I coordinate, "Sharing behavior and risk attitudes in the urban world," which is funded by the AXA Joint Research Initiative, aims to study the spatial and behavioral aspects of the sharing economy, with particular reference to the changes that are likely to be induced by digitization and artificial intelligence in the functioning of cities. Several phenomena are fueling this structural change.

Firstly, the entry of digital oligopolies is expanding the size of many traditional markets, from mobility to housing to food consumption, and much more. These local markets pose significant issues in terms of the regulation of employment and of the regulation of competition.

Secondly, the sharing economy entails a lower propensity of consumers to own the goods being used. If one thinks of urban mobility, this could lead to a positive reduction in the number of vehicles in circulation, but not necessarily a reduction in total



MARCO PERCOCO
Associate Professor
of City Management
and Competitiveness
and Director of GREEN
Bocconi

mileage traveled and, consequently, in congestion and pollution.

Third, from a technological point of view, self-driving (electric) vehicles are about to become a reality especially in US cities and, given the fact that a private car stays in the parking lot 90% of the time, it is conceivable that autonomous cars will be shared rather than owned, with a consequent reduction in costs. This scenario could result in the reduction of external costs related to mobility, through a reduction in the number of vehicles in circulation and the optimization of occupancy rates. In fact, having at their disposal a car that needs no driver could encourage families to live in places further and further away from the city centers, fueling suburban sprawl. This situation would lead to an increase in average distance traveled with a consequent increase in external costs.

Fourth, cities are changing their shape and their functioning thanks to digital technology and, in equal measure, because of the data and algorithms that improve the match between supply and demand. A renewed approach to the classic mechanism of operation of markets raises questions about access to certain services, since these will no longer merely depend on income and the place of residence, but also on the capability to access networks from fixed and mobile devices.

The new smart cities therefore offer not only new modes of consumption and production, but also renewed opportunities for analysis, in order to understand how traditional markets will evolve geographically, and how individuals will change their behavior in a given urban space. ■



THE RESEARCH

Marco Percoco is coordinating the research project "Sharing behavior and risk attitudes in the urban world" at Bocconi funded by the AXA Joint Research Initiative.

by Marco Percoco @

There are four drivers of change in our cities, which are increasingly becoming crucial locations for the study of the behavior of individuals and firms

Smart Cities Lead To Better



Understanding Of Markets



Expatriate CFOs Have an Impact on Corporate Financial Reporting

A study of European companies in the Euro Stoxx 600 index shows that managers with a cultural context different from their own can have a major impact on corporate financial reporting.

by Antonio Marra @

It is the country that adapts to the Chief Financial Officer (CFO), rather than the other way around. At least, this is what emerges from an analysis of the impact of foreign CFOs on the financial reporting of European companies.

In modern economies, the importance of stock markets, as well as the ever-increasing demand for comparative corporate economic and financial data, have led to increasing pressure on companies and management to exhibit results that are satisfactory for all stakeholders. In this context, earnings management and business accounting have come to



ANTONIO MARRA
Associate Professor
of the Department
of Accounting

play a key role, also because they can be used opportunistically to disguise mediocre performance, often caused by wrong strategic choices, lack of innovation, or managerial myopia.

Given its importance, earnings management has been one of the most studied topics by accounting researchers in the last thirty years. Among the various strands of research on the topic, there is one that looks at the incentives underlying opportunistic behavior. In fact, there are many reasons for the manipulation of financial statements and the consequent distortions in financial



working in countries with operations

reporting. These reasons may be linked to the imperatives of corporate performance, the personal interest of management (for example, with respect to their compensation or continuity in the company),

or to factors related to the business environment. With regard to context factors, very few studies have analyzed the impact that an individual placed in an influential managerial position can have on the business context where the culture is different from the one where he/she was born and raised. Research into psychology and human capital highlight how the personality, as well as the moral values of individuals, are formed in the family environment during adolescence and are not significantly altered afterwards. These values help shape the style of management of a given person, especially, when he/she operates in a country other than their own.

Starting from these premises, I have analyzed the role that the CFO, in his/her role as the "custodian of the quality of financial reporting," plays in determining earnings management and, ultimately, the overall quality of the accounting data being reported. The analysis was carried out on companies located in 15 different EU countries that are included in the Euro Stoxx 600, for the period from 2006 to 2015. My findings show that CFOs having a distinctive managerial style developed in their own native countries positively affect the quality of the financial reporting in the company where they operate. Furthermore, it appears that foreign CFOs (expats operating outside the countries where they were born and trained) are able to produce accounting documents of a higher quality with respect to their home-grown counterparts. More in detail, the results also suggest that the nationality of the CFO does not have a uniform impact on financial reporting: only CFOs coming from countries more oriented to the protection of investors who move to countries where such protection is weaker contribute positively, and significantly, to the quality of the financial data of reported by companies.

The individual thus manages to overcome the weight of local habits and lead the company to an improvement in the overall quality of accounting statements. On the other hand, when CFOs move from a country with a low propensity to protect investors to a country with high investor protection, they do not significantly affect the quality of their companies' accountability. In this case, the environmental factors seem to prevail on individual factors. Such empirical evidence points towards interesting scenarios: the cultural values of individuals, as identified by their country of origin, are able to significantly influence companies (and therefore, indirectly, also the business context) where they work as financial directors. And this seems to be particularly the case when the style of management of the CFO diverges more markedly from the context factors of the host nation. ■



THE PAPER

"CFO country of origin and accounting quality: A cross country investigation" by Antonio Marra looks at the impact of cultural origin on financial reporting in a sample of nearly 1,000 managers

Innovate or Exploit? Achieving Balance

A study shows that this managerial challenge can best be faced by looking outside

by Dovev Lavie @

A key managerial challenge concerns ensuring that a company is both innovative and efficient. A dilemma arises when there are tradeoffs between exploring new knowledge and exploiting existing knowledge. Companies have limited resources to allocate to either activity and the practices associated with these activities differ. Until recently, managers believed that companies should nurture ambidexterity, that is, simultaneously explore and exploit. However, a BCG survey revealed that 90% of companies fail to become ambidextrous. The ambidexterity, or organizational separation approach, suggests that companies can simultaneously explore and exploit by separating the exploring organizational unit from the exploiting unit. Then, managers are expected to integrate these activities and ensure that knowledge flows from the exploring unit to the exploiting unit. Most companies, however, have a hard time implementing this solution.

Another approach is to balance exploration and exploitation within a single organizational unit by nurturing discipline, support, and trust. Under such conditions, employees can engage in both exploration and exploitation. The challenge here relates to cognitive constraints. There is no need for integration, but employees are assumed to be both motivated and capable of being innovative and productive, which is not always the case. Even the most talented employees have limited attention span and at any given moment can either explore or exploit. Organizing and coordinating their output is far from trivial.

A third approach calls for temporal separation by which a company transitions between exploration and exploitation over time. Here, the same unit engages in exploration and exploitation, but at any given moment it focuses only on one activity. The managerial challenge is to coordinate the transitions between exploration and exploitation, which are complex and time consuming. During the transition periods the company engages in both activities, for example, as it designs a new product while the previous one is still delivered to the market. The same team may be involved in both exploration and exploitation, which is common in software companies or in Japan, where the engineer that



DOVEV LAVIE
Full Professor
of Business Strategy
at the Department
of Management
and Technology
at Bocconi

designed the product accompanies it in the marketing process.

In my research, I identified a new approach for balancing exploration and exploitation, which enables a company to specialize only in one activity, while pursuing the other activity via alliances or acquisitions. Most companies explore and exploit via multiple modes, including their internal organization, alliances, and acquisitions. I analyzed 190 software companies, tracking all their products, alliances, and acquisitions over 12 years. I found that companies that attempt to simultaneously explore and exploit in one mode such as their internal organization or acquisitions, suffer performance decline, mostly because these activities involve contradictory organizational routines. Exploitation facilitates consistency, stability and control, while exploration



THE PAPER

"Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances and acquisitions"
by Dovev Lavie shows acquisitions work better for innovation.

ce Through Alliances or Acquisitions

the company. And by getting organized



entails experimentation, flexibility, and risk-taking. Pursuing both activities in the same mode creates tension and coordination challenges. Also, managers cannot mobilize resources or reassign personnel across these activities. A case in point is Delta Airlines' decision to terminate its Song service which was supposed to compete with low-cost carriers offering point-to-point flights. Delta discovered that exploring with this new service conflicted with its traditional service and that it could gain more by avoiding exploration and using the Delta Song planes on its regular routes.

The recent evidence suggests that when a company explores in one mode while exploiting in another, it can enjoy the complementary benefits of exploration and exploitation, and improve its performance by decoupling exploration from exploitation. Such a company can overcome the tension between conflicting routines, nurture a coherent learning environment, and promote specialization in either exploration or exploitation. In each mode the

company can invest in one activity without sharing resources with the other activity, and follow consistent procedures. For instance, when Procter & Gamble (P&G) experienced performance decline in 2000, its CEO, A.G. Lafley, abandoned P&G's tradition of internal innovation, and opted for external innovation via acquisitions and alliances, while leveraging P&G's marketing and manufacturing infrastructure to exploit. P&G's "Connect and Develop" approach relied on its ability to recognize consumer trends while seeking external solutions to satisfy emerging customer needs. Instead of internalizing knowledge, P&G opted for acquisitions, such as SpinBrush, and for joint ventures, such as Precision Diagnostics. By 2006, many of P&G's products came from external contributions, which increased productivity, reduced costs, and doubled P&G's share price.

Indeed, my research shows that companies are better off leveraging alliances and acquisitions for exploration while focusing their internal organization on exploitation. This is so because exploration requires the company to move away from its core competence and prior knowledge, while internally, the company can effectively build on established solutions. In sum, maintaining innovation and efficiency is challenging, thus managers should consider alternative approaches for achieving both objectives. ■



When Learning Becomes a

New technology, new methodology, new content: the distinction between learning and e-learning no

The way we teach and learn is changing dramatically. It is a transformation that reflects the evolution of the wider socio-economic context and whose implications we have yet to fully grasp. Without falling into stereotypes, it goes without saying that the increasingly pervasive use of new digital technologies marks a sharp break with the recent past. And its impact seems all the more significant if we consider the distinctive characteristics of the latest generations that have peopled classrooms and universities: from the millennials of Generation Y to the first true digital natives of Generation Z.

In this highly dynamic framework, the knowledge and skills required for personal and professional development are inevitably changing. This is what numerous reports and declarations of supranational agencies and organizations, particularly the European Union, remind us, such as the Recommendation of the European Parliament and the EU Council on the Key Competences for Lifelong Learning. In the current scenario, it is essential for young people not only to master several foreign languages and have constantly



LEONARDO CAPORARELLO
Director of Bocconi
University Innovations
in Learning and Teaching
and SDA Professor
of Leadership,
Organization and Human
Resources

updated computer skills, but especially nurture transversal skills, such as the ability to learn, critical thinking, problem solving, teamwork, and the spirit of initiative.

In parallel to the evolving demand for skills, we see a very rapid transformation in the theories, methods and training techniques of academic learning. It is a paradigm shift: all distinctions between learning and e-learning have become largely meaningless, while new concepts, such as mobile learning (where mobility refers both to remote devices and people), game-based learning (where the emphasis is on working together to achieve a goal in a competition which is structured as a game), and blended learning (where the old distinction between traditional and digital learning is overcome, in the name of a student-empowering hybridization of content) are becoming increasingly salient. Change is transversal to the learning process and affects the process through four different dimensions.

The first dimension is methodological: we are moving towards increasingly adaptive and personalized learning tracks, based on the specific circumstances and needs of

n Augmented Experience

longer makes sense; the challenge is to create adaptive, hybrid customized educational programs

by Leonardo Caporarello - Research storytelling by Claudio Todesco @



MOOC / 1

Corporate Sustainability: Understanding and Seizing the Strategic Opportunity. This course, available on the online learning platform Coursera, is coordinated by Maurizio Zollo

the individual student. With the help of new technologies, we can support students throughout the entire learning process: not only during the classroom experience, but also upstream and downstream. The second dimension is technological: the use of new devices does not only improve face-to-face training activities, but also augments the classroom in a virtual way and helps build interactions between different classes. The third dimension refers to content: in the new scenario, the radical and frequent updating of educational programs is necessary. Finally, the fourth dimension is social: a distinctive element of today's educational process is the emergence of new forms and modes of interaction between class participants and instructors, both in person and remotely, either in real time or in asynchronous mode.

In the light of this evolutionary dynamic, learning processes can be better understood if we think of them as actual experiences. Digitization enriches experience, increasingly transforming learning into an augmented, adaptive and personalized form of experience, which can be used according to a multi-directional approach, where the traditional one-to-many logic of teaching gives way to the active involvement of all class participants. Bocconi University is moving in this direction with its R&D activities, through programs and facilities such as Bocconi University Innovations in Learning and Teaching (BUILT) and the SDA Bocconi Learning Lab. These initiatives cover the training of the faculty, as well as the design and

implementation of online and blended courses, including the creation of virtual learning experiences, the use of big data to understand students' learning patterns, and the use of gamification techniques.

However, the classroom still represents the crucial environment for expanding the training experience: it is in class that students can be successfully motivated to participate in experiments, comparisons, and analyses that contribute to their personal growth and meet their learning needs. ■



THE PAPER

"Reimagine E-Learning" by Caporarello, Gioviazzi and Manzoni analyzes 20 years of research on learning models to help instructional designers find the best solution.



THE LAB

The Bocconi University Innovation in Learning and Teaching (BUILT) is a laboratory for exploring new experiences in learning and then reproducing the most effective ones on a large scale.



THE PAPER

"When teachers support students in technology mediated learning" by Massimo Magni with Leonardo Caporarello and Ferdinando Pennarola looked at 370 students over a two-year span.

MASSIMO MAGNI

Technology Is Not Always Enough

The adoption of information technology does not assure a learning improvement per se. The task of researchers in this field is to identify the support activities that improve the effectiveness of e-learning. "The use of mobile technologies within the education sector has led to a paradigm shift in e-learning literature," says Massimo Magni, Associate Professor of Organization and Information Systems and co-author of the empirical research "When teachers support students in technology mediated learning" with Leonardo Caporarello and Ferdinando Pennarola. "We therefore must study the main factors that contribute to learning effectiveness: technology and context at 9 high schools. For a two year span, 370 students used a tablet to access digital resources and to produce output. The grades in a wide range of humanities and scientific subjects were compared with those obtained by a control group of classes where traditional teaching techniques were used. Students filled out an entry and an exit questionnaire that was designed to measure their perception of technology (ease of use and usefulness) and context (teacher's and peer's encouragement).

"The results say that previous experiences with technologies and peer support are statistically not significant. Technology effectiveness depends on integration with the learning process. In other words, offering digital content is not enough. Moreover, in the absence of encouragement from teachers, the learning process is slower and sometimes even abandoned."



MASSIMO MAGNI
Associate Professor
of Corporate Organization
and Systems
at Bocconi



MOOC / 2

Arts and Heritage Management The management of cultural institutions, museums in particular, is the focus of this online course coordinated by Andrea Rurale.



MOOC / 3

Fashion and Luxury Erica Corbellini and Stefania Saviolo coordinate this MOOC on fashion and luxury goods management, with hands-on experience from industry experts.

Business Schools Should Learn from Netflix

Variety and personalization of content are winners in the global market for executive education

by Gabriele Troilo @



GABRIELE TROILO
Associate Dean
of the Open Market
and New Business
Division, SDA Bocconi

The last twenty years have witnessed a radical transformation of all markets for the production and distribution of content. The digitization of content first radically changed the recording and book publishing industries, then it completely transformed newspaper publishing and movie distribution, as well as the video games and advertising industries, spearheading a disintermediation process of the producer-consumer relationship. This process has been guided by new market players: the corporations controlling platforms where producers and consumers interact. These have become the new rulers of the content industry, bringing innovation not only to products and services, but especially to business models. It is no coincidence that today the two buzzwords are platform competition and business model innovation.

Compared to the industries mentioned above, the managerial education sector does not seem to have been substantially affected by digital transformation, although there are some early signs that this moment has now arrived. In a very similar way to other content areas, in fact, the two drivers of business transformation also seem to be at work in business education, with an impressive impact and speed.

The success of e-learning platforms like Coursera, EDX or Udacity shows that even academic training can be effectively disintermediated. Coursera is a telltale case. Founded in 2012 by Stanford University faculty members, today it connects more than 25 million users worldwide to its platform of more than 2,000 courses on the most disparate subjects, offered by about 150 universities and business schools of international standing (including Bocconi). The evolution of Coursera's business model is also interesting. Born to provide only MOOCs (Massive Open Online Courses, which are essentially free), today it offers many paid courses with a model that includes paying for a monthly subscription or paying for a single course or specialization, with prices ranging from \$15,000 to \$25,000 dollars.

Coursera is also the example of a new entrant in the higher education industry, which has a competitive logic that is completely different from incumbents, i.e. universities and business schools. Also other, correlated market actors have entered the field of managerial training. For example, LinkedIn has started offering online courses. And McKinsey is doing the same, and so are specialized consulting companies such as Ideo.

In short, it is clear that the radical transformation caused by digital technologies has also come to the training and

education sector, with a speed similar to that experienced by other content industries. How long it will take and what impact it will have is difficult to say, but what is certain from looking at previous experience in other content markets is that you cannot passively let the transformation happen. If others decide the rules of the game, your business survival is at stake.

Although one should not accept the rules of the game established by other players, there is a lot to be learned from them. There are two corporate actors which, from my point of view, can provide stimulating examples on the kind of transformation processes that need to be activated in executive education, and these are Netflix and Spotify. Both are revealing examples of two critical factors that determine success in content sectors: variety and personalization. Both Netflix and Spotify are large repositories of content, which consumers can enjoy according to their needs and their tastes. On Netflix and Spotify you can find movies and music for all tastes, which you can compose in a variety of combinations according to your needs (and moods). Universities, and business even more, should take Netflix and Spotify as models.

It could be argued that business schools already offer diversified portfolios of courses addressed to the needs of populations at various stages of their formative careers. However, if you think about it, the format offered is very standard: a course delivered in a classroom where almost everything is predefined by either the instructor or the organization: contents, duration, methods, types and times of learning assessment and a lot more, according to a very rigid structure. Variety implies not only (and not so much, I would say) variety of content, but of formats through which these contents are conveyed and comprehended.

Furthermore, customization means putting learners at the center, delegating to them a part of the decisions on how to compose the education package and the learning experience, and even leaving to them the modalities of student evaluation.

Conceptualizing training in this way implies a radical rethinking of the role of academics and higher education institutions that are producers of educational content.

Professors will be asked to be designers of



ONLINE COURSES

New online courses are now being launched by SDA Bocconi School of Management. The online programs on Coursera offer a high quality experience that are more flexible and more convenient.

MOOC / 4

Food and Beverage Management This voyage through Italy's leading food production is coordinated by Gabriele Troilo. Offered in both English and Spanish versions.

MOOC / 5

International Leadership and Organizational Behavior In a borderless world, it is easy to underestimate the challenges in creating teams from different cultures. This MOOC can help.

training experiences, supported by new players and experts in teaching technologies, rather than academic performers, which is traditionally what they had to be. For their part, institutions will have to increasingly think of themselves as creative organizations that produce content and convey it through typical digital formats and channels. This is going to be a difficult but exciting transition phase, full of challenges, but also of opportunities, for those who want to seize them. ■

BEATRICE MANZONI

How Students See Online Learning

E-learning is pervading higher education, yet it is far from being successfully implemented because of insufficient reflection about the implications for the instructors and inadequate exploration of the learners' perspective. The latter is the focus of "E-Learning effectiveness from a student's perspective: An empirical study," a paper co-authored by Leonardo Caporarello, Beatrice Manzoni, and Martina Bigi presented at the ITAIS Conference and recently included in "Digital Technology and Organizational Change" (Springer). The empirical research was conducted in 2015, collecting a sample of 277 university students who answered an online questionnaire. The results were both expected and unexpected. "Despite recognizing a positive future trend for e-learning, students are still confused with regard to its meaning and have a only limited awareness of its potentialities," Beatrice Manzoni says. For instance, 45% of students think that e-learning means using electronic devices to learn. There is still a high percentage of students who haven't used e-learning yet (21%) and who are uninterested in using it (20%). "E-learning seems to present more advantages than disadvantages, yet there are still many areas to work on to make e-learning really work. The major advantages are flexibility in terms of time and space, ease and speed in sharing material and the possibility of receiving material from the teacher via a download. Disadvantages are fewer than the advantages. The highest rated one is the 'reduced social interaction' compared to a traditional learning context," says Manzoni. A number of implications for instructors follow from this research: "Educating learners about what e-learning is, making people understand how to learn, and being familiar with e-learning systems even before using them. Strengthening those functionalities that are in particular underused. Changing the learning attitudes, improving the learning experience or providing more diverse occasions for use," she says.



BEATRICE MANZONI
SDA Professor
of Leadership,
Organization
and Human
Resources



THE PAPER

"E-learning effectiveness from a student's perspective: An empirical study" by Caporarello, Manzoni, and Bigi collected information from a sample of 277 university students.



THE PAPER

"Learning and gamification: A possible relationship?" by Pennarola, Caporarello and Magni finds that learning is more effective when students are involved in a gaming process.

FERDINANDO PENNAROLA

If Learning Is a Game

In the late 1980s, a group of Bocconi students were involved in a simulation called Looking Glass. The role-playing game reproduced a day at the office. The students, who assumed about 20 roles within the company, had inbox and outbox trays so they could exchange paper mail. Thirty years later, gamification, which is already popular in marketing, human resources and other areas, is an important and potentially disruptive trend in e-learning. "Business games and management simulations have a 20 year history, now. The modalities have changed, not the rules of engagement," says Ferdinando Pennarola. He focused on gamification in the educational field in "Learning and gamification: A possible relationship?" (EAI endorsed transactions on e-Learning, 2017), a paper co-authored with Leonardo Caporarello and Massimo Magni. The authors discuss the existing studies on the effectiveness of the use of game design elements in non-game contexts or learning purposes, through experiments with students. "Learning is more effective when students are involved in gaming processes. Why? Games offer an engaging opportunity that enhance interactions and thus facilitate participants' learning," he says. The authors also discuss what may be a significant addition to gaming and learning literature. Most of the empirical studies focused on evaluation during and after the experience. Only a few of them focused on the before-the-experience evaluation, studying the motivation to take part in such an experience and the expectations towards gamification.

FERDINANDO PENNAROLA
Associate Professor
of Corporate Organization
and Information Systems
at Bocconi



MOOC / 6

Private Equity and Venture Capital Stefano Caselli leads this course on the role these key funding sources play in advanced economies, especially for innovative companies.



MOOC / 7

Financing and Investing in Infrastructure Economic development in both emerging and advanced economies depends in large part on efficient infrastructure spending. Coordinated by Stefano Gatti.

Antitrust and Market Liberali

Here's how Andrea Coscelli, a Bocconi alumnus with dual citizenship, grapples with issues like

by Ilaria De Bartolomeis @

There are those who dreamt of becoming rock stars during their university years and those who, with the same enthusiasm, had dreams of being in charge of the regulation of markets and competition one day. Among the latter, meet Andrea Coscelli, a Bocconi graduate who since July 2016 has filled the position of CEO of the Competition and Markets Authority (CMA), the UK antitrust authority. In an era of deregulation, better regulation and smart regulation, here is how Coscelli addresses the hottest issues of current affairs involving Britain and Europe, from Brexit to digital disruption.

→ **What kind of challenges does the digital revolution pose?**

It is a very lively and fast-evolving debate, which clearly has international fallout. The role of the Competition and Markets Authority is to maintain a balance between regulation and competition, hence between consumer protection and protection of market competition. We have undertaken, for example, a series of interventions in online markets such as car rentals, travel reservations, and gambling because, in our view, their ranking mechanisms are not always correct and transparent vis-à-vis consumers. There are also more complex antitrust interventions, such as the one conducted by the European Commission against Google Shopping, because the issue of online competition also concerns the sphere of innovation: platforms continue to evolve, adding ever new services for

consumers, but this factor should not compromise the opportunities for small businesses that have smaller means compared to the big e-commerce players and whose business depends, in some cases, almost exclusively on the Internet.

→ **The struggle against monopolies began over a hundred years ago. What has changed since then?**

Originally, in the United States, the debate focused on the railway monopoly and the oil monopoly; today the principles are the same, but not the scope of application because a significant portion of revenues now come from online activities. In fact, today it has become common to say that data is the new oil.

→ **What is the cultural difference between the United Kingdom and Italy in terms of market liberalization?**

Great Britain has always had a great interest in the market as a mechanism for allocating resources: past governments supported and stimulated privatization initiatives, much more than in Italy and other EU countries. With Brexit, the political environment has changed and now the idea is that all this propensity to deregulate has not always generated better conditions for consumers. In particular, public opinion is currently questioning the privatization of water, energy, and railway industries.

→ **Is Her Majesty's government backtracking?**



zation in the Brexit-era UK

digitalization and Brexit as CEO of the British Competition and Markets Authority

Not necessarily. This is not an ideological debate, it is more an issue of pragmatism: we wonder what has worked and what hasn't, learning from the experience of the last twenty years; there are market areas in which perhaps we can think of applying a less drastic model of liberalization, because the current approach has not been particularly effective. More generally, there is no perfect formula: in some countries, in fact, certain industries have remained government-owned and worked well, in others, they were privatized and have worked just as well. The variables are many and they are not only cultural.

→ London is the European hub for venture capital, and often these funds are owned by foreigners...

In the area of artificial intelligence, space industry and fintech, the British government continues to implement smart regulation to attract new investors, as this is the best way to create growth and jobs in the economy. Innovative start-ups continue to be viewed positively and are provided with incentives in spite of Brexit. According to some observers, however, the outcome of the referendum, having slowed immigration, is having a negative impact on the birth and expansion of new firms.

→ At CMA, how do you address Brexit? Is antitrust cooperation with EU countries still in the cards, based on the US-Canada model?

Yes, absolutely. I spend a lot of time talking with the heads of antitrust regulators of other countries, like Italy's Giovanni Pitruzzella or the heads of the Antitrust division at the US Department of Justice, or the French and German competition authorities. We often cooperate, because markets are international and the issues are more or less the same. In addition, we are part of two important organizations, the International Competition Network and the OECD, which are independent of our dealings with the European Union. Then

ANDREA COSCELLI
With a Bocconi degree from 1992, Andrea Coscelli has been serving as CEO of the UK's Competition and Markets Authority since 2016.

Coscelli has been fascinated by regulation and liberalization since his university days, and says Bocconi gave him the tools, stimulus and skills he needed for his international career, from Erasmus to Warwick to a grant for a PhD at Stanford: "Even back then, Bocconi was well known and well regarded overseas, but today its international recognition has surely grown: when evaluating a CV, my English colleagues consider a degree at Bocconi to be a sign of quality."

there is also a very important network within the European Union, the European Competition Network. After the Leave vote, and on the basis of the outcome of negotiations with the EU, we will understand which role we will have in it. At any rate, with Brexit, cooperation is even more important.

→ Two years have passed since your appointment. Give us your reflections and perspectives.

The most demanding challenges have been prompted by Brexit: it is very likely that we will find ourselves dealing with major international cases in parallel with the EU, and to do so we need to expand our structure. We started this process by opening a large new office in Scotland, we have strengthened our Belfast and Cardiff offices, and we are considering opening an additional one in Manchester. The goal is to be more territorially distributed, so as to establish relationships with local lawyers and economists, who are experts on the specific problems of each region of the country. In this organizational expansion, we are also establishing strong relationships with universities throughout the United Kingdom.

→ This move seems to be an answer to the demands expressed by the Brexit vote...

In a sense, it is. The referendum results made clear to everyone that while London had become a capital of Europe, or perhaps even the global capital, there was a strong disconnection with the rest of the British social fabric. Today, the government is implementing a program to decentralize government administrations and agencies, and this also involves us.

→ Besides an Italian passport, you also have British citizenship...

Yes, even though the CMA is a very open environment: 15% of the people who work with me are not British nationals.

→ How is the working climate within the UK antitrust authority?

Relationships are simple and direct. I can count on an excellent board and I have developed a deep relationship of mutual exchange with certain senior members. I also often discuss with young people: in the UK, open debate approach is encouraged, and this stimulates junior staff to actively participate in debates. Their contribution is extremely useful when we have to deal with issues that involve new generations of consumers. In my role, I have to take difficult decisions that affect people's lives, but I have the advantage of being part of a healthy institution that has a strong tradition of independence and professional competence.

→ And when you are not taking decisions, what do you do?

I turn off my electronic devices and dedicate myself to sports or books. Right now, I'm reading "My Name is Lucy Barton" by Elizabeth Strout. ■

When Dealing with Risk, You N

The Chief Risk Officer is increasingly an architect capable of designing operational risk ma

by Stefano Rossi @

According to the traditional theory of finance, risk management in manufacturing corporations means resorting to financial derivatives, instruments like options, futures and forward contracts to hedge against various types of macroeconomic risk, such as exchange rate risk and interest rate risk. But how widespread is the use of derivatives in industrial companies? Not very, judging from the responses of administrators taken from a large sample of international companies. It is therefore often concluded that very few industrial corporations, only the largest and most transnational ones, can implement risk management policies.

The early findings from a research project on corporate finance which is part of the Generali Chair in Insurance and Risk Management point to a totally new perspective on risk management in industrial companies. Such an approach is based on the observation that most significant risk for companies is volatility of operating results, and not simply financial volatility. Companies use a battery of instruments much more extensive than derivatives to manage operational risk, starting from their policies and strategies on dividend, treasury, and investment. In fact, when access to financial markets is expensive, it is possible to prove that a company becomes risk-averse about the instability of its operating flows, because this translates into an increase in the cost of capital to the detriment of the



STEFANO ROSSI
Full Professor
and Generali
Group Chair
in Insurance and
Risk Management
at Bocconi

company's growth prospects. This is true from the point of view of management, which mainly has to rely on internal resources to finance growth, and from the point of view of shareholders, for whom this kind of risk is structural and cannot be diversified.

From this new perspective, therefore, managing risk means stabilizing operating results (the net result produced by assets on the balance sheet), and not just adding derivatives to the column of liabilities. To reduce the variance of operating results, the first levers at management's disposal are dividend, treasury and investment policies, taking an integrated view that focuses on minimizing the variability of operating flows.

A first consequence is that the stability of operating flows emerges as an attractive element for institutional investors. How can a company with stable operating flows signal



Need a Seasoned Professional

management from an integrated perspective. That's why even SMEs must introduce this role

its attractiveness to the market? The results of the research study show that a natural lever is dividend policy. If administrators know that the company's future operational risk profile is favorable, the way to communicate it credibly to markets is to increase the dividend paid. The reason is precisely that the increase in dividends is expensive for companies, because it decreases internal resources available for growth and increases the cost of capital, so that only companies with a more favorable risk profile can afford it.

These results represent a contribution to the theory of dividends. Since the work of Modigliani and Miller, the dominating theory has been that dividends signal a company's future operating results. However, a systematic analysis of the data shows that, contrary to what is considered by the

signaling theory of dividends, an increase in the dividend paid to shareholders is not followed by an increase in operating results.

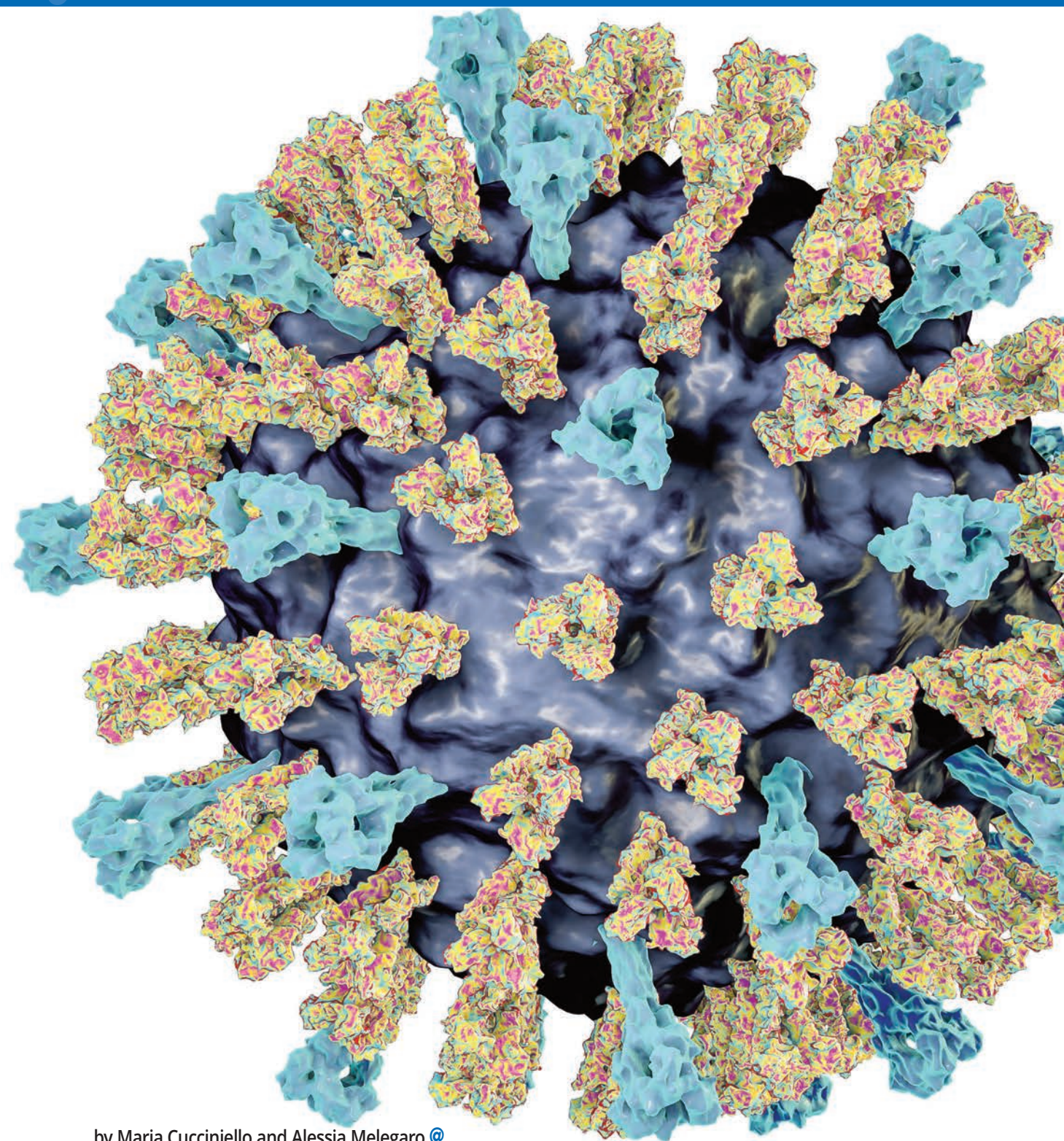
The results of my research show that the dividend acts as a signal not of future operating results, but of their variability. Only companies with more



THE PAPER

"The information content of dividends: safer profits, not higher profits" by Michaely, Weber and Rossi reveals that dividends are a sign of future earnings stability rather than higher profits.

stable operating flows, for example because they have reached optimal size and operate in mature industries, can afford to increase the dividend without affecting future growth opportunities. Therefore, when the market observes a company increasing its dividend, it revises downwards its valuation about the riskiness of the company's operating flows. The message for the business world is simple: we can no longer afford to see risk management as a disconnected patchwork of various areas of intervention. There needs to be a Chief Risk Officer, an experienced professional capable of managing the operational risk of an enterprise from an integrated perspective. A good CRO acts like a methodical architect, rather than an improvised plumber harried by plugging leaks. ■



by Maria Cucciniello and Alessia Melegaro @

Choosing Immunization Is

Despite a safe and cost-effective vaccine having been in existence for over 50 years, measles remains one of the leading causes of death for children under the age of 5, with over 130,000 deaths a year in the world (about 367 every day or 15 every hour) (Epicenter, 2017).

In recent years, there have been numerous outbreaks of measles throughout Europe (Italy and Romania have the dubious distinction of leading this ranking) with serious repercussions, not only in terms of public health but also government spending (WHO, 2017).

The data published by the Italy's Ministry of Health and the Higher Institute of Health in the latest bulletin on the epidemiological situation of measles in the country show that there were 4,991 cases of measles reported in 2017 resulting in 4 deaths, and that from January 1 to April 30, 2018, 1,258 cases occurred leading to another 4 deaths. Of these cases, 91.6% concerned people not vaccinated at the time of infection, 48.7% developed at least one complication, and in 60% of the cases reported hospitalization became necessary.

To understand if and how information campaigns are able to influence citizen behavior regarding vaccinations, with my colleague Paolo Pin at the Bocconi Department of Decision Sciences and in collaboration with Greg Porumbescu of the Center for Transparency in Government at Rutgers University, we are conducting a series of experiments assessing whether the style of presentation, in addition to the content of information, can have an effect on the choices made by individual citizens and provide more effective strategies to increase the propensity to vaccinate and reduce the so-called "vaccine hesitancy" factor.

In a first experimental survey conducted on 1,000 US citizens, we exposed the participants to scenarios



MARIA CUCINIELLO
Assistant Professor
at the Department
of Social and Political
Sciences at Bocconi



ALESSIA MELEGARO
Assistant Professor
at the Department
of Social and Political
Sciences at Bocconi

with greater or lesser detail in terms of the information provided and simplicity or complexity of the text being proposed. At the end, we asked to select a choice: register (or not) for the vaccination session by choosing date and time within a predefined calendar of options.

We have found several interesting aspects that influence citizens' decisions regarding the choice to get vaccinated or not. In particular, the data sample shows that the exposure to information campaigns characterized by a high level of detail, including data and percentage points, increases the understanding of the message (in contrast with what happens in behavioral experiments carried out in education and psychology) reducing the perception of the risk of the vaccine having adverse side effects.

A similar study is about to be conducted on a sample of over 1,000 parents with children under 5 years of age in Italy and the United States, and the focus in this case will be the choice of vaccinating children. In parallel to the survey and with the intent to also explore behavioral aspects of collaboration and altruism in affecting the choice to vaccinate, we have conducted experiments at BELLS, the Bocconi Experimental Laboratory for the Social Sciences, with about 500 international students.

The experiment involved several stages: a first stage with two players (A and B) and two choices and a subsequent stage with a third player (C) who cannot take any action, but whose gains depends on the actions of players A and B. The scenarios laid out for participants are either a neutral context or the description of the effects deriving from the spread of a new virus requiring a specific type of vaccine; they also received either not very or very detailed information about the epidemic and its consequences, and the potential adverse side effects of the vaccine.

Preliminary results tell us, once again, that the modalities and the details of the information provided can have a significant impact on vaccination choices and on the behavior of citizens.

But what will be the determinants of choice when we consider parents, rather than students, and study their reactions in two different national contexts (Italy and the United States)? ■

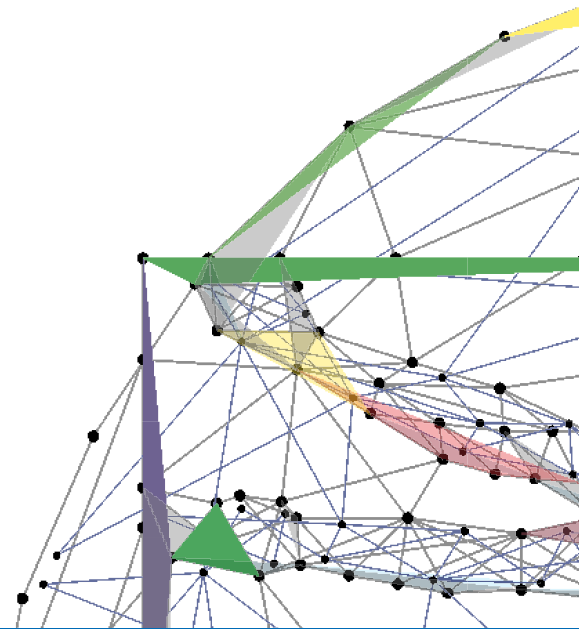
There are 130,000 children who die every year because of measles, in spite of an effective vaccine that has been available for 50 years. Experimental studies show that the more detailed and documented information campaigns are, the higher the likelihood that people will decide to get vaccinated

a Question of Information

The digital century and the complexity of current trends have sparked a Copernican revolution that has removed managers from the center of the corporate universe. Top executives are now called upon to interpret and guide change entrepreneurially, becoming modern superheroes who deal with rapid evolution and constant innovation

by Gianmario Verona @

Research storytelling by Claudio and Fabio Todesco



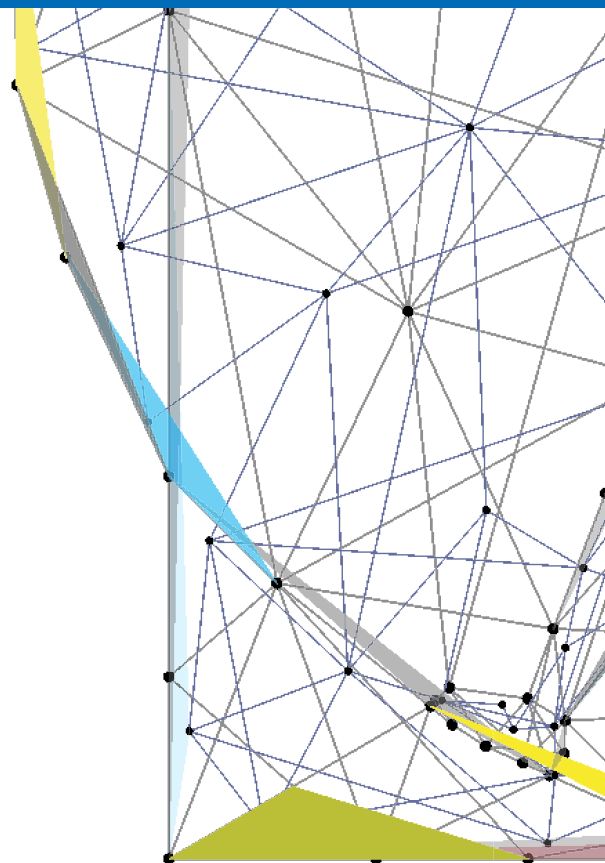
The Rise of the Super

As we approach 2020, all CEOs are forced to ponder what impact current megatrends will have on production processes of the companies they lead and on the consumption patterns of the markets served by the business model implemented during their leadership. Big Data, AI, Generation Z, corporate and environmental sustainability, geopolitical shifts all create a level of complexity that is far greater than that faced by previous generations of executives.

So today's business scenario is faced with the rise of what could be called "the entrepreneurial CEO." Until recently, all that a chief executive had to do was to manage the business organization and execute the corporate strategy. Today, however, top managers must learn how to continuously innovate. CEOs are becoming increasingly aware of the fact that business firms are going back to square one, when large companies emerged at the beginning of the last century in the crucible of the Second Industrial Revolution. They must ultimately rediscover the primordial mission of any enterprise: to create value from organic sources, either by



GIANMARIO VERONA
Rector of Bocconi
University





rhero CEO

developing existing businesses or by starting new ones from scratch. This change comes after years of consolidation and Fordist bureaucratization, fueled by a positive push towards globalization that, until recently, seemed irreversible. This made us forget that the *raison d'être* of any company lies in the achievement of a Schumpeterian combination that addresses an existing supply gap with a technologically and economically viable product or service.

Put this way, the job of the contemporary CEO is to be a superhero, rather than a manager. There is the feeling that emerging styles of successful leadership in disparate industries are leading to a paradigm change regarding the CEO's role, something that is a Copernican revolution, to borrow a term from the history of science.

In the past, the company revolved around the CEO and his/her management team. This was a Ptolemaic conception of the CEO, placed at the center of the universe like the Earth was imagined to be before Copernicus. The CEO (almost always a man) and his team were put at the center of the corporate universe. It was a technical and hierarchical staff, in love with control and verticality. In fact, the CEO was a *de facto* supreme commander, surrounded by generals who ran bunker-like divisions and whose separate information assets were brought together only in the "war room" during joint chiefs of staff meetings.

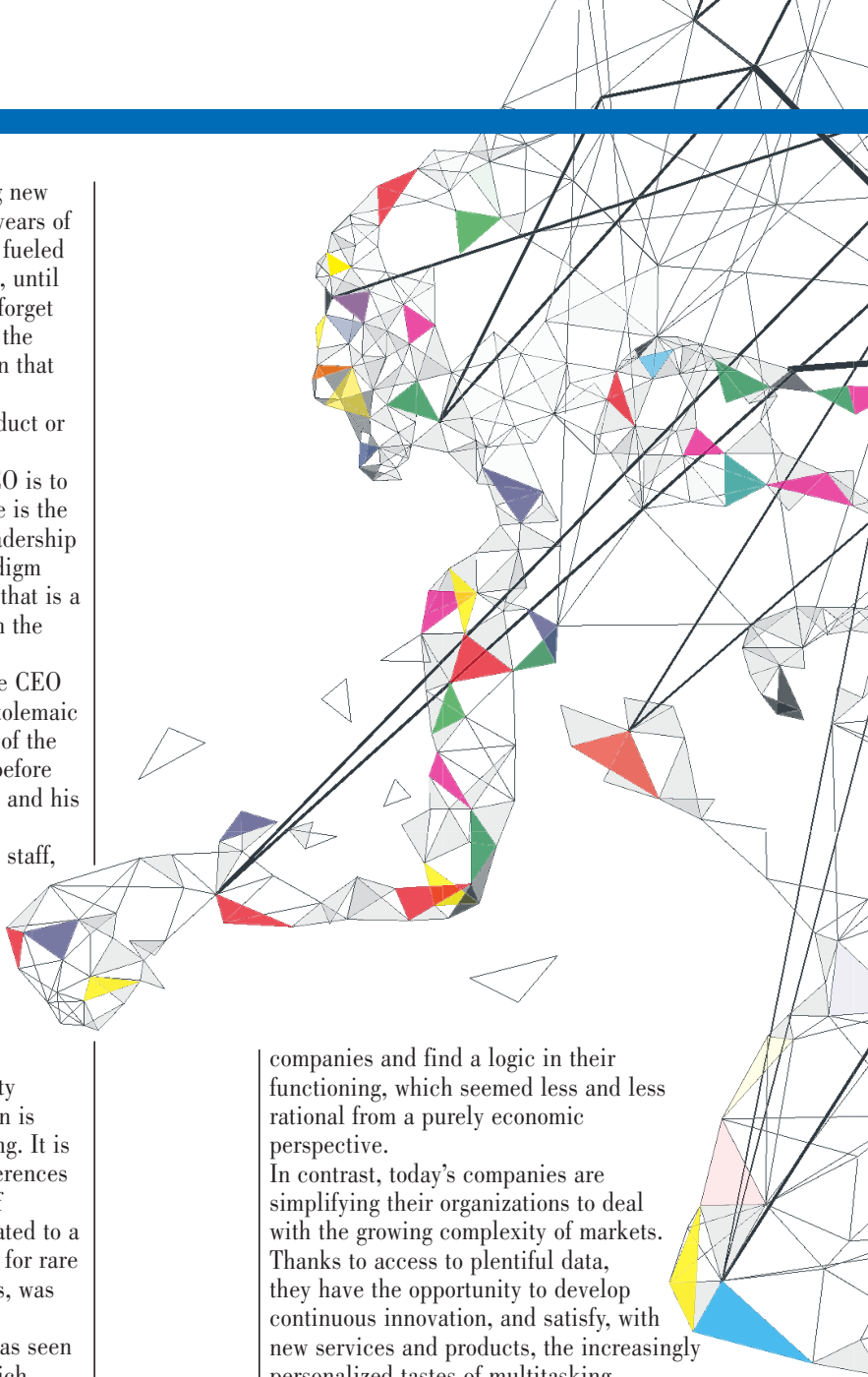
Access to information was limited and opacity correlated with corporate power: "Information is power," as Edgar J. Hoover was fond of saying. It is no coincidence that the early theoretical references for management were inspired by manuals of military strategy. Experimentation was relegated to a single corporate function, R&D, which, save for rare cases mainly related to technology industries, was perceived as a necessary cost rather than an opportunity to create value. The consumer was seen as a mysterious psycho-social black box, which companies sought to understand through costly market research, and seduce with expensive advertising stratagems conveyed via a limited number of news sources and TV channels in a simple media environment.

All this led to a construction of complex organigrams which were hard to comprehend from a functional point of view. Such complicated hierarchy gave untrammelled power to the CEO, who constituted the main axis of the company system. In the late 1980s, business schools, which had historically been led by economists and consultants, started to hire cohorts of psychologists and sociologists to provide plausible alternative explanations for the organizational structures of

companies and find a logic in their functioning, which seemed less and less rational from a purely economic perspective.

In contrast, today's companies are simplifying their organizations to deal with the growing complexity of markets. Thanks to access to plentiful data, they have the opportunity to develop continuous innovation, and satisfy, with new services and products, the increasingly personalized tastes of multitasking, hyperinformed consumers. The integration of skills necessary for creating innovations, and the speed with which they must be produced, is unprecedented. Therefore managerial hierarchy gets flattened, and the integration of business processes becomes an absolute necessity.

The CEO must make this new context his/her own. Team work is essential, not in a rhetorical sense and not limited to the management team, but in the concrete sense of motivating every single member of the organization to act. It is a question of quickly making decisions to identify new growth paths, persuading consumers and selling at high prices, in a world where the market for information is perfectly competitive. This implies being able to negotiate the



HOW TO RECOGNIZE A SUPERHERO CEO

1

A TASTE FOR GROWTH

Creating new markets, products and production and distribution processes. The Schumpeterian CEO is capable of innovating because digital technology enables him or her to identify new opportunities across the globe that were once hard to imagine

ANALYTIC ABILITY

The digital century means access to data and information: the ability to critically analyze these flows is crucial for an entrepreneurial manager

2

3

ECONOMIC AND FINANCIAL TRAINING

Growth calls for equity and debt: in order to be able to dialogue with holders of financial resources (venture capital, private equity and investment banks) a CEO must have the right training

DEMOCRATIC LEADERSHIP

This ability springs from personal leadership qualities of a CEO capable of putting themselves on the line and fostering teamwork

4

5

DIVING INTO THE CORPORATE DNA

The capacity to create deep links with the company, even if he or she only recently joined. This is the only way a manager can become director and scriptwriter of a sincere storytelling



THE COURSE/1

The **Senior Executive Program** at SDA Bocconi helps CEOs, CFOs, COOs, and managers with international responsibility to further develop their skills, understand and react to rapid market evolution.



THE COURSE/2

Getting Things Done is a course aimed at senior executives that handle strategic change initiatives. The key concept is that conceiving and executing a strategy is fundamental for corporate success.



THE COURSE/3

Senior Management Program at SDA Bocconi is based on three key linchpins: managing complexity in global businesses; mastering the strategy process and guiding innovation.



THE COURSE/4

Senior Leadership Program at SDA Bocconi aims to offer personalized tools and individual coaching to executives who want to become global leaders, capable of managing complexity and innovation.

To Have an Impact

This is the secret of Camillo Pane's success: managing a multinational, focusing on an informal approach.

risk and financial resources necessary to adequately address the new complexity. In essence, the chief executive as superhero is the child of the Copernican revolution that has transformed companies. It is the manager who must now rotate around the company's business model, the true center of the corporate universe. To do so, a CEO must be able to innovate and nurture a culture of innovation within the company, whose resistance to change is the real enemy to be fought. He or she must believe in the business model and know how to narrate it with passion and conviction. The coming superhero is a Schumpeterian manager, an entrepreneurial executive more similar to the Henry Ford of a hundred years ago who sought to put a car in the garage of every American household, rather than the Ford that in subsequent decades built the organizational bureaucracy we have come to call Fordism, in order to conquer world markets. Entrepreneurial management is a decidedly arduous task, but one that is likely to give satisfaction to aspiring superheroes and superheroines at the helm of corporations, as well as the stakeholders who support them in interpreting their new executive role. ■

ct, You Need to Get People Involved

cess. A Bocconi alumnus, since 2016 he has been managing Coty, the personal beauty approach with employees and strong values to motivate them

by Ilaria De Bartolomeis @

He has replaced corporate etiquette with a more relaxed approach, where you are always on first-name terms with company managers; he has turned his office into an open space, to enable his team to report directly to him without filters. Meet Camillo Pane, Bocconi alumnus and Coty's managing director since 2016. Coty is one of the largest players in the beauty industry. After acquiring Procter & Gamble's 41 beauty brands, it has now a turnover of over \$9 billion (€7.3 billion). Pane is a modern CEO and has a managerial style that, in some ways, recalls that of big names in the tech industry.

→ **Steve Jobs, Marc Zuckerberg, Jeff Bezos: have they transformed the concept of business leader?**

Yes, but also because society has changed: today it is no longer enough to have a vision, a strategy and an executive role; it is necessary to have a purpose, that is, to succeed in having a positive impact on society and people's lives. The purpose of Facebook, for example, is to connect individuals from all over the world; Amazon's mission is to ameliorate the lives of users through an exceptional system of shopping and shipping convenience. At Coty, our purpose is equally strong and distinctive: to celebrate and liberate the diversity of beauty, which means offering a more realistic representation of beauty through our brands,

among which are big names such as Gucci, Rimmel, Wella.

→ **How do you do it?**

On multiple levels. On the one hand, we involve people from different backgrounds in our advertising campaigns, as well as targeting age groups that are under-represented in other cosmetics brands; on the other, we have activated a social partnership with Global Citizen, an NGO that connects over 35 million people worldwide through its digital platform: our employees have joined a global movement to combat prejudice and discrimination. These are just two examples of how we try to change the lives of people around the world and convey to our employees values that go beyond profit.

→ **What was the response?**

Absolutely positive: our business teams and individual employees have become more inspired; they feel they are working for a company that wants to have an impact on society, and this adds value to their work and to the company itself. Younger generations are particularly sensitive to this, because they

CAMILLO PANE

A Class of 1993 Bocconi graduate in Business Administration, he has been leading Coty since 2016.

"Bocconi opened my mind and everything I did afterwards was influenced by my university experience. It was there I began to develop a taste for working abroad: when I was 28, I got a job in the United States, but already during university I spent summers abroad with my Bocconi friends, instead of returning to Calabria to visit my parents." His thesis was on the role of the consumer, the purchasing process, and the use of

Internet data: "The field of investigation was the real estate industry, but I have since refined that methodology and applied it to other sectors, such as the beauty industry."

want to feel part of something significant, and this approach also helps attracting talent.

→ **What skills does it take to manage a company?**

First of all, you must have a clear and inspirational vision capable of transmitting financial and psychological stability with respect to market volatility. Therefore a good dose of resilience is indispensable, but also agility and quickness, because situations or contexts that remain unchanged over time don't exist anymore.

→ **How do you acquire such flexibility?**

There is no ready-made formula, I learned it by working in countries having different cultures and mores: every time I had to learn a different language, lifestyle, and relational habit. In short, I had to develop an ability to adapt to various contexts.

→ **In business leadership, what does not change compared to the past?**

We must continue to have a decision-making attitude, but the rapidity at which decisions are made has increased exponentially, and so has the speed of execution.

→ **Does empathy have a role to play?**

It is very important, a good leader must know how to be close and listen to his team. At the end of last year, I toured Coty's offices in seven countries and met with very mixed groups of people, with the aim of discussing our corporate culture and establishing an open and constructive dialogue. This experience allowed me to establish a close relationship with our teams all over the world, in a very spontaneous way.

→ **Is the top-down approach still valid or is the peer-to-peer model taking over?**

A mix of both is required. Employees must feel the presence of a strong leader, especially when markets are not solid; at the same time, it is essential to have a strong ability to listen. I do not have a personal office, I work in a meeting room overlooking an open space. This

management of office space allows accessibility and informality, and speeds up the decision-making process, too: there are many instances when it is not necessary to schedule formal meetings.

→ **What advice do you want to give to those who aspire to a career like yours?**

Push yourself beyond your comfort zone, which means creating opportunities to improve oneself and challenge one's limits. Experiences abroad are a good way: to learn about different languages and cultures also allows us to develop a flexible approach to leadership, because it is not possible to apply the same model everywhere. ■





GUIDO CORBETTA

No Longer a Family Matter

Italian family businesses are increasingly inclined to recruit top managers from outside the family. According to the AUB Observatory data collected by Guido Corbetta, Fabio Quarato and Alessandro Minichilli, 23% of Italian family-owned businesses with turnover between 20 and 50 million euro have shifted in the last two years from a family leader to a non-family leader.

It happens for at least three reasons, Corbetta says. First, companies that survived the economic crisis now face a challenging time that require skills that family members may not have. Second, customers are becoming increasingly sophisticated and, especially in B2B businesses, they prefer to relate to non-family managers. Third, generational change sometimes creates tension between family members that is resolved by involving external managers.

There are implications. "The process of choosing a non-family CEO or General Manager requires specific skills and this partly explains the headhunting industry growth," Corbetta says. "After choosing a non-family leader, families exert control of the company through the boards of directors that thus become more and more important. CEOs must be held accountable for the company results, but family members have to learn not to intervene in the day-to-day business operation."

Is a non-family internal manager preferable to a non-family external manager? AUB data do not answer the question. In any case, this is not an easy process. In fact, the shift from a family leader to a non-family leader is sometimes unsuccessful. The ideal candidate must possess both competence and the sensitivity necessary to work side by side with entrepreneurial family members. "This is why it is always a good idea to select people who are experienced in family businesses".



THE PAPER

"The courage to chose! Primogeniture and leadership succession in family firms" by Calabrò, Minichilli, Amore and Brogi shows that picking a firstborn is not always a good decision.

GUIDO CORBETTA
Full Professor of
Corporate Strategy,
Corbetta holds the AldAF-
EY chair in Strategic
Management
in Family Business

VIKTAR FEDASEYEU
Assistant Professor
at the Department of
Finance at Bocconi

VIKTAR FEDASEYEU

The Political Influence of CEOs

The Federal Election Commission of the United States promotes the public disclosure of funds raised and spent to influence federal elections as a tool to help voters make informed decisions. Anyone can browse through its website and find, among other things, all contributions from specific individuals sorted by name, date, employer, amount, and recipient. Can a CEO use this kind of information to become a political force?

In "Do CEOs affect employee's political choices?", Viktar Fedaseyev of the Department of Finance, Ilona Babenko and Song Zhang used a sample of US firms between 1999 and 2014 to discover that CEOs actually affect the political behavior of the employees. The latter donate three times more money to CEO-supported candidates, an effect that persists even after the turnover of CEOs. In an updated version of the paper, the authors discovered that winning CEO-supported candidates generate higher equity returns than winning candidates supported by employees and not by the CEO. So, CEOs are a political force that influences employees and benefits shareholders, but how they do it?

"There are three potential mechanisms of political influence," Viktar Fedaseyev says. "First, CEOs may simply provide to their employees information about the political candidate most beneficial to the firm. Second, CEOs may present incentives such as the prospect of promotion. Third, they may coerce their employees, threatening to fire them, for instance." To understand the mechanism at work, the authors looked at the pattern of political contributions within households. They discovered that members of an household that work for different firms which would benefit from the election of opposing candidates do not refrain from making donations, which would be the wisest thing to do. Actually, they are two or three times more likely to donate for opposing candidates simultaneously. "We do not know if CEOs use incentives or coercive methods, but the evidence says that the information channel alone cannot explain the pattern on employee contributions."



THE REPORT

The 10th AUB Observatory Report curated by Corbetta, Quarato and Minichilli, highlights an important recent trend: even small family owned companies are now hiring external managers.



AMORE AND MINICHILLI

Breaking the Rule of the Firstborn

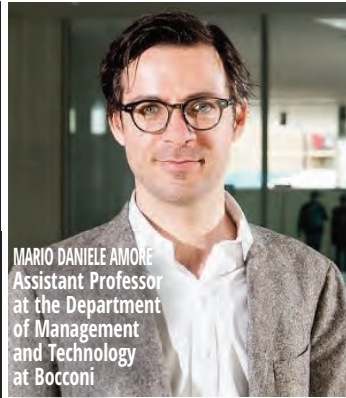
In "The courage to choose! Primogeniture and leadership succession in family firms" (a study published in Strategic Management Journal), Bocconi's Alessandro Minichilli and Mario Daniele Amore, along with Andrea Calabrò (Ipag Business School) and Marina Brogi (Università La Sapienza) conclude that the habit of passing the family firm to the firstborn turns out to be the worst financial choice for the firm. Choosing a second- or subsequent-born child significantly increases post-succession firm performance, with returns on assets 39% higher than firms that appoint a firstborn.

Furthermore, selecting a non-firstborn family member also turns out to be a better choice than the selection of a non-family leader. In other words, what might be considered a nepotistic choice, if made among all available siblings in a large enough family pool, can be beneficial to the firm.

The authors conduct their empirical analysis on a unique dataset including family businesses in Italy that experienced a succession from 2000 to 2012. They investigate also the role of the so-called socioemotional wealth (the stock of affection-related value that the family has invested in the firm) in the selection of a new leader in a family firm, concluding that the likelihood of following primogeniture in leadership succession increases when a family's socioemotional wealth endowment is high.

"The study's findings clearly suggest that family business owners must have the courage to break the primogeniture rule if they want to find the right candidate to succession, granting the firstborn the same chances as the other siblings," Prof. Minichilli says.

As in the tales of Isaac and Andromeda (neither of them was killed in the end and both the stories have happy endings), the willingness to sacrifice the firstborn brings positive fruits.



MARIO DANIELE AMORE
Assistant Professor
at the Department
of Management
and Technology
at Bocconi



ALESSANDRO MINICHILLI
Associate Professor
at the Department
of Management
and Technology
at Bocconi



THE PAPER

"Do CEOs affect employees' political choices?" by Fedaseyev, Babenko, and Song used a sample of US firms to discover that CEOs do actually affect political choices.

It Takes an Athlete's Stamina to Be a C

For Vittorio Colao, Bocconi grad and former CEO of Vodafone, sporting discipline is fundamental for new managers who have to guide hierarchically clustered companies

by Ilaria De Bartolomeis @

He elaborates thoughts with uncanny speed to produce clear, direct, and lucid answers. He believes in the value of intelligent debate and in the thirst for curiosity, but above all he has the physical and mental discipline worthy of an Olympic athlete. Meet Bocconi Alumnus of the Year 2003 Vittorio Colao, one of best-known Italians on the international scene thanks to his ten-year stint as former CEO of Vodafone, one of the world's leading telecommunications companies with a turnover of €47.6 billion.

→ **What's the difference between being the CEO of a tech company and managing companies operating in other industries?**

Those in charge of digital innovation must have a great ability to understand the future, great personal involvement in the project, and little patience for external relations. It's rare to meet tech CEOs at conferences because, when you are so closely involved in experimentation and innovation, you have time for little else.

→ **Start-ups seem like the craft shops of the past, while tech companies bring to mind the Italian companies of the early 1960s, where everything revolved around the entrepreneur. Is that too risky of a parallel?**

It would seem to be just like that. Today we are witnessing the rediscovery and updating of the entrepreneurial model of the company: an entrepreneur is a person who knows the products he or she makes best and is the first one to see the pros and cons.

→ **Is this approach applicable to other sectors?**

Digitization is making this method indispensable in every industry. Today a mistake gets magnified in a very short time, and success can be undermined with great speed, and that is why the corporate leadership must be completely invested in what the company is doing, in its products or services.

→ **And what role do Big Data have in managerial choices?**

Significant. Market research becomes less and less reliable because consumers are becoming more and more experimental and their desires can only be intercepted through the digital profile that individuals provide of themselves: this is how Big Data comes into play. No market study had predicted the success of YouTube or Instagram, yet it happened.

→ **Is the pyramid model still valid in company management?**

Companies must maintain clarity in decision making, but companies need

VITTORIO COLAO
A Bocconi class of 1986
Graduate in Business
Administration and Alumnus of
the Year 2003, Vittorio Colao
recalls the many hours spent in
the Bocconi Library studying
textbooks and journal articles
that were the state of the art in
finance, marketing, economics:
"We could access texts written
by international authors and
researchers, often in their
original language, and this was
indicative of the fact that
Bocconi was offering you the
best from a theoretical point of
view. You were given many
incentives to look outside of
Italy, and I was one of the first
ones to go abroad for my
studies; at the time, the
Erasmus program did not exist
yet. On that occasion, I found
myself living with young people
from all over the world, many of
whom were doing their MBAs.
That experience also changed
my approach to life."

also to choose which decisions need to be moved up to the top and which ones can be delegated below. The corporate hierarchy continues to exist, but it works in a different way: companies are increasingly clusters of smaller units that decide autonomously and with greater agility, which in turn are coordinated from above.

→ **How will generational change occur in the management of companies?**

I studied Greek and Latin at "liceo classico" high school and I still think that the disciple-teacher model is the main key for the transmission of knowledge and the exploration of new areas of thought. The work of older generations is to succeed in the transfer of business experience and analytical perspectives in approaching problems, which can give solidity to the enthusiasm and innovation capabilities of young people. At Vodafone, we have implemented a program that connects digitally agile young people with senior positions: the mechanism is precisely that of connecting generations.

→ **What is the profile of the future CEO?**

He or she must have an athlete's body because working life will be very intense, with little time to rest. Only by counting on a good dose of energy can decisions be made with clarity. The rules are simple: always go to bed at the same time, do not drink alcohol when you travel; on the contrary, you should drink at least one liter of water every day, exercise in the morning and disconnect in the evening, doing things other than work. Even in this case, nothing is new; as the Romans said: "Mens sana in corpore sano."

→ **And from an intellectual and relational point of view?**

You have to be curious and read everything, because the important things happen outside companies, you need to know how to identify at an early stage the issues that may be relevant to the business you are leading in the near future. For example, when blockchain started, I immediately wondered what advantages it could bring to Vodafone, and the same for augmented reality. Last but not least, the advice is to have quality contacts: people you know who understand what really goes on in the world.

→ **What kind of training is necessary?**

The best managerial education is always a mix of three elements: historical and political knowledge to have keys to understand the world, some technical expertise in your field of choice – engineering, software, biology, etc. – to understand how things really work in detail, and solid training in management and economics to be able to lead a company. ■



Good CEO

ARNALDO CAMUFFO The Salary and Value Relationship

"A new paper by Arnaldo Camuffo, Russ Coff (University of Wisconsin-Madison) and Aneesh Datar debunks the myth of the super CEO but not the myth of the superpaid CEO. Comparing CEOs' value creation (contribution to firm performance) and value capture (CEO pay), in "Misalignment of contribution and pay: When do CEOs capture more (or less) than the value they create?" the authors conclude that a CEO's total pay varies wildly even if their contribution to corporate results is pretty similar.

"The standard deviation (a measure of dispersion of a variable) of CEOs' effects on value capture is more than five times the standard deviation of CEOs' effects on value creation," Prof. Camuffo says, "and the difference is much stronger, up to 1,000 times, when we use measures of a CEO contribution that draw on proxy financial benefits to shareholders."

ARNALDO CAMUFFO
Full Professor
of Corporate
Organization, Camuffo
is Director at ICRIOS,
the Invernizzi Center
for Research
on Innovation,
Organization, Strategy
and Entrepreneurship



A Professor of Management at Bocconi, Arnaldo Camuffo reaches this conclusion using a sample of more than 1,200 companies that have been in the Fortune 1000 list at least once between 2002 and 2014. In order to isolate the CEO effect, Camuffo and his co-authors observe what happens, in terms of firm performance, around a change of a CEO, controlling for all the external characteristics that can contribute to such performance, finding a notable misalignment.

"Our findings also suggest that there is a misalignment between value creation and value capture at the top level. In other words, many CEOs capture more value than the value they create," Prof. Camuffo says.

"This finding is consistent with the argument that at certain positions managers disproportionately appropriate the value created from human capital. This mechanism, as we've found in other studies, could be opposite at middle management levels, where managers create more value and are not compensated accordingly."



THE LAB

The Invernizzi Center (ICRIOS) is directed by Arnaldo Camuffo, carrying out multidisciplinary research into innovation, organization, strategy and entrepreneurship at Bocconi.



LEARNING

*Making machines aware
of who is talking: this is the
real challenge in making
them more useful to humans*

by Dirk Hovy @

When Words Aren't Enough

We all have a device in our pockets or our homes that we can talk to. It will tell us the weather, or what's on our agenda, and play songs by Nina Simone for us.

It seems as if they understand us, but really, they don't. These machines are trained to respond to certain inputs, based on their training, but that is not at all the same as understanding. If we asked "I went to Rome last week, did my head go to Rome as well?", they would be stumped.

Language is fundamentally a human experience, and it matters just as much who says something as what they say. When we hear the sentence, "That was a sick performance.", it makes a huge difference whether it was said by a 16-year-old or by a 86-year-old. We do express who we are through language.

We use that knowledge when talking to people, too: within a few sentences, we pick up on where someone is from, how old they are, and what their gender is, as well as other, more subtle cues, like their personality or educational background.

Ironically, computers can be trained to recognize these cues, even better than humans. We are much more predictable than we would think, and computers are good at recognizing these patterns. By now, programs exist to decide with high accuracy whether a text was written by a man or a woman, what their age was, and a number of other features. Algorithms can locate a social media user down to a few dozen kilometers.

Such tools are an invaluable help for social scientists, for linguists who study language variation, and for commercial applications to detect fraud (is the user who they say they are?). They are a necessary step if we want to teach computers the difference in language between different groups.

However, we need to be aware that such tools can also



DIRK HOVY
*Associate Professor
at the Department
of Marketing
at Bocconi*

be used to profile us where we might not want it: our words can give us away online, whether we know it or not. So far, all of these tools are highly specialized, and so far, no computer can do all of them at the same time, but we need to be aware that they might.

And while the way we speak says something about us, what we say is equally important as that we say it. Telling a friend "I am sorry for the loss of your father" is important not just because of the meaning of the words, but because we say it. And this is something computers still can not understand.

They only pay attention to what is said. This is not only an impediment to real understanding that limits the usefulness of language technology. It is also a potential problem. Because computers cannot distinguish between different groups of speakers, they don't understand everyone equally well. As a consequence, all those tools in our pockets and homes only work for some of us.

They are the equivalent of scissors made for right-handed people: inefficient, awkward, and potentially dangerous or the rest of us. And as those tools become more widespread – in daily life, in industry, and in decision making – they risk disadvantaging an ever larger group of "left-handed" speakers.

However, it is possible – and in fact not too hard – to make computers aware of who is speaking, and take it into account to analyze what is being said. Several papers have shown that a variety of techniques can help computers distinguish who is talking, and thereby get better at analyzing what is being said.

This is especially important when it comes to the intersection of language and personality. We know that many mental health conditions are reflected in the way people speak. Psychologists draw on this when they interview patients. However, any psychologist would find it ridiculous to only listen to the words. They will always take into account who the person sitting across from them is: men and women, people of different ages are susceptible to different conditions, and they will talk about them in different ways.

We were able to show that a computer that pays attention to a patient's gender is much more likely to correctly recognize a variety of mental health conditions, identifying more than 120 at-risk patients for suicide than a computer that only pays attention to the words. Such a tool could be a valuable aid for psychologists, who cannot be with their patients at all times.

This is an encouraging thought, because it means that while we are still a long ways away, we could be able to truly make computers understand who is talking, and not just what they are saying. It will take time and ingenuity, but we might get that much closer to getting computers to understand us. ■



VIDEO

Dirk Hovy at TEDxBocconi explores the impact of language on machine learning by highlighting ethical questions arising from the interplay between human language and how machines understand it.



When Tax Credits Help E

Temporary, unexpected and limited to firms with under 10 employees: here's why the French policy aimed at reducing the labor cost of low-wage workers was a success

by Thomas Le Barbanchon @

Hiring credits have been used in the United States and in a number of European countries to counteract the unemployment effects of the 2008-2009 recession. Despite their wide use, many economists think that hiring credits are probably useless during recessions, when aggregate demand is insufficient relative to labor and other available resources in the economy. In fact, there is very little empirical evidence about the effects of hiring credits.

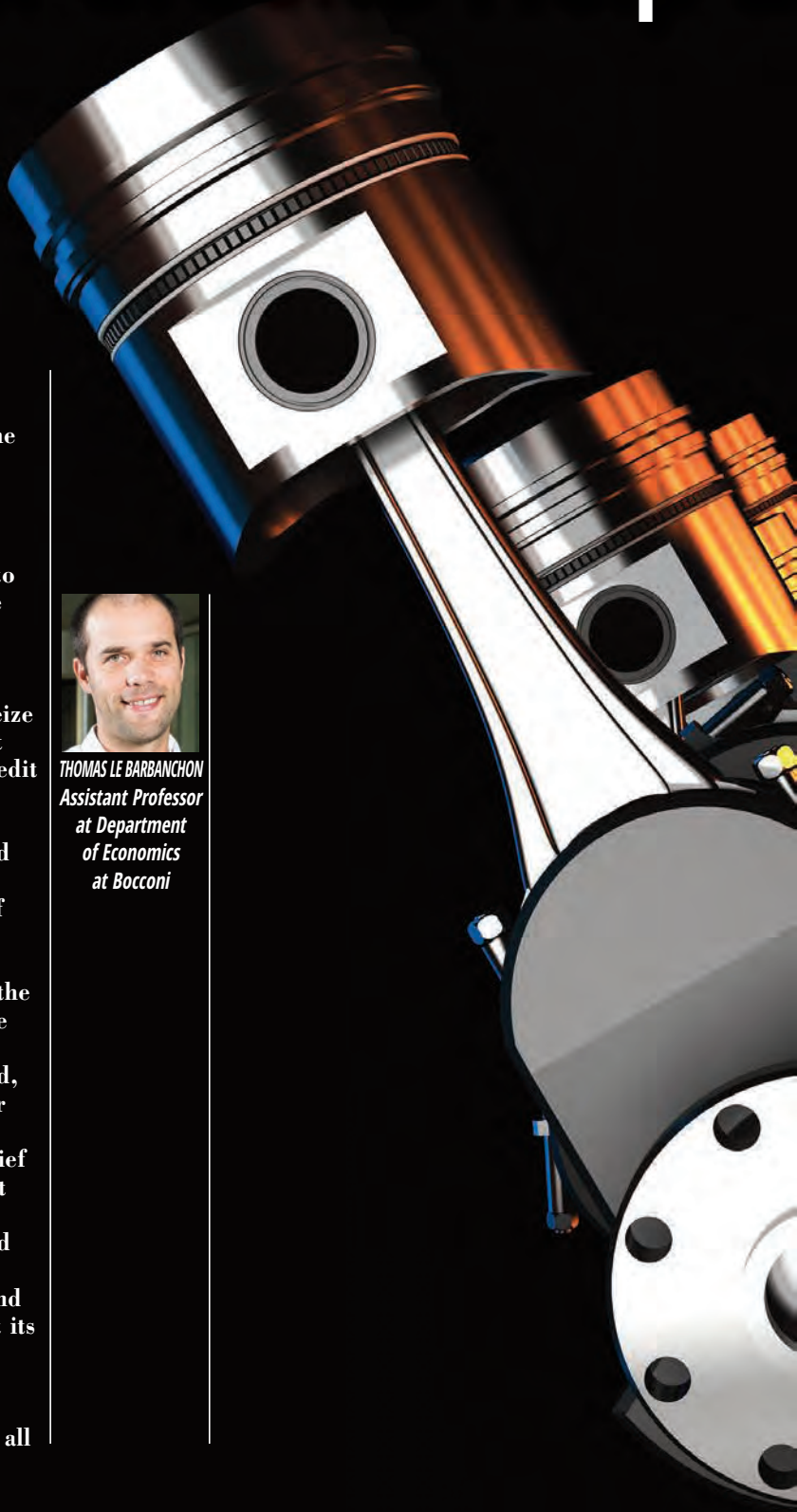
In a paper with Cahuc and Carcillo, we seize the opportunity of the natural experiment constituted by the 2009 French hiring credit to highlight the effectiveness of such policies. This employment tax credit, announced on December 4 2008, relieved firms from welfare contributions on new hires until December 31 2009. The relief was the most for workers paid at the minimum hourly wage (12% reduction in labor cost). The relief then decreased as the hourly wage level rose up to 1.6 times the minimum wage.

The hiring credit was arbitrarily restricted, for budgetary reasons, to firms with fewer than 10 employees, and to low-wage workers. Firms had to request the tax relief for each hire separately. The hiring credit was not restricted to firms with net employment growth, and it was not limited to the hiring of specific disadvantaged groups. We show that these restrictions and other features of the program ensure that its implementation can be considered as a natural experiment.

Our evaluation uses administrative data, which provide detailed information about all



THOMAS LE BARBANCHON
Assistant Professor
at Department
of Economics
at Bocconi



Employment Recovery



THE PAPER

"The effectiveness of hiring credits" by Cahuc, Carcillo and Le Barbanchon looked at France's tax credits for new hires during the 2008 crisis and found they were effective in boosting employment.

firms and hiring subsidies, and compares the evolution of small firms (between 6 and 10 employees) and medium-size firms (between 10 and 14 employees) from November 2008, just before the program's inception, until November 2009.

We find that the French hiring credit significantly increased by 0.8% the growth rate of targeted firms. We find that firms did not substitute hours of new workers benefiting from the hiring credit for those of incumbent employees. There is no increase in wages associated with the hiring credit, and firms did not increase layoffs in order to hire workers at a lower cost. We do not detect any negative impact of the hiring credit on non-targeted firms. Finally, we do not find evidence of inter-temporal substitution effects, which would have implied slower employment growth of small firms after the credit ended.

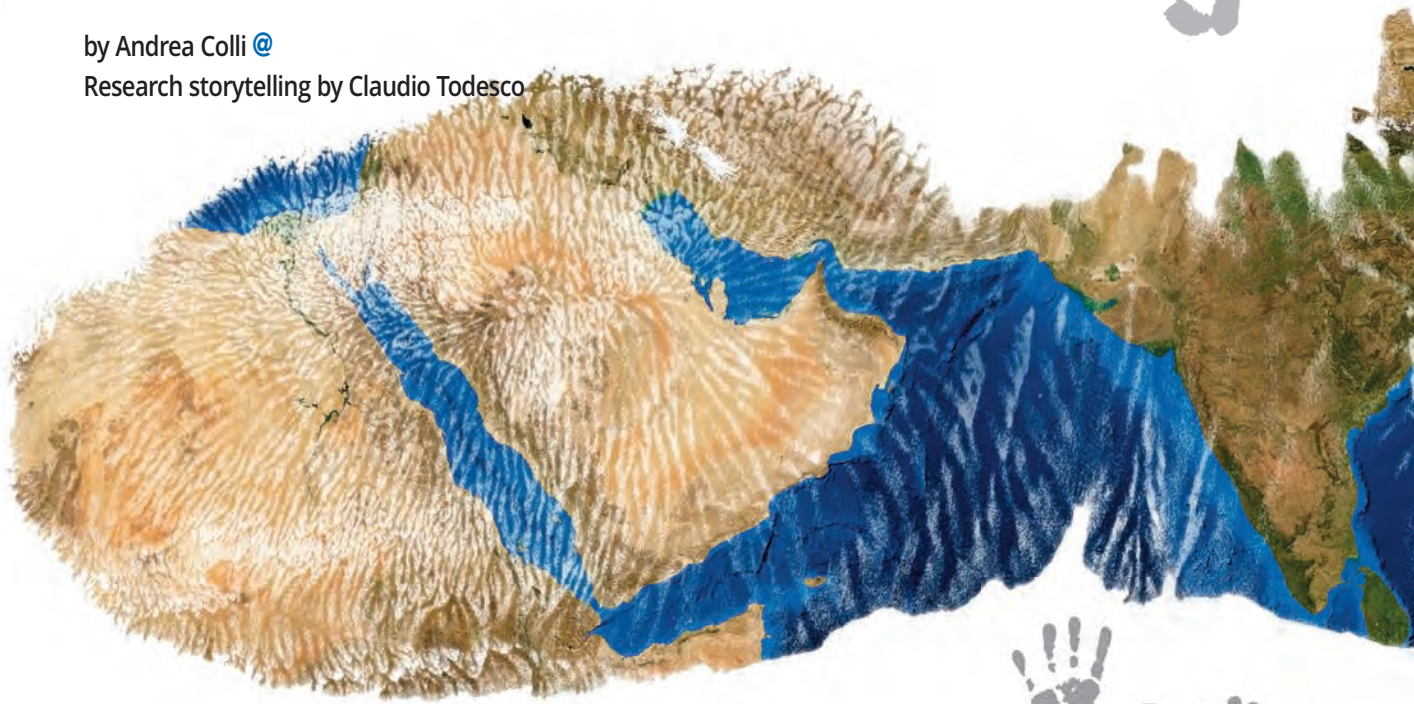
It is possible that the effectiveness of the French hiring credit relied on particular circumstances. In particular, it was one-off, unexpected, and temporary, it was targeted at a small subset of firms, and it was implemented in a context of highly binding wage floors and high unemployment. To explore this issue, we use quasi-experimental variations induced by the program to estimate the cost per job created if the hiring credit had been implemented in a different economic environment, on a different scale, and on different time span. Among the elements that have favored the effectiveness of the hiring credit, it appears that its temporary nature was key. The one-off, unexpected, temporary nature of the hiring credit allowed the government to lower the cost of new entrants but not that of incumbent workers, with limited effects on wages which need time to adjust. ■

The Great Migration and Their Impact

Migration has followed the footsteps of the successive waves of globalization, and tragically it stops when the culture of openness is replaced by nationalism and populism. Bocconi researchers study this phenomenon following different routes

by Andrea Colli @

Research storytelling by Claudio Todesco



According to the World Bank's statistics, the international migrant stock (including 16-20 million refugees) is today well over 240 million people -- a little over 3% of the total world population. In 1960, the stock of total migrants was far smaller, slightly more than 70 million, growing slowly to 100 million only a quarter of century later, in 1985. Then, a sudden acceleration: 152 million in 1990, 190 in 2005, and now over 240.

Migration is indeed a primary ingredient, as well as a consequence, of globalization, defined as the free-flow of goods and trade, of capital, of ideas and of course



ANDREA COLLI
Director of the
Department of Social and
Political Sciences,
and Professor of Global
History at Bocconi

people. All the globalization waves of the past (and above all the one which preceded the present) have been characterized by an intense stream of people crisscrossing the globe, benefitting from new technologies of transport and communication. One of the most "iconic," famous and familiar tragedies of the modern era is the sinking of RMS Titanic, on a foggy night in mid-April 1912. Pop culture and films, however, do not paint a true picture of the event. The Titanic was a passenger transatlantic. Its first class carried wealthy, influential and famous people, but a very large portion of its over 2,200 passengers, and an

ons



overwhelming portion of those who lost their lives, were travellers in the second and third classes. They were mostly migrants crossing the Atlantic, some for the first time, some heading back to their chosen new motherland. The Titanic's tragedy is a touching and sad outcome of this travelled, interconnected, networked, globalized world.

At the peak of its activity, between 1900 and 1914, something like 5,000 to 10,000 people per day passed through the gates of the immigration facility on Ellis Island. Europeans sailed everywhere, even to the most remote regions of the globe, such as Australia, New

Zealand, Siberia. Asians moved as well: a massive Chinese migration, for instance, targeted the American continent during the last decades of the 19th century. It is almost impossible to say how many migrants crossed the oceans and continents in an unprecedented flow of

human beings. According to some rough calculations, between 1840 and World War I about 30 million people migrated from Europe to the US. But migrations involved the whole of Asia and Far East too, and of course Central and South America. According to recent estimates, there were about 120 million migrants, more than 7% of the world population at the time (and twice today's level).

These diasporas, of course, revolutionized and disrupted local societies and labor markets, ending often in harsh anti-immigration movements.

The 19th-century "ICT revolution," and the time-space shrinking which followed, provided other opportunities and incentives for moving, at an increasingly cheap price, to a very different category of travellers. Thomas

Cook, a British entrepreneur who had founded a travel agency, regularly sold organized trips in Continental Europe (included the highly-targeted Swiss Alps) and Africa (where it organized exotic cruises on the Nile). In 1872, Cook offered for the first time a seven-month “World Tour package” to a category of humans that was quickly multiplying: tourists.

Tourism was indeed a form of exploration. Vast regions of the globe were still unknown, not even to geographers, and new technology provided opportunities not available before: Roald Amundsen successfully completed the Northwest passage between 1903 and 1906, travelling from Greenland to Alaska by ship. In the meantime, Africa was a prized target for Victorian explorers like the legendary David Livingstone, while geographers were travelling into the unknown Central Asia territories and deserts, mapping rivers and Himalayan peaks – and at the same time keeping a close eye on the Tzar’s secret agents, who were engaged in the same explorations, in an endless “Great Game.”

Other people also travelled, but their voyages were not out of necessity, nor pleasure, nor for espionage: these trips gave access to knowledge, under various forms; a knowledge which could later be transferred back to the country of origin and disseminated. “Learning Travels” were a standard practice of the European upper class starting from the 18th century, and in general aimed at providing, or strengthening, the level of education and socialization of those undertaking them.

All in all, the experience of the mass migrations of the first wave of globalization sends us a useful message for today. Besides innovations in transport and communication techniques, migrations were possible thanks to another, indispensable pre-condition of a cultural nature – the propensity to openness, exchange and the curiosity of the “unknown” common to many intellectuals, statesmen, and “influencers” of the time. It was the idea of global citizenship as a distinctive feature of the “modern” world, and a natural consequence of the growing global openness and inter-connections: in a word, “cosmopolitanism.” The conditions necessary for globalization were created in equal proportion by technology, and by a culture of openness – the first being useless without the second. When nationalism and closure started to prevail over openness (in part, as its unintended consequence), the whole architecture of the 19th-century global world went to pieces.

Global migrations ended in the tragedy of two World Wars – during which people started to travel over long distances in order to kill, or to die, as 13,000 young Australians, Indians and New Zealanders did at

Gallipoli against the Ottomans. Others wandered in search of a place to settle, as did 10 million displaced refugees, Jews, Germans, Polish and Italian Istrians expelled from their homes after 1945. A harsh lesson to (hopefully) remember. ■





MASSIMO ANELLI

The Political Costs of Emigration

The academic literature and the public debate on the brain drain have focused mainly on its economic and social costs. Yet emigration has a political cost, too: it harms dynamism and change. This is what emerges from a study conducted by Massimo Anelli and Giovanni Peri called "Does emigration delay political change? Evidence from Italy during the Great Recession." The authors analyzed whether emigration affected the makeup of city councils and mayors during the Great Recession that started in 2008.

"Aggregated data tell us that, during that period of time, city councilmen, mayors and council members became on average younger and better educated. The presence of women also increased," Massimo Anelli says. "In municipalities where emigration was high there was no such change. Actually, in 2010-2014, an increase in the emigration rate by 1 percentage point of the population has increased the age of mayors by 3 years. City councilmen with a college degree fell accordingly by 10%, the number of female city council members fell by 16%. There was also an increase in the number of dismissals of city councils, a proxy for political inefficiency." The emigration wave was mostly concentrated in Northern Italy, where the emigration rate has almost doubled, while it has decreased in the South and has remained stable in Central Italy. Young people fled the most dynamic areas of Italy where preexisting links to countries such as Germany, Switzerland and the United Kingdom facilitated migration. The phenomenon has also affected the voting preferences of the local electorate: city councils experienced lower political participation and a lower share of votes to anti-status-quo parties. "Literature tells us that there are two strategies of political dissent: exit vs voice. Allowing emigrants to vote in local elections would allow them to keep the 'voice' option even when they 'exit' the system."



MASSIMO ANELLI
Assistant Professor
of the Department of Social
and Political Sciences
at Bocconi



THE PAPER

Does emigration delay political change? Evidence from Italy during the Great Recession by Massimo Anelli and Giovanni Peri finds that emigration does have a political impact.

JOSEPH-SIMON GOERLACH Moving from Italy's South to its North, Migrants Improve Their Income.

Most migrants that relocated from Southern to Northern Italy in the last 30 years did better in absolute terms, but they did not improve their relative position within the earnings distribution of workers in the same region. This is the preliminary result of joint work by Joseph-Simon Goerlach (scholar of Economics and Migration at the Department of Economics) with Federica Ricci (IGIER and MSc student at Bocconi). In "Grading up and down: Evidence from Italian migration," they used a longitudinal dataset from the Italian National Social Security Institute (INPS). The dataset has a unique feature: it allows researchers to follow individuals across different locations within Italy. The authors focus on full time workers aged 20-60 who migrated from Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sardinia and Sicily to Central and Northern Italy in the years 1985-2012.

The authors compare the individuals' pre-migration quantile within the earnings distribution in the South and their post-migration quantile within the Northern earnings distribution. "We discovered that approximately two thirds of migrants experience a gain in earnings after

moving North, but their relative position within the earnings distribution of the population in the same region deteriorates on average." The work is still in its preliminary phase, but Professor Goerlach highlights a difference between male and female migrants: "Men who migrate are more likely to be blue collar workers whereas women are more likely to be white collar workers than in the overall Southern labor force. Once North, female migrants did better than they did in the South before migration during the 1980s, while in later years migration on average was associated with a worsened relative position."

The authors relied on two measures of income, namely annual earnings and weekly wages. The former takes into account the number of weeks in which an income is earned. Data shows that emigrants are more negatively selected in terms of earnings than in terms of wages, suggesting that men who migrate from the South tend to have less regular jobs.



JOSEPH-SIMON GOERLACH
Assistant Professor
at the Department
of Economics at Bocconi

PAOLO PINOTTI Foreign Students at School: How to Break Educational Segregation

According to OECD data, school systems characterized by early tracking of pupils handicap disadvantaged students. In Italy, the problem is particularly evident among male immigrant students. The best among them may aspire to technical and academically-oriented schools, yet they tend to enroll in vocational high schools. Fondazione Cariplo, Compagnia di San Paolo and Fondazione Cassa di Risparmio di

Padova e Rovigo have therefore funded a program aimed at steering high-achieving immigrants towards high schools that fit their potential. They defined "high-achieving immigrants" as the 10 immigrant students with the best INVALSI scores in middle schools that have at least 20 immigrant students. Target

students were invited to a cycle of 10 tutoring and career counseling sessions that took place over a two-year span. They acquired information on high schools and reflected on their own aspirations. The program was implemented in 70 schools randomly chosen from a sample of 145 middle schools. This allowed the evaluation of the effects using a counterfactual approach. Michela Carlana, Eliana La Ferrara and Paolo Pinotti of Bocconi University compared educational choices, performance and inclinations among 70 target schools and 75 control schools. The results are featured in the working paper "Goals and gaps: Educational careers of immigrant children." "At the end of the program, tutored males had a 12% higher probability of attending an academic or technical high school. They also closed the gap with native-born boys in terms of school drop-out and grade retention," Paolo Pinotti explains. "A significant part of the effect is explained by changes in aspirations and in teachers' recommendations induced by the program." There is more. Once enrolled in technical and academically-oriented high schools, tutored students were no more likely to experience difficulties than those in the control group. "Even a low-intensity treatment can lead to success stories and the reduction of educational segregation," Pinotti said.



PAOLO PINOTTI
Associate Professor
at the Department Social
and Political Sciences
at Bocconi



THE PAPER

"Goals and gaps: Educational careers of immigrant children" by Michela Carlana, Eliana La Ferrara and Paolo Pinotti found that high school programs can help increase educational opportunities

But Not Their Position

GRAZIELLA ROMEO The Contradictions of the European Legal System

Mass migration is a stress test for the European Union, where nationalism and cosmopolitan aspirations are in contrast. Centralizing the decision-making process on admission to the EU territory could resolve this ambiguity, according to Graziella Romeo, Assistant Professor at the Department of Legal Studies. In the working paper "Managing mass migration in the European Union between nationalist egotism and cosmopolitan temptations," she tackles the subject by focusing on the interplay between domestic and EU law on mass migration regulation. She wants to understand to what extent the EU rules have absorbed the ideas of citizenship and free movement of persons that have shaped the communitarian perspective. "There is a contradiction between the theoretical premises of the EU transnational legal system and its policy on immigration," Professor Romeo says. "According to the cosmopolitan perspective of the EU, every citizen can obtain recognition of and protection for their fundamental rights. Yet this narrative is shattered when the Member States have the final word on the admission of a third-country migrant into their territory."

A potential solution to this contradiction is the centralization of the decision on admission into the EU territory, a decision that is currently entrusted to national organs and judges of each Member State. This goal can only be achieved in the long run after enacting restructuring procedures and creating new institutions.

"The objective to further build the EU as a political community, by somewhat eroding state sovereignty, may seem to be a risky choice that is contrary to common sentiment, but an authentic polity must define who is citizen and who is not. Furthermore, cosmopolitan theories have influenced the shaping of Europe as a place of justice and peace."

GRAZIELLA ROMEO
Assistant Professor
at the Department
of Legal Studies
at Bocconi



CARLO DEVILLANOVA

Immigrants Face Healthcare Barriers

The removal of socioeconomic barriers to immigrants' access to health care is a fundamental policy goal. Still, there are additional barriers in health inequalities to reckon with. In their paper "Inequities in immigrants' access to health care services: Disentangling potential barriers," Carlo Devillanova and Tommaso Frattini make use of a large Italian National Health survey to estimate the correlation between immigrant status and the probability of accessing general practitioners, specialist doctors, hospitals, and emergency departments.

"First, we have identified immigrants relying on both their citizenship and their country of birth. This enabled us to identify the behavior of second-generation immigrants," Carlo Devillanova says. The authors found that, even after controlling for socioeconomic variables, immigrants are 45% less likely to visit specialist doctors and 45% more likely to contact emergency services than natives. Second-generation immigrants are less likely to visit specialist doctors, too, but they have higher hospitalization rates than natives (+60%). In both cases, migrants seem to face barriers to access specialist doctors. It eventually leads them to experience acute diseases.

The question is: why does it happen? "Our hypothesis, supported by data, is that immigrants face non-economic barriers to access such as lack of



THE PAPER

"Inequities in immigrants' access to health care services: Disentangling potential barriers" by Devillanova and Frattini found that immigrants were 45% less likely to see specialists.

information, bureaucratic difficulties, and language barrier." Here is an example: almost 37% of immigrant women who had given birth in the six years prior the survey did not undergo a prenatal diagnosis during pregnancy simply because they were not aware of it, compared to 12% of Italian women in the same situation. "The Italian Constitution states that the Republic safeguards health as a fundamental right of the individual and as a collective interest," Devillanova remarks. "Prompt and equitable access to health care is an ethically and economically desirable objective."



CARLO DEVILLANOVA
Associate Professor
at the Department Social
and Political Sciences
at Bocconi





ALESSANDRA CASARICO

Market Benefits for Legal Immigrants

According to Eurostat, 650,000 first-time asylum seekers applied to enter the EU-28 in 2017. Applicants whose requests for international protection are rejected become illegal and therefore join the large population of undocumented foreigners. Modeling advantages and disadvantages resulting from legalization programs is important for determining migration policies. This is what Alessandra Casarico, Giovanni Facchini and Tommaso Frattini have done in the paper "What drives the legalization of immigrants? Evidence from IRCA."

They focused on labor market effects that were previously overlooked by the literature. "When they are granted legal status, high-skilled migrants have access to jobs that fit their potential, thus inducing an increase in output," says Alessandra Casarico, Associate Professor of Public Finance and Coordinator of the Welfare State and Taxation Unit of the Dondena Research Centre. "In the presence of a redistributive system, a potential loss results from low-skilled immigrant workers gaining access to the welfare state."

The authors developed a theoretical model based on labor market and welfare state channels and used the voting behavior of US Congress and Senate representatives on the Immigration Reform and Control Act as the testing ground for their theory. This is one of the largest legalization programs in history: in 1986, 2.8 million individuals became entitled to permanent residency in the US. The empirical evidence provided strong support for the predictions of the model. The representatives were more

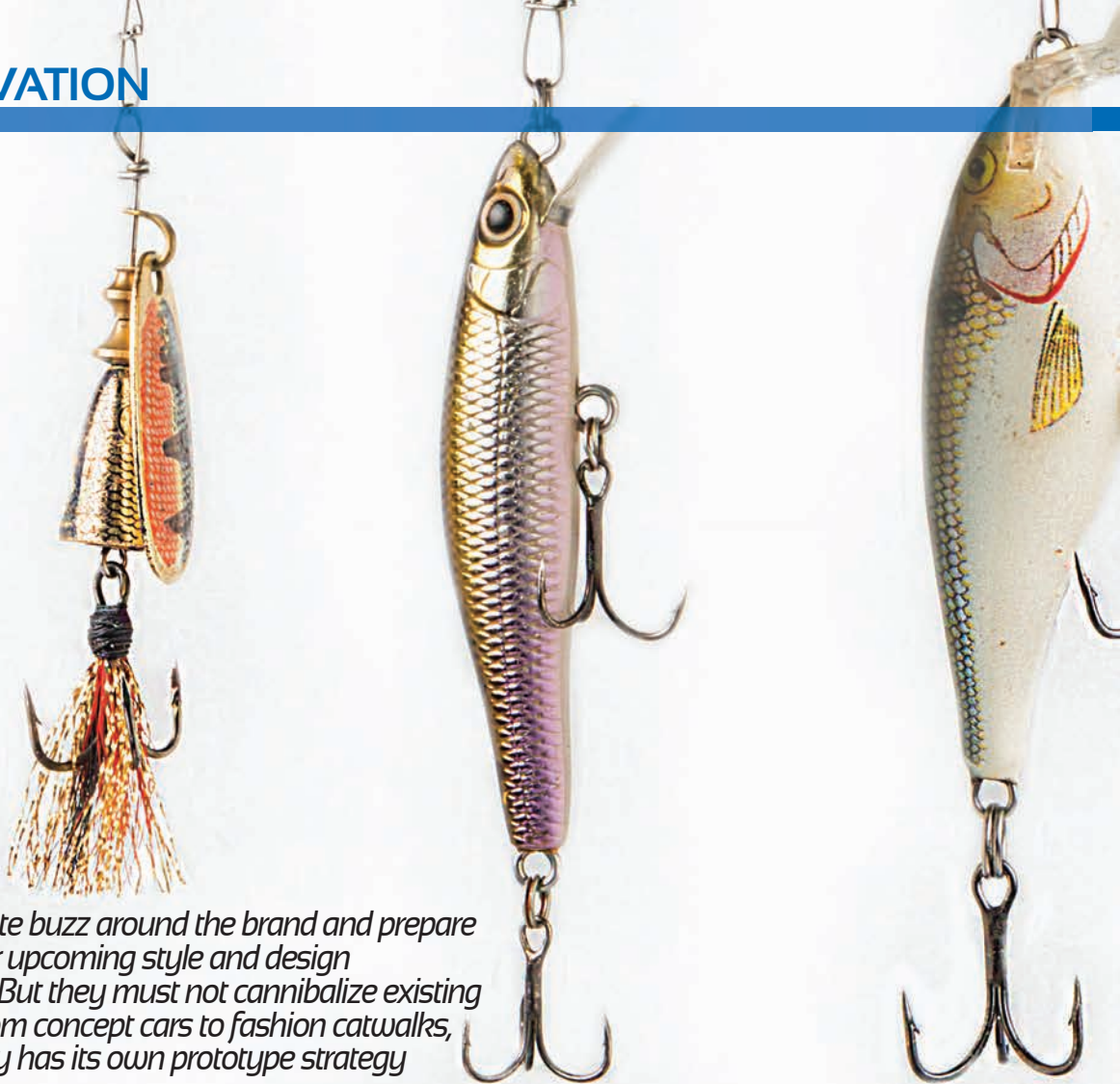
likely to vote to approve the amnesty in districts where the gain to aggregate income induced by granting legalized workers access to employment opportunities was greater and the degree of redistribution was lower. "Our model assumes that policy makers act as perfect welfare maximizers. Future research could take into account other forces that play a role in shaping immigration policies and the possibility of strategic interactions among representatives."

ALESSANDRA CASARICO
Associate Professor
of the Department Social
and Political Sciences
at Bocconi



THE PAPER

What drives the legalization of immigrants? Evidence from IRCA by Casarico, Facchini and Frattini looks at the Immigration Reform and Control Act in the US for benefits and drawbacks.



They generate buzz around the brand and prepare the public for upcoming style and design innovations. But they must not cannibalize existing products. From concept cars to fashion catwalks, each industry has its own prototype strategy

Those Exaggerated Prototypes Do

by Paola Cillo and Irene Scopelliti @

Surely many people will have been caught off guard by the recent Gucci fashion show set in a surgical operating room and wondered what the purpose was and who could ever wear those extravagant clothes. Yet the Gucci fashion show is not an isolated case. Eccentric or explosive prototypes are used in many sectors, from automobiles to consumer electronics, from design to fashion. The goal is not only to generate interest around the brand or attract market and media coverage. Prototypes play a different role according to the industry and context where they are employed. In some industries, such as fashion, the presentation of exaggerated prototypes allows the market to become familiar with new items and is therefore a necessary condition to accelerate the acceptance of production innovation. In other contexts, however, extreme prototypes create value for the brand, projecting it into a futuristic dimension, thus increasing the value that the



PAOLA CILLO
Associate Professor
at the Department
of Management
and Technology
at Bocconi

market attributes to the branded products that are actually on sale. This is what happens, for example, in the automotive industry. These conclusions emerge from a series studies we conducted together with David Mazursky of the Hebrew University of Jerusalem. Fashion innovations exist on a path of planned obsolescence. A stylistic innovation is often shelved by the following season in favor of a different style, in order to encourage consumers to renew their wardrobes. However consumers have a natural tendency to be slow in adapting to change and, above all, they need time to be able to get used from a perceptual point of view to what is innovative compared to the dominant standard. The over-the-top prototype shouts out the message that an important innovation is being presented to the market, making it more easily intelligible. The experiments we carried out show that it is possible to accelerate the acceptance of a new design in the fashion industry, by first exposing the consumer to an



Designed to Capture the Consumer

exaggerated version of the same design. Exposure to the hyperbolic version allows the consumer to start decoding some visual elements contained in the prototype. When these elements are subsequently added to the product being actually marketed, the consumer perceives a sense of familiarity and is more willing to make the purchase. It is as if the exaggerated prototype left a trace in the memory of the consumer who, subconsciously, is more favorably oriented toward the purchase of the new item launched in stores, sold in a more moderate version with respect to what was displayed on the catwalk. Studies have also shown that exaggerated prototypes also act as facilitators for non-experts, especially when there is a high visual redundancy between the characteristics of the prototype and those of the marketed product. On the other hand, so-called concept cars in the automotive world play a different role with respect to the fashion industry. With their futuristic shapes and their peculiarly advanced performance, they build a strong



IRENE SCOPELLITI
Lecturer at
Cass Business School

association between the brand and innovation in the mind of the consumer. Obviously, in this case the risk exists that the concept car could dilute the value of existing car models on sale, making them less attractive to consumers. Our studies show that car companies resort to different strategies to avoid the risk of diluting the value of products available on the market. These strategies are all based on a single principle: to position the prototype according to variables that are incomparable with those of existing automobiles, for example by focusing on extravagantly designed models which are therefore hard to assess in the light of existing aesthetic standards. Our experimental studies show how, in the automotive industry, as well as in consumer electronics, strategies that make prototypes and products on the market difficult to compare between one another allow companies to maximize the value of hyperbolic prototypes without risking a reduction in consumer interest in existing products. ■

Macroeconomic Shocks Have

by Alberto Manconi @

A natural experiment looking at the consequences of the 1933 Silver Purchase program demonstrated a significant social impact



ALBERTO MANCONI
Assistant Professor
at Department
of Finance
at Bocconi

Do negative economic shocks trigger social unrest? The shrinking support for mainstream parties and the rise of populist movements across Europe in the aftermath of the Eurozone crisis have brought this question to the fore of debate among academics, policy makers, and the general public.

Despite its relevance, however, we don't yet have a clear answer, and the data are often hard to interpret. The reason is that we often observe social unrest in countries with poor economic performance, but in general we do not know what causes what. Intuitively, poor economic performance may exacerbate social tensions; but social unrest itself can also worsen investment prospects, leading to lower employment and output.

To address this challenge, in a paper with Fabio Braggion of Tilburg University and CentER and Haikun Zhu of Rotterdam Erasmus University ESE, we decided to study a credit shock in 1930s China. That helped us isolate the direction of causality, from economic performance to social unrest, via a natural experiment triggered by the US 1933 Silver Purchase program. Undertaken for purely US domestic reasons, and independent of Chinese economic conditions, the Silver Purchase raised the price of silver worldwide and drained the Chinese silver stock. Because China

ve a Major Effect on Politics

Consequences of China's Silver Purchase Program in the 1930s
ct. Economic policy must take into account these political effects

was on the silver standard, the credit capacity of its banks was tied to their silver holdings. Banks with lower silver holdings were more exposed to the Silver Purchase “shock” and had to cut credit, potentially with a social impact.

Using extensive archival information, we assemble a database on credit, labor relations, and underground Communist activities in 1930s China. Our data reconstruct a Chinese “credit registry” for the period 1931-1935, and document firm-level labor unrest episodes in three major Chinese cities (Nanjing, Shanghai, and Tianjin), as well as Communist Party penetration among workers at Shanghai firms.

We provide two pieces of evidence, linked by the credit shock. First, we show that banks with a larger exposure to the Silver Purchase (with lower pre-1933 silver reserves) curb credit after 1933, in comparison to banks that are less exposed. Second, we show that labor unrest episodes and Communist penetration in Chinese firms relate to their banks’ exposure to the Silver Purchase. Intuitively, firms borrowing from exposed banks face tighter financial constraints, which limit investment and lead to pay cuts and layoffs, increasing the likelihood of labor unrest and Communist support.

Our main results are immediately visible in the data. Chinese credit sharply contracts over 1933-

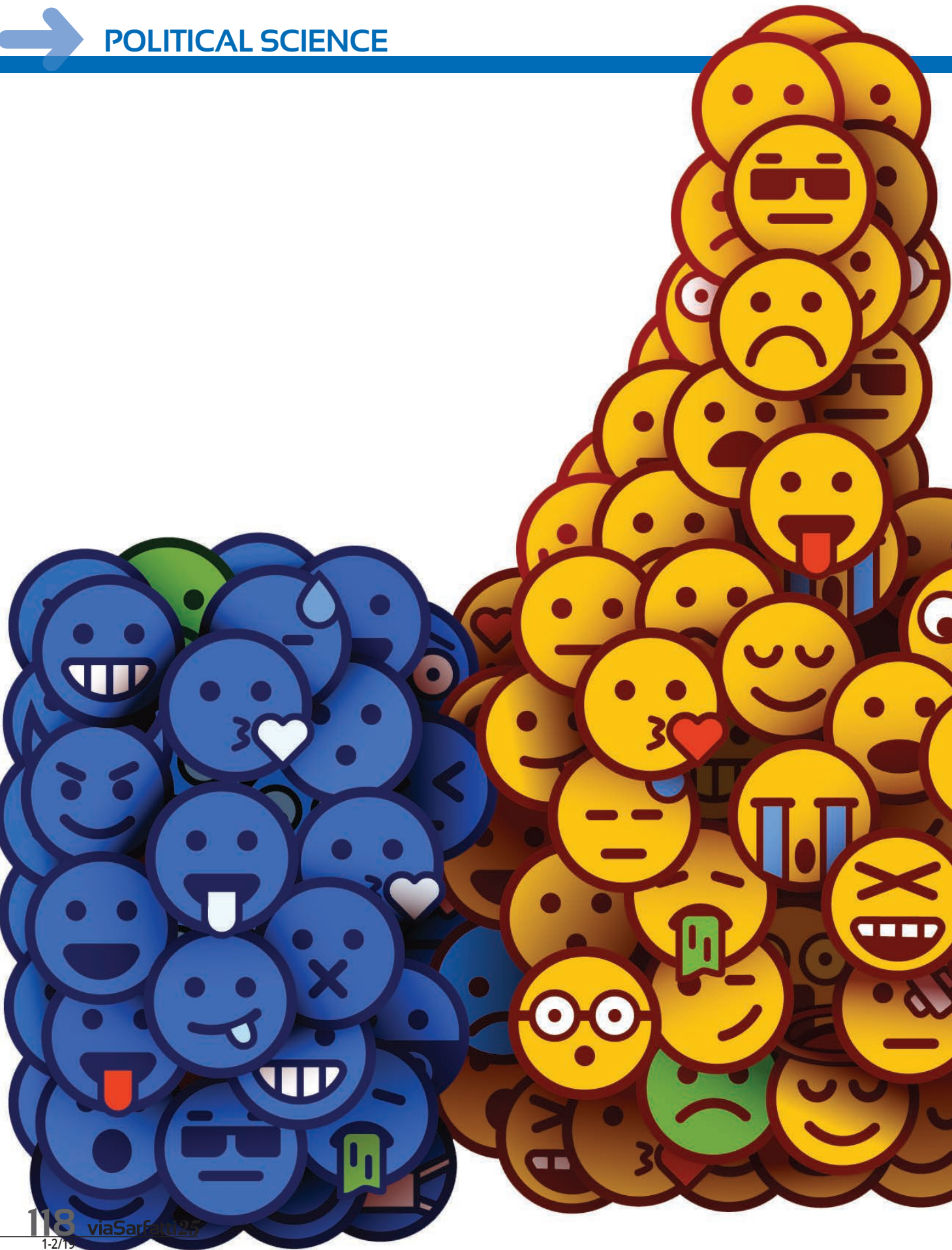


THE PAPER

“Credit and social unrest: Evidence from 1930s China” by Braggion, Manconi and Zhu found that a lending crisis sparked social unrest, which in turn led to an increased Communist support.

35: credit-to-GDP drops by about 15%, similar in magnitude to more recent credit crises. We find that this is driven by banks with lower pre-1933 silver reserves. Firms borrowing from those banks, in turn, experience increased labor unrest intensity. Our estimates imply that the most exposed borrowers experience a 30% larger increase in the number of labor unrest episodes, and a 15% longer average episode duration. Using data from the archives of the Shanghai Municipal Police (SMP), which used to infiltrate Communist cells in the 1930s, we also show that they experience increased Communist penetration. Based on our estimates, there is a 3 to 6.5% larger increase in Communist penetration at the exposed firms, relative to firms with access to the largest silver reserves pools. Taken together, our findings indicate that the social and political consequences of credit and, more generally, economic shocks are material, and suggest that “social” considerations can be relevant for regulators and policy makers. ■





Democracy Between Representation and Social Media Likes



Thanks to its flexibility, democracy is the form of government that can best adapt to change while ensuring the protection of fundamental rights. However, its promise is hard to keep

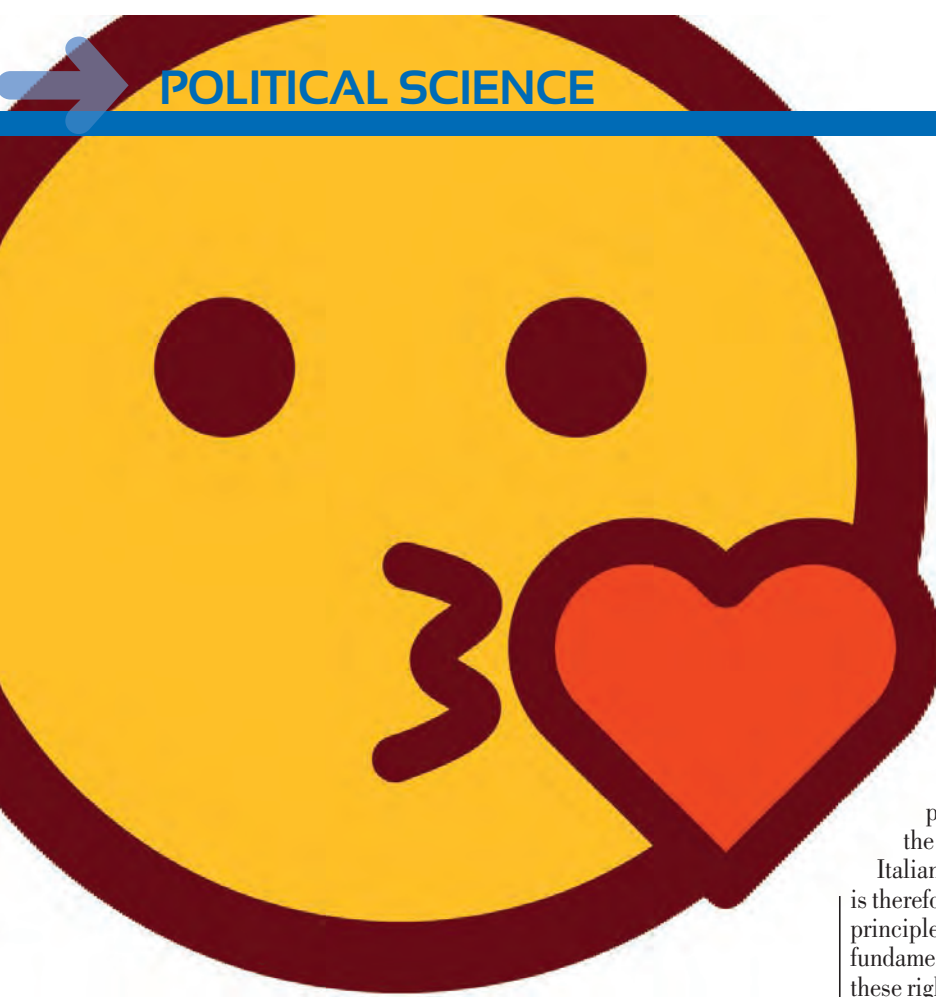
by Damiano Canale @

Research storytelling by Claudio Todesco @



DAMIANO CANALE
Full Professor
at the Department
of Legal Studies
at Bocconi

Today, for each one of us, the word democracy has the familiar ring of being equivalent to the promise of freedom and equality. Freedom to be actors in collective decisions, to be active participants in political life in all its forms, and to break the chains of power inequality. And all this while acknowledging that every citizen has the same prerogatives and abilities to decide over the future of the political community in which he or she lives. However, it is a promise that is increasingly difficult to maintain. This is so for at least two reasons. In the first place, in modern democracies, the prerogative accorded to each citizen to participate in collective decision-making is delivered through the mechanism of political representation. The people, to whom the Italian Constitution accords political sovereignty, is a fictitious entity. The “people” act politically through elected representatives, chosen by the citizens, who are responsible for embodying the general will. This generates a latent split between the represented and their representatives, which tends to become a yawning gap in times of crisis.



→ TECHNOLOGY AS A WAY TO UNITE RULED AND RULERS

The crux of political representation has now become crucial after the crisis of traditional parties, which are increasingly unable to aggregate collective choices based on the needs and aspirations of citizens. Hence the attempt, now widespread on a planetary scale, to recover forms of direct democracy through the help of digital technologies, apparently capable of establishing a direct connection between those who rule and those who are ruled. However, the knot of representation doesn't get untied this way but is simply moved outside traditional institutional circuits. As Kant wrote in reproach to Rousseau, direct democracy is "formless": it needs to be oriented by defining the political agenda and the mechanisms for attaining political consensus; decisions that the people left to their own devices are not capable of making. Whether "giving form" to direct democracy requires either an enlightened legislator, a charismatic leader, or an online platform does not really matter. The gap between representatives and represented risks re-emerging every time, thus frustrating democratic aspirations.

→ FROM THE MAJORITY PRINCIPLE TO THE TYRANNY OF THE MAJORITY

A second set of reasons that make the promise of

democracy hard to maintain is linked to the mechanism by which collective choices are made, that is to say the majority principle. It is well-known that every democracy, although based on universal suffrage, is exposed to the risk of plebiscitarian dictatorship. At a time when a political movement or coalition gets the majority of seats in parliament, regardless of the actual consensus it enjoys among the population, the government of the majority may decide to neglect minorities, and even try to reduce them to political silence, by clamoring that "Ours is the voice of all the people!" When this happens, democracy can turn into the most insidious of authoritarian regimes.

To avert this danger, contemporary constitutional democracies provide that popular sovereignty must be exercised "within the forms and limits of the Constitution," as the Italian Constitution states. The will of the majority is therefore bound to the full respect of constitutional principles, and in particular to the protection of the fundamental rights of all individuals, since respecting these rights is a prerequisite of democracy itself. This causes a latent tension between the democratic claim to see a political project implemented and the limits that every constitution places on such claim. This tension is managed through institutional checks and balances and constitutional courts, which have the difficult task of reconciling democratic prerogatives with the protection of fundamental rights, whatever their political color. However, in exceptional times such as ours, when institutional brakes are too weak and popular pressure too strong, this can create a tsunami that overwhelms the entire political community.

→ AN OPEN-ENDED, CONSTANTLY-EVOLVING ENDEAVOR

Now, although the promise of democracy is difficult to maintain because of the inherent instability that Aristotle pointed out, democracy remains the best form of political organization in complex societies. And this is due, as Nadia Urbinati recently emphasized, to its very flexibility, namely its ability to adapt to different political situations, by reinventing the dynamics of representation and rearranging political choices in the light of fundamental rights.

In other words, democracy has always been a political laboratory in the making, capable of keeping its promise of freedom and equality to the extent that each of us is willing to participate in its continuous reconfiguration and realization. ■

ELISA BERTOLINI Italy, Germany and Japan: Three Examples of How to Overcome Totalitarianism

Democracies that experienced a totalitarian interlude face a dilemma: should they become militant or not? In other words, should they restrict fundamental rights and freedom to prevent a new wave of authoritarianism?

In "Censoring the past? Suggestions on the German, Italian and Japanese approach to the totalitarian past" (published in the Bulletin of the Nanzan Center For European Studies), Elisa Bertolini focuses on the analysis of Italy, Germany and Japan. In the aftermath of World War II, those countries tried to balance the compression of fundamental rights with the need to protect the democratic legal order.

"They faced the same challenge, but they modulated differently their degree of militancy," Professor Bertolini says.

"In Germany, the Constitutional Court rules on the question of unconstitutionality of parties that seek to undermine the democratic order. This is an universal ban, not being related to right-wing nor left-wing parties, whereas in Italy the XII Transitional and Final Provision, enforced through the Scelba Law, provides for the ban of reorganization of the Fascist Party only. In Japan, the Article 66 of the Constitution forbids to appoint any military as members of the executive power."

Another key element in understanding how the past plays a role in shaping the militancy of a democracy is the way history is taught to younger generations. "In Japan, there is a strict control on the preparation of textbooks aimed at eliminating any account of the most controversial circumstances of the World War II, specifically those that may create tensions with South Korea and the Popular Republic of China. The totalitarian past is denied or sugar-coated."

ELISA BERTOLINI
Assistant Professor
at the Department
of Legal Studies
at Bocconi



THE PAPER

"Censoring the Past: Suggestions on the German, Italian and Japanese approach to the totalitarian past" by Bertolini looks at post-war tradeoffs between freedom and security.



THE PAPER

"Privacy and data protection vs national security in international flights" by Vedaschi looks at the US and Canada.

perspective of international law and constitutional law. The second strand of research is about privacy and data protection in Europe. "In the face of strong government interventions, the European Court of Justice has so far managed to find a balance between fundamental rights and national security," she says. The third strand is about state secrecy. Before US and sometimes EU courts, cases of extraordinary renditions have been dismissed due to the invocation of the state secrets privilege by the government. The European Court of Human Rights, however, has ruled illegitimate the use of state secrecy, making an unprecedented reference to the importance of the right to the truth, that is not merely a legal, but a collective truth to the benefit of public opinion. "The worst risk that mature liberal democracies face is not the defeat at the hand of international terrorism. On the contrary, they have proved they can beat this enemy on the field. They risk killing themselves by betraying the principles upon which they were founded."

ARIANNA VEDASCHI Antiterrorism Policies that Put Everyone's Values at Risk

When faced with terror, Western democracies are not likely to succumb. They are more likely to commit suicide. Arianna Vedaschi, Professor of Public Comparative Law at Bocconi University, has devoted much of her research career to monitor this kind of danger. "I have studied the response of advanced liberal democracies to the threat of jihadist terrorism. I have focused on counter-terrorism measures taken by the US, the UK and other EU countries in order to verify their compatibility with core democratic rights and values," she says. Professor Vedaschi's research is divided into three main strands, the first being targeted killings, in particular the case of Osama Bin Laden, and extraordinary renditions to torture. Despite efforts by the US to build a theory that legitimates them, Vedaschi says, they are illegal from both a

ARIANNA VEDASCHI
Full Professor of Public
Comparative Law
at Bocconi



LIVIO DI LONARDO Antiterrorism and Electoral Campaigns

Voters can evaluate the incumbents' performances and reward or punish them accordingly in the voting booth. This is one of the fundamental features of a democratic system, but it can create distortions and inefficiencies in counterterrorism.

Livio Di Lonardo, Assistant Professor at the Department of Social and Political Sciences, tackled with the issue in "The partisan politics of counterterrorism: Reputations, policy transparency, and electoral outcomes" (Political Science Research and Methods, 2017) and in the working paper with Tiberiu Dragu "Issue salience and policy congruence in counterterrorism."

Right-wing and left-wing politicians have different reputations. The former are believed to respond to terror threats more aggressively than the latter.

"Politicians try to appear bias-free. Left-wing incumbents, who want to convince voters that they are able to resolutely deal

LIVIO DI LONARDO
Assistant Professor
at the Department
of Social and Political
Sciences at Bocconi

with a severe terror threat, end up adopting more aggressive policies than their right-wing counterparts."

Di Lonardo also took into account the competence of politicians in the fight against terrorism. "Some normative literature says that we should not be concerned about the concentration of power in the aftermath of an attack." According to this idea, the informal role of control and balance is embodied by voters who, in an emergency context, pay greater attention to the government's performance in both the curtailment of liberties and terrorism prevention. "We show that, due to their desire to be re-elected, politicians want to show themselves competent in the fight against terrorism by avoiding new attacks. To prevent them, they implement more aggressive counterterrorism measures than those that would be optimal for voters."



THE PAPER

"The partisan politics of counterterrorism: Reputations, policy transparency and electoral outcomes" by Di Lonardo delves into how democracies deal with terrorist threats.

JUSTIN FROSINI The Constitutional Path to Illiberal Democracy

Is illiberal democracy a contradiction in terms? This is the problem addressed by constitutionalists from countries throughout the world that started a research group on "Constitutionalism in Illiberal Democracies" promoted by the International Association of Constitutional Law (IACL). "The wave of democratization that swept the world has stopped," says Justin Frosini, Associate Professor of Comparative Public Law and member of the IACL research group. "Fifteen years ago, liberal democracy was conquering the world, or so it seemed. We thought that we reached the end of history, to quote Francis Fukuyama. The enthusiasm was soon replaced by the concern over the phenomenon of democratic regression. Countries once considered to be consolidated democracies were in crisis. The Hungarian Prime Minister Viktor Orbán has publicly declared he would like to turn the country into an illiberal democracy."

Perfectly legal constitutional amendments turn pluralist democracies into illiberal democracies that restrict the enjoyment of civil and political rights. It happens all over the world and therefore the IACL project is divided into groups that focus on geographic and thematic subjects. The project debuted in April 2016 with a workshop at Bocconi on "Constitutionalism in Illiberal Democracies." Seminars have been held in Bologna, Padua, and Buenos Aires.

The latest academic publication is the special issue of the publication Central Asia Survey and is called "Pseudo-Constitutionalism in Central Asia: Curse or Cure?". Professor Frosini has contributed with a paper on constitutional preambles in Central Asia.

"They express the principles of liberal democracies, but the constitutional bodies that may guarantee the balance of powers do not actually perform the functions assigned to them. This is a form of pseudo-constitutionalism that hides its true nature under the constitution."

GIUNIA GATTA
Adjunct Professor
Department Social
and Political Sciences
at Bocconi



GIUNIA GATTA The Thin Line Between Pluralism and Populism

The affirmation of populist movements across Europe, the election of Donald Trump to the Presidency of the United States, the Brexit vote in the United Kingdom: these three experiences, and populism in general, are defined by liberals in antithesis to pluralism.

Unfortunately, the potential for conflict generated by pluralism is underestimated in liberal theory. Values, classes and cultures are not ordered horizontally and peacefully. They are arranged according to fossilized hierarchies that create a sense of alienation on the part of those who find themselves on the losing side of the game.

In her most recent book "Rethinking Liberalism for the 21st Century" (Routledge Studies in Social and Political Thought) and in the working paper "Which pluralism against populism? Judith Shklar and the pluralism of permanent minorities," Giunia Gatta of the Department of Social and Political Sciences turns to the American political theorist Judith Shklar (1928-1992) to define a version of pluralism that can resolve these conflicts without being antagonistic or condescending towards populism.

"In her book 'Legalism,' Shklar articulates the notion of pluralism of permanent minorities," she says. "It means that, in our societies, citizens are ordered hierarchically along the lines of class, religion, ethnicity. This should not be underestimated. We must actually make an effort to protect these minorities and to prevent their creation. In 'The Faces of Injustice,' Shklar invites us not to dismiss any claim of injustice and to value it as a mechanism that allows us to see policies from the point of view of minorities. Shklar firmly believed that democracy is not just a matter of procedures. She therefore called on the elites to relate on an equal basis with minorities. Respect is as important as voting."

JUSTIN FROSINI
Associate Professor
at the Department
of Legal Studies
at Bocconi



MASSIMO MORELLI To Respond to Citizens, Change the Model

Massimo Morelli has provided a detailed description of populism in Europe, using real data and surveys from 2002 on, in two papers co-authored with Luigi Guiso, Helios Herrera and Tommaso Sonno ("Populism: Demand and Supply" and "Global crisis and populism: The role of Eurozone institutions"). Industrial, financial and institutional crises have led to abstention from voting, mistrust, and the surge in support for populist parties. The widespread awareness of the shortcomings of liberal democracies added to individual fears and economic insecurity of workers exposed to globalization and immigration.

"You can either strengthen democracy by increasing political participation at the European level, or you give full control of the economic policy levers back to governments," professor Morelli says. "If there was a European unemployment aid, for instance, citizens would feel closer to supranational institutions." Democracy, much more than the euro, is at risk if populism is met with contempt or discredit, Morelli argues. The demand for protection is legitimate, a convincing economic response is necessary.



MASSIMO MORELLI
Full Professor
at the Department
of Social
and Political
Sciences at Bocconi

In "Global Crisis and Populism," the authors show that globalization and financial crisis have struck the eurozone countries harder because of the greater difficulty of these countries' policymakers in responding to a shock with counter-cyclical policies and because of the tendency for multinational and national firms to relocate production from eurozone to European countries outside the eurozone. In the future, Morelli says, democracy will be different for other reasons too. Forms of direct democracy, such as those offered in Switzerland, will ward off populist tendencies, as technology will offer new channels for participation. "The model of liberal democracy based on free markets and income redistribution must be changed. Democracy must identify new ways to respond to citizens' demands, not relying only on ex post redistribution, but implementing ex ante protections to counteract inequality and poverty," he says.



THE PAPER

"Populism: Demand and Supply" by Morelli, Guiso, Herrera and Sonno highlights factors determining the rise of populism, such as immigration and economic insecurity, using real data and surveys.



THE PAPER

"Democratic Governance and the firm" by Grandori found using a sample of 500 companies that which of four different democratic models a firm chose made a difference in its performance.

ANNA GRANDORI Democracy on Two Levels in Companies and Innovative Startups

ANNA GRANDORI
Full Professor of Business
Organization at Bocconi

Democracy is not a recurring word in economic organization and management theory, yet the concepts of "firm" and "democracy" may be closer than we think. Because of the need to attract investments of knowledge and human capital assets, the governance of a startup company is more pluralistic and representative than the typical 20th century industrial enterprise. Something similar occurs in the innovation units of established firms where the allocation of decision-making rights is diffused. However, "if it is true that innovation favors a democratic governance, it is also true that companies are democratic societies at the institutional level," says Anna Grandori, Professor of Business Organization. The distinction between the institutional and the organizational levels lies at the heart of one of her most recent publications on the subject, "Democratic governance and the firm" (2017). "All firms operating in a democracy are democracies themselves in the sense that the core mechanism for sharing decision rights among the constituency is democracy, simple (one person one vote) or weighted (accordingly to the number of shares)," she says.

The paper also features the results of a study based on quantitative data from questionnaires received from a sample of the largest 500 Italian firms. The authors enquired into which combinations of four organizational practices made a difference in firm performance: market-like, bureaucratic, communitarian, democratic (diffusion of property and representation rights, task self-determination rights). It turned out that what makes a difference are the democratic mechanisms (as well as market-like, such as pay for performance). "The democratization of firms has a positive effect in terms of performance that goes beyond any ethical consideration," Professor Grandori says. "The effects are significant in 'normal' firms, outside knowledge-intensive contexts or startup enterprises. And this is rarely acknowledged."

Bocconi ALUMNI

EVERYONE MATTERS

Alberto Brunelli Bonetti
Alumnus, 1988.

Bocconi Alumni and Bocconi University come together and join forces to expand our global reach and spread our values. Knowledge, global network, spirit of innovation, dialogue will continue to guide us. Today, more than ever, every alumnus makes a difference, every new idea is one more step towards new goals, every contribution is important for the enrichment of all.

Want to be part of this? Join us at [bocconialumnicomunity.it](https://www.bocconialumnicomunity.it)

#KnowledgeThatMatters

The Stork Brings Women a Reduced Paycheck

Childbearing accounts for one third of the gender salary gap. Women without kids earn about 35% more than moms over the course of a career, and can choose better qualified, higher paying professions

by Jérôme Adda @

Women are often paid less than men, are under-represented in leading positions, and their careers develop at a slower pace than those of men. Without children, women's earnings over the life-cycle would increase by 35 percent (in discounted present value terms at age 15), a recently published paper concludes. About three quarters of this career cost of having children stems from lost earnings during interruptions from work and increased part-time work engagements after childbirth, while the remainder is due to wage responses, as a result of lost investments in skills, skill depreciation and the choice of occupation conditioned by fertility expectations. Fertility explains about one third of the gender wage-gap, especially for women in their mid-thirties. Furthermore, some costs of fertility are incurred well before children are born, as a high desired fertility seems to imply self-selection into routine occupations (as opposed to intellectual or abstract occupations), that promise to be less affected by childbearing, but are worse paid and offer less career chances in the first place. There are at least three elements that determine the career costs of children. First, children may require periods during which women cannot work, implying lost earnings opportunities. Second, during these interruptions from



JÉRÔME ADDA
Professor of Labor
Economics
at the Department
of Economics at Bocconi

work, there will be no skill accumulation, and existing skills may even depreciate. Therefore, the accumulation and depreciation of skills may play an important role in determining career costs. Third, intended fertility may affect the type of career a woman chooses even before children are born. Depending on ability and expected fertility, women may therefore sort into occupations that imply different career costs of children. All this suggests that one needs to consider the career as a whole to determine the costs related to having children. With Christian Dustmann and Katrien Stevens, we consider these issues in the context of a life-cycle framework so that decisions at one point in time have implications for the rest



THE PAPER

The Career Costs of Children by Jérôme Adda, Christian Dustmann (University College of London), and Katrien Stevens (University of Sydney) was published in the *Journal of Political Economy*.



VIDEO

Happy Fathers, Tired Mothers. The birth of a child, according to a study by Nicoletta Balbo, brings more happiness to fathers than mothers, because women must reconcile work and childraising.



of the individual's life. In our model, women make decisions about labor supply, occupation, whether to have children and how much to save at each point in the lifecycle, so as to choose the path of these variables that maximizes their well-being over the lifecycle. The model also captures marriage and divorce as probabilistic events depending on a woman's characteristics. The framework we develop describes therefore not only fertility and labor market behavior, but it also captures asset accumulation and marital status over the lifecycle.

The results confirm that different occupational choices lead to different costs of raising children. Wage profiles are steeper, but skill atrophy rates are higher in abstract occupations, compared to routine or manual occupations. Importantly, our results also show that atrophy rates vary over the career cycle, especially in abstract but also in manual occupations, with the highest atrophy rates around the time when women find it desirable to have children (in their mid to late 20s). This illustrates a clear tradeoff between fertility decisions and career choices. In addition, when considering the ease of combining work and childrearing, intellectual jobs are the least

desirable. For these reasons, fertility decisions are likely to be affected far more by career concerns in abstract jobs than in routine occupations. This might induce women with a higher desired fertility to choose more often careers in routine occupations and to have children earlier. The results highlight that the selection into different careers is indeed based not only on earnings potential, but also on desired fertility, with women with a strong fertility desire overrepresented in routine occupations. ■



VIDEO

Nicolai Foss talks about how gender diversity in top management brings positive results, but only in certain conditions: it must reach a minimum level to be effective.



Globalization Backtracks! H

The populist wave in the aftermath of the 2008 crisis is pushing governments to adopt measures that unravel the institutional framework of integrated markets and the free flow of technology and people around the world. How will multinational corporations and global finance that depend on such flows manage to adapt to the new political context?

by Torben Pedersen @



How Will Companies React?

One of the biggest discussions today is about how attitudes toward globalization have changed in recent times. We have seen not only statements, but also actions taken against immigration, trade agreements, and multinational enterprises (MNEs). More importantly, we have seen the rise of populist movements that aim to shift globalization into reverse as a key component of their ideological platforms. A major question for scholars and researchers is how to interpret these changes: How is it that attitudes have changed so radically? What will happen in the future? Why are people so willing to give up the tested gains of globalization for the untested and mostly psychological benefits of “national identity”? And last but not least, how will global business be affected by all this?

Putting globalization in a long-term historical context can help us understand the current change in attitude toward globalization. Globalization, i.e. the growing economic interdependence and integration of countries and regions, has two main drivers: technological progress and institutional change. The first driver, technology, has enabled the interlinking of faraway lands and the reduction of the time and cost needed to move goods, people, capital and knowledge across the world; that is, it has brought about a dramatic reduction in spatial transaction costs. Technological advances are likely to continue, driven by the twin forces of market competition and belief systems. Companies, universities and individuals have the incentive to compete in the search for new solutions to current and future problems. Technological change can seldom be halted, in spite of governments and individuals who might display Luddite attitudes. Technology spreads across national borders and organizational boundaries through intended and unintended spillovers.

The second driver, institutional change, in the shape of pro-market reforms, has enabled the reduction and/or dismantling of barriers and regulations hampering the transfer of goods, capital and ideas across and within national economies. Today's world has its roots in the early 1980s, with an acceleration after 1990. Salient events include the pro-market reforms introduced in advanced capitalist economies (which included the privatization of major industries that had been formerly state-owned or state-controlled), the transition of China from a command economy to a market economy, and the fall of the Berlin Wall in 1989 and the collapse of the Soviet empire in 1991. All of these events accelerated the process of market-driven global integration and interdependence that created today's globalized world. Most governments reduced regulations, implemented pro-business policies, and liberalized their economies, enabling and speeding up



TORBEN PEDERSEN
Full Professor
of International Business
and Management
at Bocconi

the movement of goods and services, capital and ideas, and also people, across national borders.

Protests against globalization began in the late 1990s and grew in the 2000s. However, it was not until the Great Recession of 2008 that opposition to globalization moved from the fringes to the mainstream of politics. Rich countries, which had previously been strident promoters of open borders, saw opposition to liberalization mount, fueled by falling real wages (also nominal ones in some cases) for less-skilled citizens. Thus, in contrast to technological progress, the institutional evolution that promoted globalization has in many cases gone into reverse, with many governments imposing new barriers to the free movement of goods, capital, ideas, and people. It is here that the political power of governments can express itself, by quickly reversing long-standing efforts towards global interdependence and integration, in response to their ideological convictions and populist pressures.

How will global business be affected in our time by the populist backlash against globalization? Will MNEs be forced to reconfigure their global value chains and possibly repatriate (re-shore) some of their activities? Will global networks enable them to leverage their operational flexibility and avoid some or most of the effects of current political changes? Is the distinction global vs. local too one-dimensional? The jury is still out! ■



The share of the population over 65 is growing steadily across the world, with Japan, Italy and Germany acting as potential trailblazers and innovation laboratories. This ageing phenomenon is an opportunity, but one we can only seize if we make radical changes

by Francesco Billari @
Research storytelling by Claudio Todesco

Good News: We

There is one alternative to ageing. And it is rather simple: dying. Because we start to age at the very moment we are born.

The fact that individuals all over the world, and populations in general, are ageing, is one of the tangible consequences of the magnificent progress of humanity. We should not forget, therefore, that population ageing, in addition to being a core challenge for our economies and societies, provides important opportunities that

require innovative action.

What do we mean by population ageing? To put it simply, the increase of the share of the population aged over a specific age, conventionally put at 65. The United Nations estimate that over 680 million people, or 9% of the world's population, is 65+. The current 'silver' group is overwhelmingly concentrated in rich countries, where 18% of the population is aged 65+. Moreover, women are the majority of this group, about 55%. But the



Will Grow Old :-)

megatrend here is global ageing, which will come fast: by 2050 the number of people aged 65+ is projected to have more than doubled, to over 1.5 billion at the global level.

How did we get there? First, thanks to the fight against early death and disease. Global life expectancy at birth has reached about 72 years, up from about 56 years half a century ago, with longer lives for women. This is a remarkable progress, at the pace of almost one additional year of life expectancy every third year, or eight hours per day. Second, thanks to the ability to control human reproduction. At the global level, we have reached an average of less than 2.5 children per couple, where 2.1 is the “special” level that in the long-term would create a stationary population. By having fewer children, we can invest more resources, both parental and societal, on them. This general process of mortality and fertility decline is known as the “demographic transition,” and population ageing is a mechanical consequence of this process. We tend to hear population ageing depicted as a threat, with increasing healthcare costs, the difficulty to support social security systems, perhaps a lower propensity to innovate and lower productivity. Alvin Hansen coined the term “secular stagnation” during his 1938 presidential address to the American Economic Association, an idea that has been more recently revived by



FRANCESCO BILLARI
Full Professor
of Demographics
at the Department
of Social and Political
Sciences at Bocconi

Lawrence Summers, who defined the situation in rich countries, with an excess of savings over desired investments, as “the age of secular stagnation.” However, as ageing is a completely new phenomenon, past historical examples are of relatively limited use.

Can we turn population ageing into an opportunity, rather than a threat? Some positive evidence is already available: in a study, Daron Acemoglu and Pascual Restrepo have shown that countries experiencing rapid population ageing have grown more in recent decades. This counterintuitive finding can be explained by the faster adoption of automation technologies – we could call it Industry 4.0 – in countries that are ageing more rapidly.

Who are the forerunners in this global megatrend, and therefore the potential innovators? Japan is the country with the highest share of population aged 65 and over, followed by Italy (Germany is also a close competitor). While for sure these countries will be the first to face the challenges of population ageing, they have the unique opportunity to be the living laboratories for innovative responses. However, we need a cultural shift that points towards the opportunities offered by ageing, rather than towards a knee-jerk conservative response: only radical innovation will allow us to take advantage the potential “demographic dividend” of population ageing. ■

FRANCESCO VALLACQUA How to Help Generations Coexist at Work and Save Pensions

In recent months, Italy has debated reforming the so-called Fornero law, which in late 2011 revised the pension system by delaying retirement age. Reforms should take into account the effects on the labor market, warns Francesco Vallacqua, who teaches Economics and Management of Life Insurance and Pension Funds and authored the book “La previdenza complementare per i lavoratori pubblici e privati” (Supplementary pensions for public and private sector employees, Egea). “First of all, it is important to make sure the new reform is compatible with EU agreements and, in general, with budgetary constraints. Secondly, we must keep in mind that reforms such as the so-called quota 100 will probably lead to benefit cuts because of the application of the contribution-related criterion to contributions paid before January 2012.” Instead of making frequent and small adjustments, Vallacqua proposes the following scheme: a worker over a certain age and with a certain number of years until retirement may shift to a part-time job and

supplement his income with an advance on pension. This shall be subject to the condition that the employer hires a younger worker (24 to 34 years old, for instance) for the same total wage cost.

The pension advance leads to an increase in public spending, though.



FRANCESCO VALLACQUA
Full Professor
of Demographics
at the Department
of Social and Political
Sciences at Bocconi

“This is true, but we should calculate whether this increase is compensated by the increase in GDP generated by consumption spending by new workers,” he says. Early retirement, Vallacqua says, has an impact also on supplementary pension provisions, as benefits from pension funds must be distributed earlier. There is a third way that links private and public systems and it is called “opt out,” a feature of the Fornero reform that was never implemented. “Employees subjected to mandatory information at the time of hiring are given the opportunity to decide whether to pay a part of their pension contributions to the Italian Institute of Social Security (INPS) or to pension funds.”



FRANCESCO LONGO
Associate Professor
at the Department
of Social and Political
Sciences at Bocconi

euros spent on non self-sufficiency by INPS, municipalities and the public health system. The amount is 10 billion euros, which could be collected through mandatory employee contributions. "Long-term care in Italy is a nasty problem: it is too difficult to solve or to even tackle. We are looking for a brave policymaker who wants to put it on his agenda and solve it. It can be done over a five year period."

FRANCESCO LONGO Italians in Long Term Care Will Double by 2050

In 2050, there will be 5 million non self-sufficient people in Italy. Today they are 2.8 million, of which 2.5 million are assisted at home. If we assume that each of these persons engages three more, including family members and carers, 10 million individuals are involved in long-term care.

In the face of such an enormous problem, the public sector offers limited support. "It is no wonder that in Italy we have one million caregivers, the largest professional category in the country, yet we lack a universal long-term care policy," says Francesco Longo, Associate Professor of Public Management and member of the observatories of the Center for Research on Health and Social Care Management (CERGAS). Public funding is scattered. INPS, the Italian state social security agency, spends 15 billion euros a year in carer's allowances. Municipalities allocate half of their social spending, 4 billion euros, to non self-sufficient people. The public health system spends 11 billion.

We can do better. In a CERGAS study still underway, Francesco Longo, Francesco Petracca and Gianmario Cinelli propose building a new legal entity committed to managing long-term care, as has happened in Germany. "We estimated the costs of the lack of a single and universal system: services related to non self-sufficiency subtract resources from other areas of welfare; the system is unfair and favors the rich; patients are badly assisted, so much so that statistics show that in Italy the elderly live longer, but sicker lives."

The researchers calculated how much money would be needed to establish a system like the German one, in addition to the 30 billion



LUCA BUCCOLIERO Why Elderly Spurn Supermarket Offers Aimed at Them

The process of population ageing is seen mostly as a problem. The Active Ageing Silver Marketing Lab of the Centre for Research on Marketing & Services of Bocconi University (CERMESs) would like to turn it into an opportunity. "Unlike Japan, in Italy the golden age is a cultural taboo", says Luca Buccoliero, who is in charge of the lab. "No large scale retailer, for instance, wants to be perceived as a place for older consumers only". That may not be so bad, given the low appreciation expressed by Over 65 consumers with regard to these formats.

This is what you can learn from a CERMES study conducted by Luca Buccoliero, Enrico Valdani and Elena Bellio. It was designed to identify the value drivers expected by older consumers during shopping in the stores of large scale retail brands. These customers see

supermarkets and malls not only as shopping spots, but also as places to enjoy themselves and meet people.

Older customers pay attention to seven drivers: accessibility of the retail outlet; environment (type of lighting, chill-out areas, restrooms); assortment of goods; display of goods; service; offers and promotions; staff availability and competence. A mystery shopping trip was

used to analyze the positioning of the main large scale retailers in Milan in relation to these drivers. The brands studied were Auchan, Carrefour, Conad, Coop, Finiper, Panorama, Selex and Sigma groups. None of them scored more than 60 out of 100. How could they improve their score? "They could launch sales promotion campaigns, not in the form of senior discounts, though. A dynamic pricing strategy is better suited to the senior clientele. They could create service centers and improve the customer experience by organizing events and setting up places for relaxation. They could also design websites with senior-friendly content. People over the age of 65 browse the web more often than you think. If they do not like to shop online is just because they do not want to give up a chance for socializing."



LUCA BUCCOLIERO
*Lecturer
at the Department
of Marketing
at Bocconi*



VINCENZO GALASSO
Full Professor
of Welfare and
Politics at Bocconi

VINCENZO GALASSO Retirement Flexibility: Not Just for Workers, But Also for Companies

The aging of the baby-boom cohorts makes the need for discussing early retirement more and more pressing. Most of the economic literature on early retirement has so far focused on the supply side by emphasizing the role played by financial incentives, health status and family issues. Less is known about the role played by firms that may push or even force workers to retire. News and experience tell us that firms would prefer elderly workers to choose an early retirement as their wages increase despite the drop in their productivity.

In the working paper “Old before their time: The role of employers in retirement decisions,” co-authored with Piera Bello, Vincenzo Galasso delivers empirical evidence that early retirement choices can also be induced by employers. He manages to do it by studying the effects of an exogenous shock: the implementation in 2002 of the Mutual Recognition Agreement that reduced the cost of exporting to the European Union for Swiss firms, boosting competition. He compared early retirement behavior in a treated group of MRA industries and a control group of non-MRA industries in Switzerland.

“Firms that have faced greater competition have restructured their

labor force more than those not subject to the MRA,” Galasso says. The former have modified the composition of their labor force by substituting elderly workers aged 56-64 (+ 7% of early retirements after the announcement of the agreement) with younger workers aged 31-45.

“Our paper shows that firms play a role in early retirement. An open question remains: how can you manage early retirement behavior? Until the 1990s, labor market participation of elderly workers has dropped because of firms and trade union policies whose cost was dumped on the community. This is no longer possible and will be even less so in the future. The request for a flexible labor market exits still exists, nonetheless, and it must be met by observing the principles of actuarial fairness and budgetary constraints.” This is a puzzle that only highly-skilled policymakers can solve.



THE PAPER

“Old before their time” by Galasso and Bello looks at the dynamics between companies that pressure their more expensive older employees to retire early, and the context of strained public finances.

CARLO FAVERO Demographic Trends Suggest Interest Rates Will Increase

Applying demographic trends to economic forecasts through a careful analysis of the age makeup of the population, two Bocconi scholars (Carlo Favero, Deutsche Bank Chair in Asset Pricing and Quantitative Finance, and Vincenzo Galasso, Director of the Bachelor in International Politics and Government) have found that the threat of secular stagnation for the Euro area is remote. However, they consider it difficult to implement structural reforms.

The theory of secular stagnation predicts poor growth, combined with negative real interest rates and resulting financial instability. Favero and Galasso's analysis ("Demographics and the secular stagnation hypothesis in Europe") demonstrates, however, that in the next 20 years in Europe we should expect a decrease in GDP per capita, but real interest rates will be positive once again.

The coming years will see an increase in life expectancy and an ageing of the population, with a low number of births, a gradual decrease in the population between 40 and 59 years old and an increase in over 60s. "While the relationship between age and GDP per capita is linearly negative, in the sense that it consistently declines from 20 years on," explained Favero, "the age between 40 and 59 is when the most savings occur, contributing to a containment of interest rates, while the over-60 population, saving less, contributes to increasing them." GDP per capita, therefore, is destined to decrease with the progressive ageing of the population, while a sharp increase of over 60s will bring real interest rates to a positive area.

"Our results suggest, furthermore, that the implementation of reforms will not be favored by the age structure of the population," concluded Galasso, "because middle-aged and elderly people have more negative opinions regarding reforms, liberalization, flexibility, policies on competition, globalization and free trade compared to those who are younger, who would reap the benefits of the reforms in the near future."



CARLO FAVERO
Full Professor
and Director
of the Department
of Finance, holder
of the Deutsche Bank
Chair in Quantitative
Finance and Asset Pricing
at Bocconi



THE PAPER

"Demographics and the secular stagnation hypotheses in Europe" by Favero and Galasso looks at how older populations are less willing to back reforms since they will not be able to enjoy them.

Bocconi ALUMNI

EVERYONE MATTERS

Giovanni Mazzacani
Alumnus, 2014.

Bocconi Alumni and Bocconi University come together and join forces to expand our global reach and spread our values. Knowledge, global network, spirit of innovation, dialogue will continue to guide us. Today, more than ever, every alumnus makes a difference, every new idea is one more step towards new goals, every contribution is important for the enrichment of all. Want to be part of this? Join us at bocconialumnicomunity.it

#KnowledgeThatMatters

To Grow, You Need to Know How

Divestitures of company units are more effective and guarantee more resources for innovation partial. According to a Bocconi study, managers of companies with a high level of knowledge sale of individual products or parts of business units

by Nilanjana Dutt @

Not all divestitures are born equal. In 2013 GSK offloaded its thrombosis brand Arixtra, selling all physical and intangible resources connected to the medicine, yet likely retaining technological knowledge connected to its product class. In 2015, on the contrary, GSK sold its full oncology unit, including all associated products, patents, and R&D facilities, in what can be considered a full divestiture.

Divestitures have typically been considered as a mode by which firms fix prior mistakes of over-expansion and diversification, but it has been recently suggested that they can also improve performance, by freeing underutilized resources to drive subsequent growth.

New research conducted in the pharmaceutical industry shows that the technological resources lost in partial or full divestitures differ greatly, thus impacting differently a firms' ability to generate new technological knowledge.

Because full and partial divestitures differ in the degree to which they disrupt and modify an organization's resource base, they influence technological knowledge growth differently. Differences in the magnitude and nature of the knowledge losses systematically influence the likelihood of subsequent technological knowledge growth. In the case of partial divestitures, although access to knowledge and technological capabilities embedded in the sold product, product line, or manufacturing unit will be reduced, some knowledge is likely retained as it may be embedded in other parts of the unit. Instead, when a full business unit is sold, all related knowledge and



NILANJANA DUTT
Assistant Professor
at the Department
of Management
and Technology
at Bocconi

capabilities will be lost. Furthermore, because the existing knowledge base is critical to new knowledge development, organizations at risk of losing foundational knowledge are more likely to be hampered in the production of new technological knowledge. Thus, we expect that relative to full divestitures—which are associated with greater knowledge losses—partial divestitures will be more significantly



to Prune

when they are
should opt for the



associated with technological knowledge growth.

With Elena Vidal we have measured technological knowledge growth by examining

changes in the number of active clinical trials across all phases by each firm in each year.

Because clinical trials are a precursor to drug commercialization, they represent an appropriate measure of technological knowledge. The results demonstrate significant differences between how full and partial divestitures are associated with future technological knowledge growth: as compared to full divestitures, partial divestitures are associated with higher growth in technological knowledge. These findings suggest that although the sale of full units diminishes a firm's ability to generate new technological knowledge, resource growth driven by divestitures likely comes from partial divestitures.

Our findings suggest that partial divestitures are strongly associated with resource growth and that the removal of assets can be an input to subsequent technological knowledge growth. Together, this research highlights the important role of corporate strategy in driving innovation activities. For firms and managers in knowledge-intensive industries, these results are relevant. Managers should embrace divestitures but, ideally, if they are able to sell products and partial business units. Firms may also benefit from breaking down the sale of full business units into multiple partial divestitures over time, to reduce the loss of technological



THE PAPER

"Small changes, big growth: The relationship between divestitures and knowledge growth in the global Pharmaceutical industry" by Dutt and Vidal looks at asset sales strategy.

How Do Women Affect Decisions?

More prudent and conservative: the presence of women on the boards of central banks influences decisions on inflation and rates

by Paola Profeta @

Women are under-represented in decision-making positions all over the world. What hinders the presence of women in decision-making roles? And with what consequences? Surely there is an issue of fairness: since women represent half of the population, fair representation would mean an equal number of men and women in decision-making positions. But the phenomenon becomes even more interesting and important for policy when the scarce presence of women is grafted into decision-making mechanisms with economic implications. Does the presence of women influence the economic decision-making agenda? Does it impact the results? Recent research has tried to pose these questions with reference to specific contexts. Politics and boards of directors are among the most studied contexts, also thanks to the introduction of gender quotas. Monetary policy is a new and interesting context. The recent examples of women leading the central banks of important countries, from Janet Yellen in the USA, to Elvira Nabiulina in Russia and Karnit Flug in Israel, are well known. It is also known that the composition of central bank committees has an impact on monetary policies, in particular on the degree of activism and on the adoption of dovish (accommodating) or hawkish (conservative) policies. What do we know about the presence of women in monetary policy in the world? Do women have an impact on monetary policy decisions? In a recent paper with Donato Masciandaro and Davide Romelli we build a new dataset that collects information on the presence of women in the monetary policy committees of the central banks of 103 countries in the period 2002-2016. The heterogeneity between countries is high: about 20% have no women on committees, the average is 14% but there are countries like Canada, Sweden, Serbia and Bulgaria where



PAOLA PROFETA
Associate Professor
of Public Economics
at Bocconi

the number of women reaches 60%. On the other hand, regarding evolution over time, from 11% on average in 2002, we have reached the current 16%, while the average size of a committee remained unaltered (about 7 members). In this context, is the presence of women significant to monetary policy? Monetary policy is established by a forward-looking Taylor rule that correlates the fixed interest rate with deviations of expected inflation and output. To understand if the presence of women has an impact on monetary policy, our analysis adds the percentage of women in the committee and its interaction with the rate of inflation as an explanatory variable of the interest rate. The results show that, for the same level of inflation, a greater presence of women is associated with a higher rate of interest. In particular, an increase of one percentage point in inflation leads to an interest rate of 0.3 percentage points higher in



THE PAPER

"Do women matter in monetary policymaking?" by Masciandaro, Profeta and Romelli finds that a larger number of women on central bank boards can mean higher interest rates.



a central bank with 50% of women on the committee compared to a bank with a 10% female presence. Women are therefore more hawkish (conservative), ie they tend to fight inflation more aggressively. The results are also confirmed by more sophisticated estimation techniques. Furthermore, the results are similar when we develop a new microdata-based analysis of the behavior of the members of the Executive Board of the Swedish Central Bank in the period 2000-2017. At each meeting, our data show that women are more likely than men to propose an increase in the rate of interest. Therefore, the presence of women is not just a matter of fair representation, and is not just a showcase, but can have substantial impacts on the decisions taken. In particular, women are more risk averse and make more prudent decisions. On the one hand, this result is not surprising, compared to the vast experimental literature that

Central bank boards: an increasing number of women

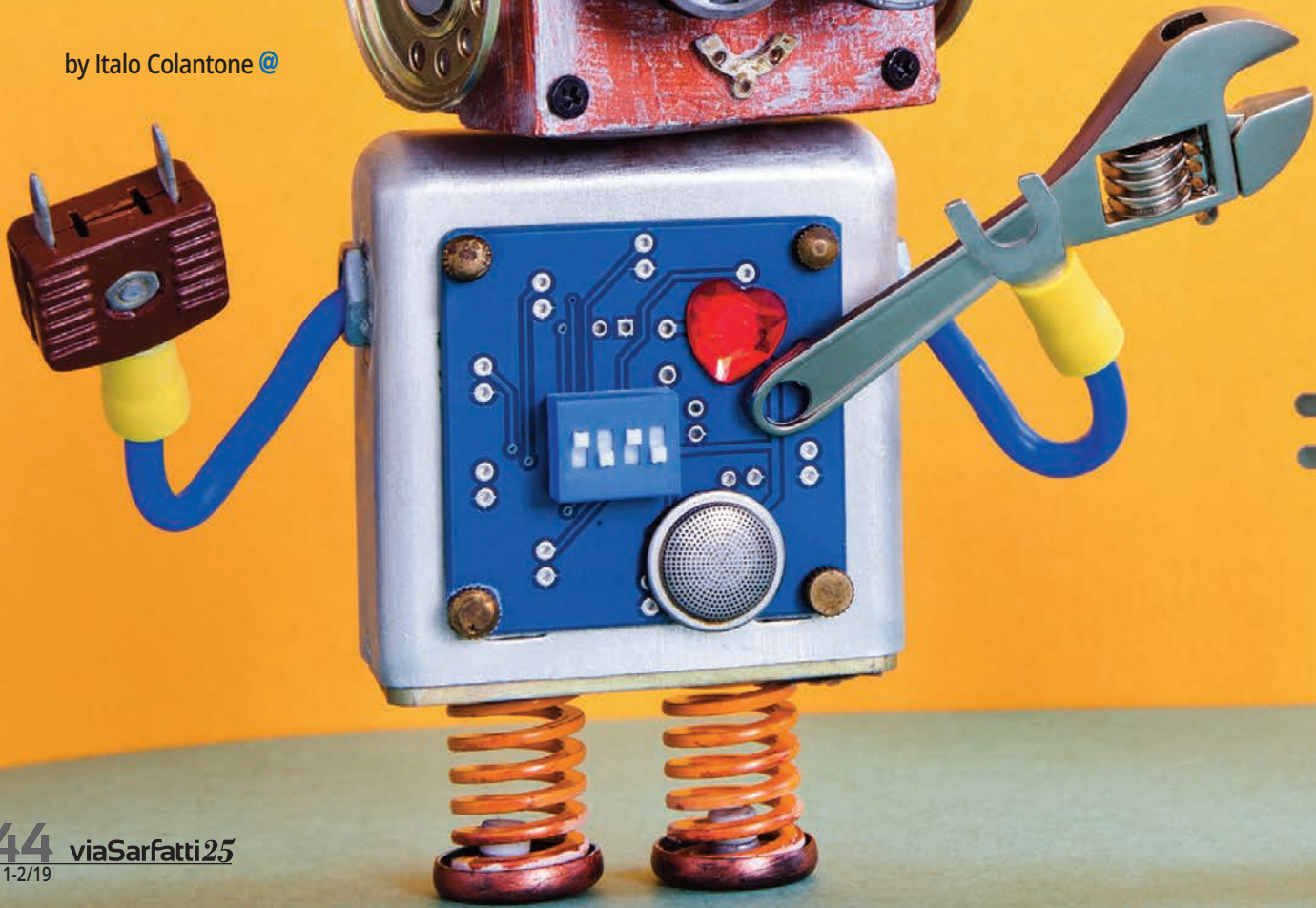


characterizes women as having a greater degree of risk aversion than that of men; on the other hand, it appears particularly important for monetary policy decisions. ■

How to Survive Changes in Without Creating Winners a

Automation creates new opportunities, but the ongoing digital transformation also creates complex social problems that need to be actively managed. This is why we need to invest in inclusive welfare policies and the development of skills. Without halting progress

by Italo Colantone @



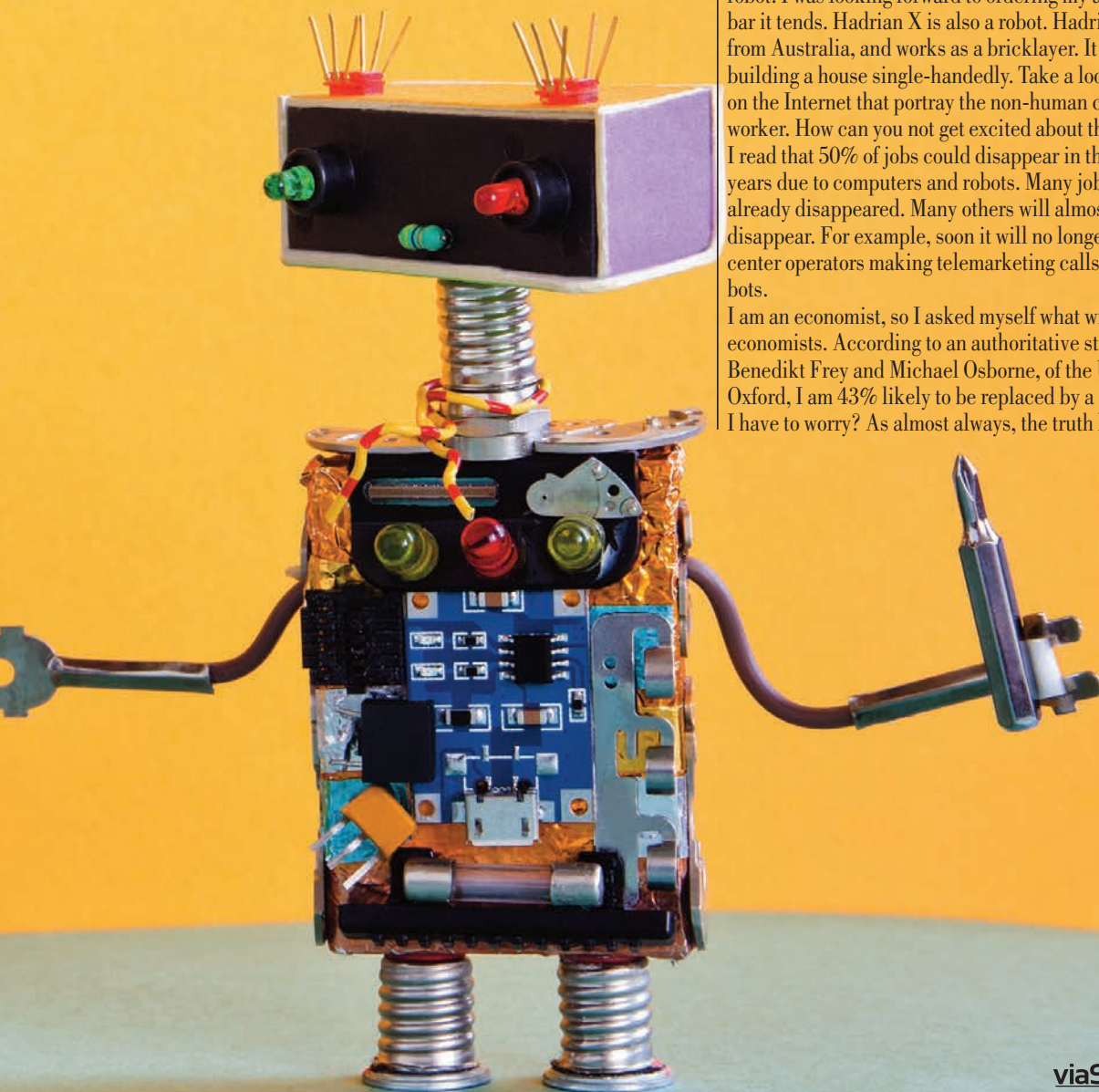
Employment, and Losers



ITALO COLANINNO
Assistant Professor
at the Department
of Social and Political
Sciences at Bocconi

Are you a techno-enthusiast? Or do you suffer from technological anxiety? Or maybe both? This should not be surprising: changes, of all kinds, fascinate and frighten people at the same time, as they are often not painless, even when they improve our lives. Automation and artificial intelligence are rapidly changing the world of employment. The media inevitably gives us contrasting views of this reality, and it is not easy to orient ourselves between doomsayers and soothsayers. Recently, I met Nino, an Italian bartender who can mix more than one hundred cocktails per hour. Nino is a robot. I was looking forward to ordering my aperitif at the bar it tends. Hadrian X is also a robot. Hadrian comes from Australia, and works as a bricklayer. It is capable of building a house single-handedly. Take a look at videos on the Internet that portray the non-human construction worker. How can you not get excited about this? But then I read that 50% of jobs could disappear in the next few years due to computers and robots. Many jobs have already disappeared. Many others will almost certainly disappear. For example, soon it will no longer be call-center operators making telemarketing calls. It will be bots.

I am an economist, so I asked myself what will become of economists. According to an authoritative study by Carl Benedikt Frey and Michael Osborne, of the University of Oxford, I am 43% likely to be replaced by a computer. Do I have to worry? As almost always, the truth lies in the



middle. The history of humankind is made of great technological advances. Transformations generate well-being and progress, but also carry significant social costs during the transition period, especially when a major, disruptive technology is adopted.

Anxiety linked to technological unemployment is a recurring phenomenon in history. And there is no need to go back to the English Luddites of the First Industrial Revolution. Search for an article dated February 1961 from Time called "The Automation Jobless." You might believe you are reading a piece from 2018. The author writes that automation is progressing so fast and is affecting so many areas that it is becoming one of the main problems of the United States. Well, if we consider the huge technological strides made since 1961, it seems almost incredible that there are still so many jobs available in the world. Should we therefore be optimistic about the changes taking place?

Let's start with a fact. Automation inevitably replaces workers with machines, thus destroying jobs directly. However, there are various channels through which new job opportunities are created. Consider only this: companies that innovate products and invent new manufacturing processes tend to succeed and expand, thus hiring new workers. Clearly, the new hires won't work in tasks that are now performed by the machines; they will have different roles. Some job profiles will be completely new. Think of industrial robot programmers, big data analysts, or social media managers. These are all occupations that feed on recent technological changes. The underlying message is very intuitive: automation creates new opportunities for all skills and profiles that are complementary with new technologies. It has always been like that. The world of employment constantly renews itself. Indeed, according to an estimate by the World Economic Forum, 65% of children attending primary school today will do a job that does not currently exist. However, these positive considerations should not lead us to overlook the fact that there are complex issues associated with the digital transformation taking place. Technological change is similar to globalization. In the aggregate it is good for a country, but not everyone shares its benefits. There are winners and losers, at least in the short term.

Managing change is difficult and calls into question various actors: government institutions and business companies, schools and universities. The goal cannot be to curb progress, as some are proposing. Instead, we need to invest as much as possible in new technology. At the same time, however, structural change must be accompanied by inclusive welfare policies. It is a key point to ensure the social and political sustainability of progress, which does not deserve its name if it does not generate benefits that are broadly shared across society. The main challenge, which concerns universities directly, is developing new skills. It is important to identify and invest in key knowledge and skills for the

coming future of employment. In this regard, action should be taken on two fronts. On the one hand, we need to work as much as possible to retrain existing employees. On the other, we need to ensure that young people leaving schools and universities have a kind of education that reflects the priorities of changing times, and takes into account the needs of companies. It is a challenge to be won with optimism and determination. ■

MASSIMO ANELLI

Robot Shock and Effects on Elections

Automation impacts voting behavior as it increases support for nationalist and radical-right parties. This is one of the key points of the working paper "We were the robots: Automation and voting behavior in Western Europe." Massimo Anelli, Italo Colantone and Piero Stanig (Department of Social and Political Sciences) compared automation of production, employment and voting behavior in 15 Western European countries, between 1993 and 2016.

In order to compute a measurement of the robot shock, they performed the analysis on a regional basis. "We considered the composition of employment by industry in each region before the shock. Then we measured the pace of adoption of robots in each region and compared it to election results." The paper shows that the robot shock affected different industries than those affected by globalization and by Chinese competition in particular, but it has similar political consequences: it causes an average 2.5% increase in the support for radical-right parties.

The paper also introduces an interesting methodological innovation. The authors compute an individual-level measure of exposure to the robot shock related to age, education, gender, and place of residence. The measure is based

on the predicted probabilities of employment of an individual in each industry, according to the pace of adoption of robots.

"This measure allows us to control for the effect of other variables on voting behavior and to predict the employment that each individual would have had without automation." The model can there-

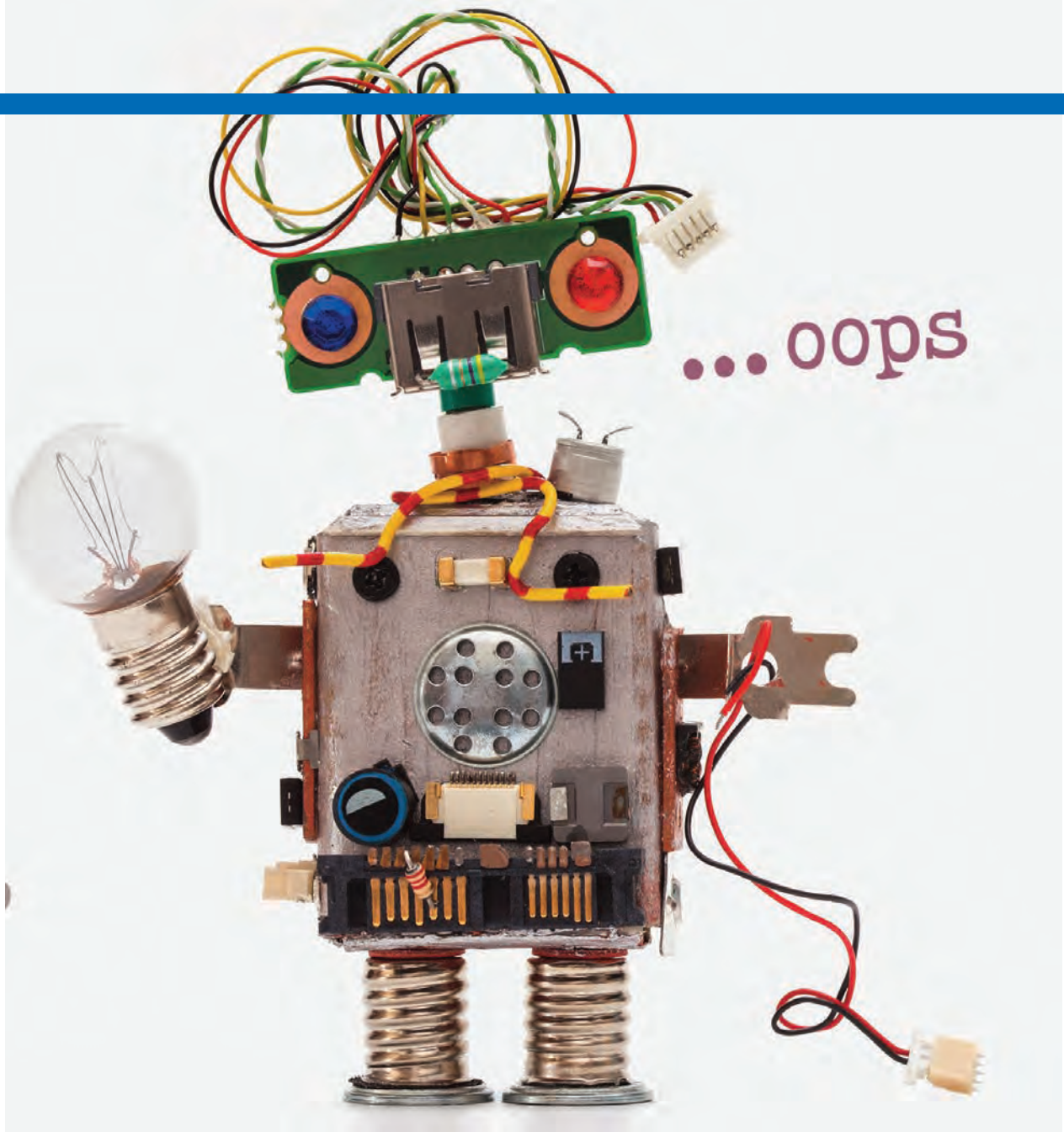
fore tell us the voting behavior of the 25-year-old who fries burgers and who would have worked on the assembly line of an automotive industry in the early '90s.

MASSIMO ANELLI
Assistant Professor
at the Department
of Social and Political
Sciences at Bocconi



THE PAPER

"We were the robots: Automation in Manufacturing and Voting Behavior in Western Europe" by Anelli, Colantone and Stanig looks at effects of automation in the EU.



BEATRICE MANZONI Millennials Want More Feedback from Employers

Millennials, also known as Generation Y, are generally defined as the generation of people born between 1980 and the first half of the 1990s. Managing Millennials is a pressing issue in organizations nowadays, because people belonging to this cohort are often considered very different from other generations in terms of workplace dynamics, attitudes towards, and expectations about work.

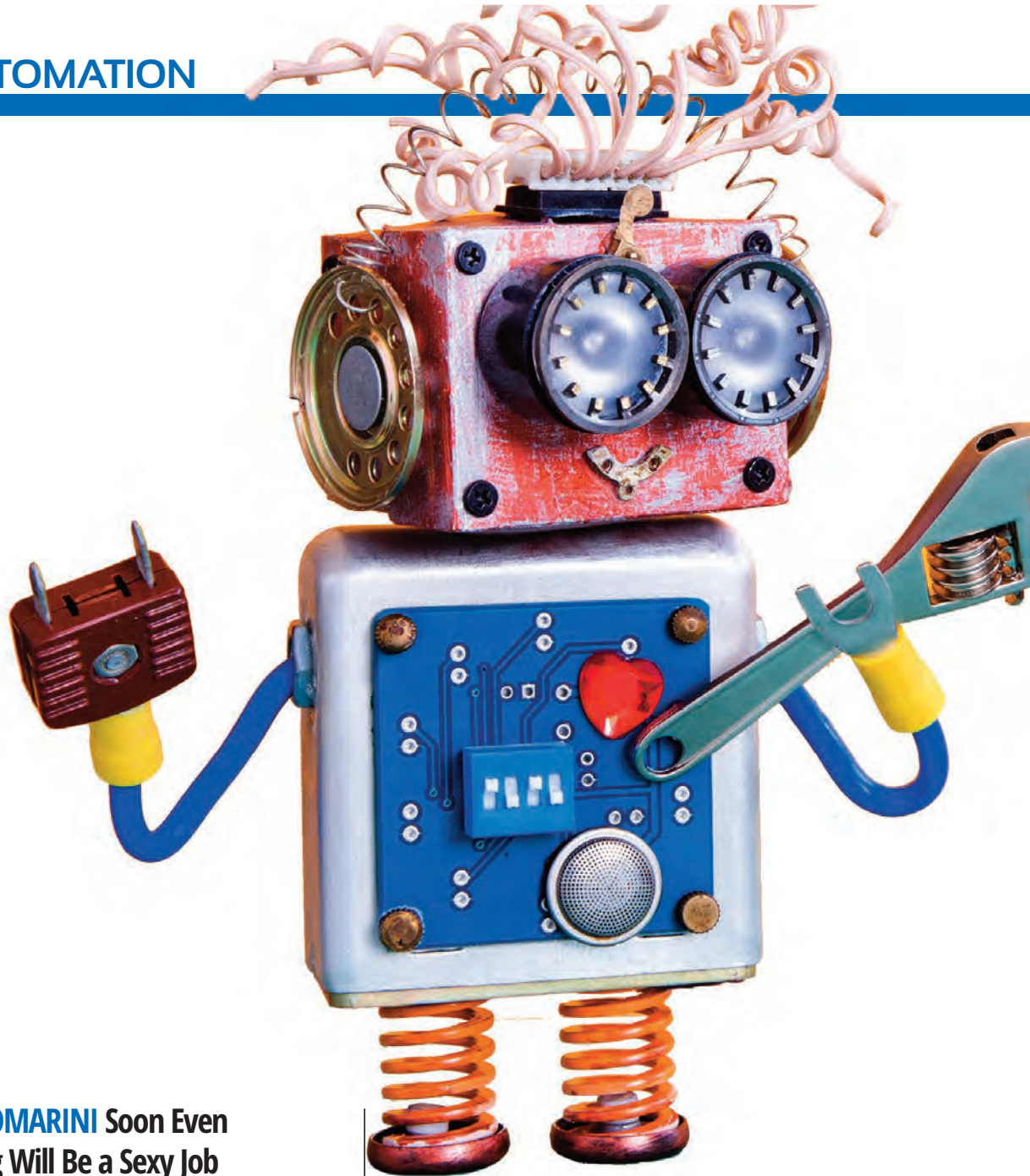
Federico Magni (Hong Kong University of Science and Technology) and Beatrice Manzoni (SDA Bocconi School of Management) have polled a sample of 1,500 Italian employees belonging to various generations (almost one in three were Millennials). They asked them what's important to them about their jobs (work values) and which aspects can cause them to be unsatisfied, disengaged and willing to quit, if employers don't keep their promises.

A widespread stereotype (viz. Simon Sinek's famous video on Millennials in the workplace <https://youtu.be/hER0Qp6QJNUis>) says that this

generation is constantly unsatisfied, and has a nomadic loyalty to any organization, always searching for something new and diverse. Magni and Manzoni's results, however, make you think twice about whether this is really true. They confirm that Millennials are more demanding with their employers than previous generations and expect more from their respective organizations, but also report the highest level of job satisfaction along all aspects of work (salary, performance-based pay, training and development, job security, career advancement, power and responsibility, organizational environment, work-life balance, feedback, meaning of the job). Another commonplace is however confirmed: Millennials very much care about feedback, but they believe they are not getting enough of it either from their companies, their superiors, or their colleagues. Feedback, in fact, is the only job area Millennials say they are dissatisfied with.



BEATRICE MANZONI
SDA Associate Professor
of Practice at SDA Bocconi
School of Management



ANNA OMARINI Soon Even Banking Will Be a Sexy Job

The sexiest job in the next 10 years will be data scientist, said Hal Varian, chief economist at Google, in 2008. But being a banker has never been considered an attractive job at all. In light of all the changes taking place in the world of banking, it may be time to reconsider this dull image. Old skills are wiped away and new roles arise because of the effects of technological development, financial crisis, and changes in demand. "The crisis made it necessary to strengthen the control functions that require the need for an overall view of the bank," says Anna Omarini, member of the Banking and Insurance Knowledge Group of SDA Bocconi School of Management, tenured researcher and adjunct professor in fintech and digital transformation at the Department of Finance of Bocconi. "Brand management and digital



ANNA OMARINI
Researcher
at the Department
of Finance
at Bocconi

marketing are now tools necessary to play in the market. The technological and fintech revolutions have given rise to new roles such as Head of Fintech, Partnerships & Strategy; Chief Digital and Innovation Officer; Head of Open Banking and FinTech BU."

In the future, banks will have less need for clerks and back office staff, but machines will not replace human qualities such as curiosity, creativity and the ability to communicate. In Italy, Omarini says, change is driven by big banks. There is a generational change going on among small banks, but their level of diversification does not yet call for a major transformation.

"For the time being, digitalization had a significant impact on the last mile of the supply chain. It really did not affect the business model, but this could change in the next few years because of artificial intelligence, big data, internet of things and new competitors.

Human beings will remain central to this process. People are the 'technology' that will make the digital bank work."

ALFREDO BIFFI Machines Are Now Replacing Creative Work Too

For centuries, technology has freed man from work-related fatigue and helped create new jobs. "For ten years now, new technologies have failed to produce this effect and new skills do not compensate for the jobs lost to automation," Alfredo Biffi says. Affiliate Professor of Information Systems at SDA Bocconi School of Management, he wrote with Pier Franco Camussone "Will We Still Have a Job? Digital Technology and Employment," Egea: Milano, 2017, and presented a working paper on the subject at the science workshop on the Fourth Industrial Revolution held in Trento in March 2018. For the paper, he interviewed 750 managers, HR directors, experts, and fresh graduates in the field to assess their perceptions. More than 85% of them are aware of what is going on and think that digital automation is no longer replacing just routine manufacturing activities, but will also eventually have an impact on creative work. About 55% of them think that upcoming technological change will not bring additional happiness. In fact, the numbers featured in international research studies are shocking. Michael Osborne and Carl B. Frey of Oxford University have collected data on 700 occupations and estimated that 47% of jobs in the US will be at risk within the next 10 years, a number rising to a staggering 56% when it comes to Italy. Researchers at the McKinsey Global Institute say that at least half of current jobs will be automated by year 2050.

"Even jobs that are not going to disappear will be redesigned," says Biffi. "The question is not whether we will still work in the future, but how are we going to make a living in such a low labor-intensive world. The ongoing technological revolution will give us five, perhaps ten-fifteen years to devise new models of economic development. On a more hopeful note, in the coming future young people will have the chance to design their own jobs as long as they invest in soft skills, training, and understanding the way machines work."

ALFREDO BIFFI
Affiliate Professor
of Information Systems
at SDA Bocconi School
of Management



ANTONIO ALOISI Labor Law Needs To Be Adapted to New Technologies

"It has been said that, when it comes to innovating, you should ask for forgiveness, not permission. I find this rhetoric to be deceptive." Antonio Aloisi is a Teaching Fellow at the Department of Legal Studies at Bocconi. He addressed the topic of the impact of technology on jobs in the essay "Machines, algorithms, platforms: Increased owners and virtual liberty. Notes on the future of labor law" co-authored with Valerio De Stefano (KU Leuven) and forthcoming in Il Mulino. The paper is an attempt to shift the debate on the impact of technological change from quantitative analysis (jobs lost, jobs gained) to qualitative analysis. "Pragmatism is beneficial to the assessment of the implications for work and employment of automation, digitalization and platforms. There is no need to divide ourselves into apocalyptic and apologetic teams."

Many new devices, from wearables to AI items, allow a continuous and penetrating control of performance indicators so that employers can exert power without responsibility on self-employed contractors. "Some call it organized irresponsibility. What to do? The new models should be reconciled with the existing regulatory framework. Opposing interests should be balanced through dialogue between parties and collective bargaining. Given the supranational nature of the platforms, it must be done at the European level. This is the only way to boost innovation through technology."

In the meanwhile, the first rulings by European courts are contradictory. The Valencia court ruled that food delivery riders are employees because they are subject to strict controls, while the Court of Appeal of Paris ruled them to be self-employed contractors since they are free to choose when to work. "Just do not think that the existing labor laws are outdated. They just need to be checked to ensure their resilience."

ANTONIO ALOISI
Teaching Fellow
in Employment Law
in Digital Platforms
and Markets at Bocconi



ANNA PRENESTINI An Operations Manager Makes Healthcare More Efficient

There is a new professional role in healthcare for someone in charge of minimizing waiting times and to improve the efficiency of resources used. The job position is operations manager, the task is to guide the patient's path through the healthcare maze.

Operations managers have existed for a long time in the US and in Northern Europe. They were introduced in Italy by the private hospital Humanitas, which initially asked manufacturing engineers to oversee its processes in order to optimize the allocation of beds and operating rooms. More recently, the Lombardy and Tuscany regions have issued guidelines for the establishment of operations management offices in public health, in 2016 and 2018 respectively. In Italy they number about forty now. "Healthcare processes are complex both because they are addressed to patients and their needs, and because they are highly interrelated," says Anna Prenestini, researcher at the Bocconi Centre for Research on Health and Social Care Management

(CERGAS). "The optimization of organizational and logistical procedures improves the work of doctors. They no longer have to address organizational dysfunctions by themselves in order to meet the needs of their patients. Operations managers will become more and more important." Whether they be managers, engineers, doctors or nurses, they must possess operations -- and lean management-oriented skills. "The strategic management level must back them and be strongly committed to take apart a system based on the doctors' allocation of assets such as beds, outpatient slots, and operating rooms." The benefits are clear and verifiable. One goal of introducing an operational management position in hospitals is to cut waiting time for surgical procedures. "At the local health agency of Reggio Emilia, where the operations manager position was introduced by order of the Directorate General, wait times for key pathologies such as breast and colon cancer have been dramatically shortened. Now, nearly 100% of health services are provided within the time set out by national and regional guidelines."

ANNA PRENESTINI Teaching
Fellow in Health Sector
Analysis at Bocconi



ALBERTO BRAMANTI Europe's Manufacturing Sector Key to its Future

Alberto Bramanti calls it "the advanced services hangover." He refers to the belief, widespread until 2008, that the service industry is the driving sector in advanced and increasingly urbanized economies. "I would rather say that Italy's future lies in the manufacturing sector," the Bocconi Associate Professor says. There are several reasons

for that. The manufacturing sector is a powerful driver of innovation. It attracts highly qualified employees. Exports consist mainly of manufactured products. Its value chains are varied and widespread.

"The crisis has shown that if you don't safeguard competencies on concepts and processes you will end up losing the competition over markets. In the future, it will not matter who produces the components of an electric car, but the ability to manage the entire process. Italy should leverage its models of territorial proximity and industrial districts where the producers of the means of production and the producers of the final product stand shoulder to shoulder." In the article "New manufacturing trends in developed regions. Three delineations of new industrial policies: 'Phoenix Industry', 'Industry 4.0', and 'Smart Specialization'", which will be featured in a collective book on innovation edited by Ulrich Hilbert and published by Routledge, Professor Bramanti addresses the challenge that three advanced manufacturing regions are facing in upgrading their innovation strategies: West Midlands (England), Baden-Württemberg (Germany) and Lombardy (Italy).

"Every case is different, but these three regions are facing the same challenge: to make a complex ecosystem work. The skills and knowhow accumulated locally must be integrated with capabilities on process technologies. In Italy, there is the need to further strengthen scientific and technical knowledge. We must strengthen the linkages between the university system and manufacturing firms," says Bramanti. "We must encourage mobility between industry and research, for instance by promoting professional practice doctorates, and focusing on technological start-ups. However, there are no easy recipes," he concludes.



ALBERTO BRAMANTI
Associate Professor
at the Department
of Social and Political
Sciences at Bocconi

VINCENZO BAGLIERI It's Easy to Adopt a Technology, but Hard to Renew Skills

Digitalization had a dramatic impact on the pulp and paper industry, which mostly applies traditional technological principles. If the raw material production has not radically changed, the last mile of the supply chain, i.e. graphics and communication, has struggled to come to terms with innovation.

The Federazione Carta e Grafica, the Italian federation that brings together the trade associations of pulp and paper, printing machines and graphics, a sector worth €24 billion, asked the SDA Bocconi School of Management to provide information on the conditions for the adoption of digital technologies and demonstrate the best way to implement the Italian Industry 4.0 plan for industrial technological and digital transformation. The Operations and Technology Knowledge Group of SDA Bocconi has therefore built a model to measure the "4.0 score" of a sample of 108 companies in the supply chain. According to the research, which was conducted with the help of JEME students, in the last three years 70% of these companies have invested in digitalization. Yet there is a weakness, Vincenzo Baglieri, director of the project, says. "Many companies have focused on the incentives of the National Industry 4.0 Plan and underestimated the need to redesign their processes and invest in new skills. By doing so, they digitized inefficient processes and did not build the knowhow necessary to innovate on the market. This is like owning a F1 car and driving it like an economy car."

The Federation has therefore embarked on a plan to support these companies and is now creating a package of services, in association with SDA Bocconi, to improve processes and skills. The collaboration between companies, customers and suppliers is the process that would benefit most from the use of new technologies. "Industry 4.0 does not mean changing production, but having control of every phase and extracting data that will eventually improve the process. Data scientists who know how to read, aggregate and interpret data are necessary to achieve this goal. Adopting a technology is easy. Renewing skills is more difficult. This is a historic change that makes collaboration between industry and university essential."



VINCENZO BAGLIERI
SDA Associate professor
in Management Practice
at SDA Bocconi School
of Management



THE PAPER

"New Manufacturing Trends in Developed Regions. Three delineations of new industrial policies" by Bramanti analyzes developments in Italy, Germany and the UK, and new skills needed.

Bocconi ALUMNI

EVERYONE MATTERS

Stéphanie Déjeu
Alumna, 2017.

Bocconi Alumni and Bocconi University come together and join forces to expand our global reach and spread our values. Knowledge, global network, spirit of innovation, dialogue will continue to guide us. Today, more than ever, every alumnus makes a difference, every new idea is one more step towards new goals, every contribution is important for the enrichment of all. Want to be part of this? Join us at bocconialumnicomunity.it

#Knowledgethatmatters



If Friends Choose for Us

by Massimo Anelli and Giovanni Peri @

Schoolmates affect the choice of academic degree made by males. Understanding this dynamic can help policymakers find better ways to reduce the gender divide

In a society with persistent gender gaps, understanding the fundamental determinants of pay differentials is very important for both policy makers and academics. One striking finding appearing frequently in previous research is that, despite the fact that girls generally outperform boys during high school, their advantage seems to be reversed once they enter the job market. This phenomenon is partly explained by the fact that choices of college majors differ substantially across male and female students. Specifically, boys have a higher propensity to enroll in college majors such as Economics, Business and Engineering, generally associated with higher payoffs after graduation, while women have an inclination towards Humanities and Education, characterized by lower monetary returns.

In a recent study we examine whether the networks that teenagers form during high school have an influence on their choice of college major. Specifically, we assess whether the gender composition of high school classes affects students' choices of university major and whether it has a long run impact on their college performance and labor market outcomes. Indeed, it has widely been acknowledged that peer environment plays an important role in affecting performances and preferences of individuals. Since university major strongly affects the potential earnings of a person, and since women remain segregated in majors with lower expected earnings, it is of great importance to identify the determinants of such segregation and direct policy makers' intervention.

To carry out their research question, they created a unique database, by collecting records for 30,000 individuals who graduated from college preparatory public high school in the municipality of Milan, Italy, between 1985 and 2005, and this



MASSIMO ANELLI
Assistant Professor
at Department
of Social
and Political
Sciences
at Bocconi



GIOVANNI PERI
Full Professor
at University
of California Davis

information was linked to their college career and to labor market outcomes. What we find is that male students attending a class where more than 80% of students are of their own gender are 6 percentage points more likely to enroll in high paying majors with respect to a baseline probability of 43%. This is equivalent to a 14% increase in the probability of attending these majors. If the share of males in the class is above 90%, then the same probability increases by 35%. Contrary to this large effect for boys, they find that the gender share of high school peers does not have any effects on the choice of university major of girls, not even in the case of more extreme class composition.

These differences across genders find an explanation in the dynamics of friendship networks formation: while female teenagers prefer small networks with peers of the same sex no matter the gender share in the class, males tend to form broader and more inclusive ones. In male dominated classes, boys indeed end up in larger networks, which imply greater information sharing and larger potential for peer pressure. Interestingly, when looking at long term outcomes, the effect on the choice of major of boys vanishes: university dropout rates are larger for boys from male dominated classes and no measurable long run effects on labor market outcomes can be found. This suggests that peer imitation leads to suboptimal choices: because of peer pressure, male students might decide to enroll in Economics, Business and Engineering majors, although they lack the abilities to graduate from them.

These results point to two important policy considerations and cautionary tales. First, they reveal that, when debating the effects of peers in school, a myopic focus on short term outcomes may lead to misleading conclusions: for instance, policies shifting people towards STEM majors does not automatically produce positive results but, on the contrary, it may cause mismatches and create inefficiencies. Second, contrary to the wide-spread idea supporting single-sex education as a solution to reduce the gender gap in science, these findings suggest that policies altering high school gender environment are most likely ineffective in reducing the gender gap. If anything, they might exacerbate it by pressuring even more boys to attend science majors. ■



THE PAPER

"The effect of High School Peers' Gender on College Major" by Anelli and Peri shows males attending a high school class with more males than females more likely to pick a masculine major.

Trust, memory and at times even a misleading mystique. This is the nature of money. It is of little importance whether money exists in the physical form that it takes today or a virtual form that could be increasingly common tomorrow

Money in the Past, Present

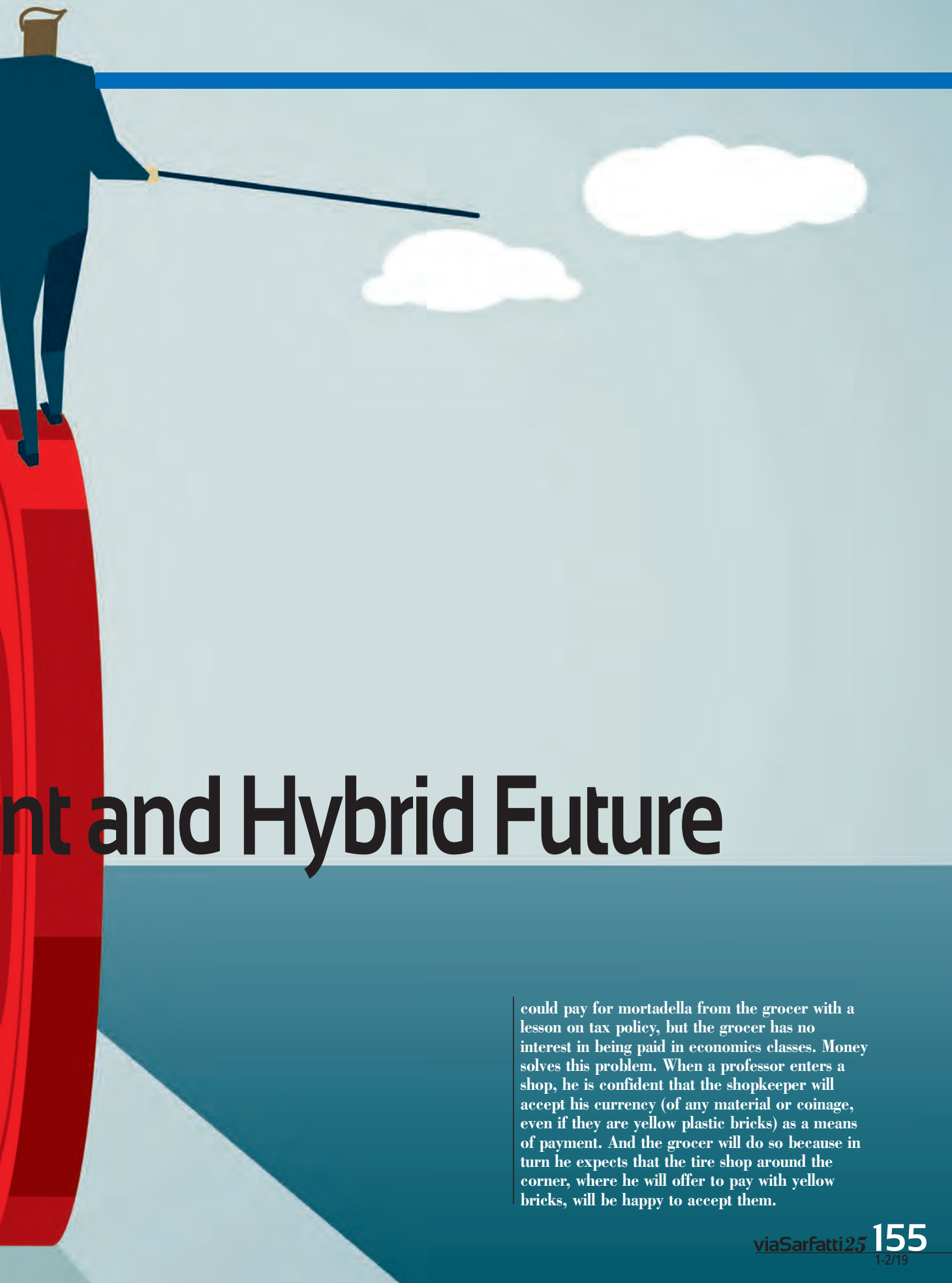
by Tommaso Monacelli @

Research storytelling by Claudio Todesco

What is money? Economists answer this question pragmatically, indicating the main functions of money, which are mainly three. First of all, anything that is a reserve of value is money (if I work today and earn €1, I can spend it tomorrow). Secondly, anything that facilitates exchanges, so as to solve the so-called double coincidence of wants problem, is money. A professor of economics



TOMMASO MONACELLI
Director
of the Department
of Economics
at Bocconi



nt and Hybrid Future

could pay for mortadella from the grocer with a lesson on tax policy, but the grocer has no interest in being paid in economics classes. Money solves this problem. When a professor enters a shop, he is confident that the shopkeeper will accept his currency (of any material or coinage, even if they are yellow plastic bricks) as a means of payment. And the grocer will do so because in turn he expects that the tire shop around the corner, where he will offer to pay with yellow bricks, will be happy to accept them.

Think of a family or a small community, such as a group of students who share an apartment. In these communities, exchanges also take place in the absence of money. Which would lead one to think that money is not strictly necessary to solve the double coincidence problem. Yet money also circulates in the student apartment. How so?

Imagine the following example. Ugo and Maria meet: Ugo has apples and wants bananas; Maria wants apples but does not have bananas. How is an exchange possible? In an economy with physical currency (for example, euros), Maria offers Ugo money in exchange for apples. In turn, Ugo uses the money to buy bananas from Paolo in the future. This is what happens in a classical monetary economy.

But is money really necessary for the exchange between Ugo and Maria? Imagine the following agreement. If Ugo gives Maria an apple today, in turn Paolo will give Ugo bananas tomorrow (or maybe not). Where is the currency in this agreement? Seemingly it is not there. But in reality the virtual currency that Maria offers to Ugo is any system that lets Paolo know that (the day before) Ugo gave something to Maria. If this transmission of information is possible, and if it can be kept track of, then in the economy without money the same sequence of exchanges of a classical monetary economy can occur. In other words, we can define as money anything that has the function of connecting a network of gifts over time. To do this, a memory of all the gifts that have been exchanged in the past is necessary.

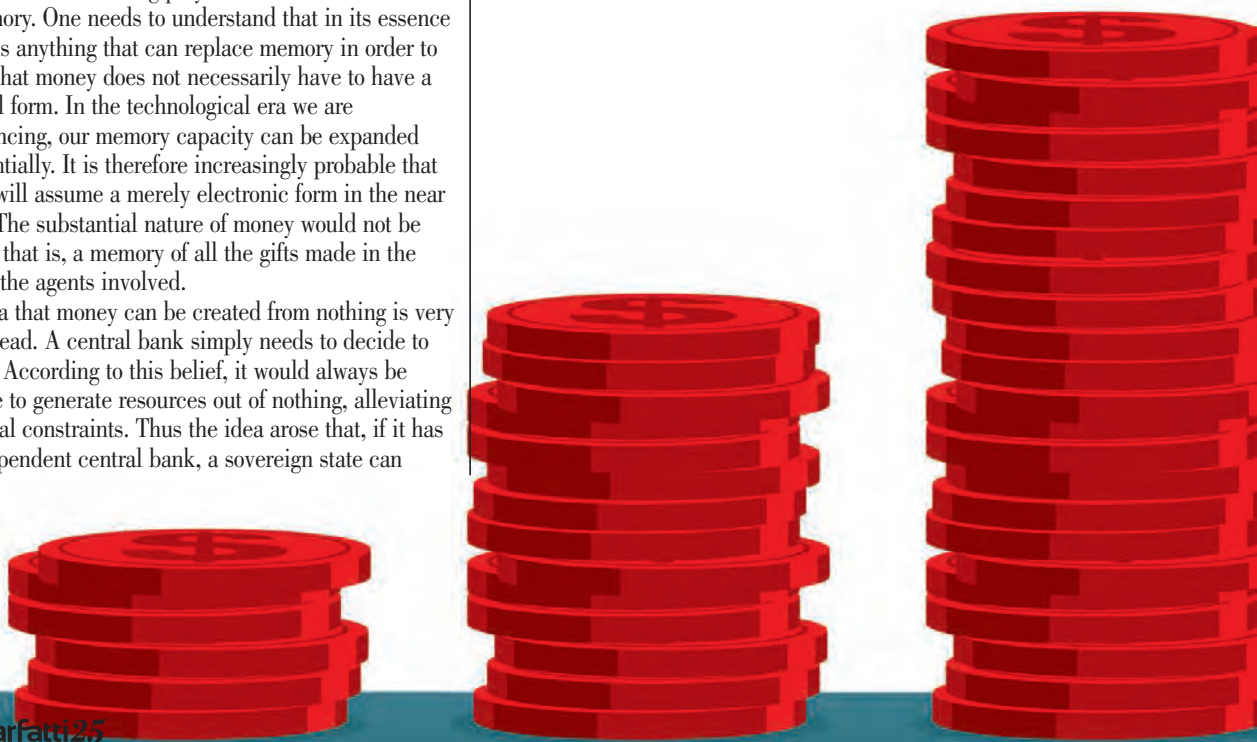
In an economy that is larger than a student apartment, having a memory of all the gifts made in the past can be very complicated. Here therefore the physical currency that we are used to using plays the role of a substitute for memory. One needs to understand that in its essence money is anything that can replace memory in order to accept that money does not necessarily have to have a physical form. In the technological era we are experiencing, our memory capacity can be expanded exponentially. It is therefore increasingly probable that money will assume a merely electronic form in the near future. The substantial nature of money would not be altered, that is, a memory of all the gifts made in the past by the agents involved.

The idea that money can be created from nothing is very widespread. A central bank simply needs to decide to print it. According to this belief, it would always be possible to generate resources out of nothing, alleviating any fiscal constraints. Thus the idea arose that, if it has an independent central bank, a sovereign state can

never default on its public debt. This is because it would always have its own central bank that, by printing money, could buy the issuance of new securities to finance the repayment of circulating funds. With this in mind, the state can finance its own expenses by printing money, even without resorting to taxation. This is real monetary illusion. Actually, when families or businesses lend money to the state, what they expect in return (the financial return) are not euros, but rather, very prosaically, apples. Anyone who lends money to the state expects a real return, because, in giving money to the state they have refrained from using it to buy shoes or go to the movies. Any creditor, when deciding whether or not to lend money, cannot think like that: they lend euros making sure that when the debt expires they do not have fewer apples than before. Otherwise, they would never decide to lend money at all.

The debts that the state must honor, therefore, are always necessarily in apples, not in currency. The idea that these can be honored by printing money is fallacious. Because though it is true that money can be created from nothing, apples cannot. Apples require trees, irrigation, work, and even a little luck with the weather. More technically, printing €100 more currency means, sooner or later, and inevitably, a higher price of apples. And therefore fewer real resources. At the most, if doubling the amount of money from €100 to €200 led to an immediate doubling of the price of apples, those extra monetary resources would vanish into the same nothing from which they were created: with an invalid contribution to alleviate the state accounts.

Money is therefore trust, memory, but also often has a misleading mystique. ■





How Will We Pay for Things in the Third Millennium?

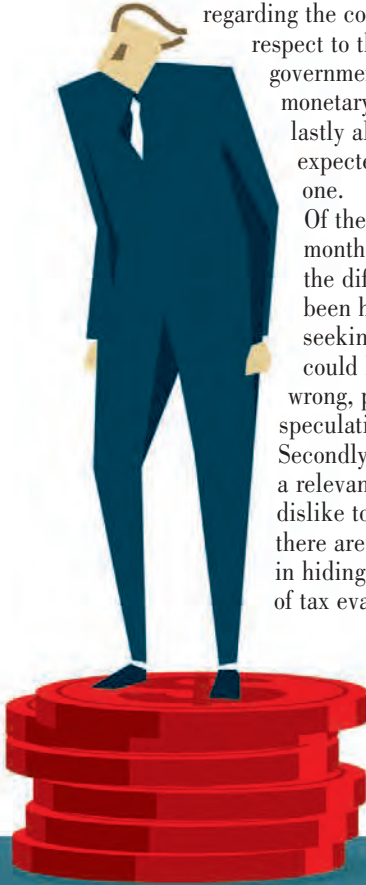
The future of money is already being written: digital cryptocurrencies and e-cash. How is this affecting central banking?

by Donato Masciandaro @



DONATO MASCIANDARO
Director of the Boffi
Carefin Center at Bocconi,
Centre
for Applied Research
on International Markets,
Banking, Finance
and Regulation

What will the money of the future be like? With increasing speed and depth, major digital corporations are starting to enter the financial products and services sector traditionally provided by banks. In parallel, cryptocurrencies are spreading, and they are generally produced outside the banking circuit as well. Finally, some central banks are exploring the possibility of issuing digital cash. What are these innovations about? Starting with bitcoin and cryptocurrencies, what are the reasons driving the surge of interest? There are three: because their distribution differentiates them from either cash and banking instruments; and because their technology, based on cryptography, guarantees greater anonymity, both with regard to the counterpart, but above all with respect to third parties (including the government) when compared with other monetary assets, excluding cash; and lastly also because it has a high expected return, albeit a very variable one.



Of these reasons, in the last few months the most powerful engine for the diffusion of cryptocurrencies has been high returns. An operator seeking a high risk/high return asset could be attracted to them; nothing wrong, provided s/he is aware of the speculative nature of his/her choice. Secondly, one assumes that anonymity is a relevant motivation for people who dislike total transparency; in this group there are undoubtedly actors interested in hiding their transactions, for reasons of tax evasion or even more serious crimes. This is where a potential harm to the public arises out of the development of cryptocurrency markets. And we come to the second and futuristic innovation in

payment methods, represented by e-cash. Today the only government money that is directly available to the public is cash. Central banks should instead allow everyone to have a deposit at the central bank by issuing electronic cash. In other words, the central bank would issue to the public something akin to prepaid cards. It is essential that the central bank create debit lines rather than credit lines with individual citizens. In fact, the central bank's credit must remain reserved to private banks, since the process of lending money presupposes skills and knowledge, and the relative assumption of risk, which clearly cannot be extended to all citizens. In other words, issuing digital money directly to the public does not have to mean becoming a Soviet-style central state bank.

Cash would continue to be issued, but only in small-denomination notes. Furthermore, if the progressive reduction in the use of cash is also a

MASSIMO AMATO Solidarity Currencies for Immigrants

A complementary currency may help asylum seekers integrate. This is an idea from Massimo Amato and Luca Fantacci of Bocconi University. They have carried out a study, on behalf of the municipality of San Martino in Rio, a small town in Emilia-Romagna, on the prospect of issuing a local currency that can help asylum seekers to integrate into the economic and social fabric of the host society.

"In a small town, inactive migrants tend to be left outside the social body," Amato says. "Our idea is to allow them to earn their living by training them and making them work for the community, for example by caring for public green areas, and paying them with a complementary currency." This currency is called Buoni di Solidarietà Territoriale, "territorial solidarity vouchers" that are convertible into euros within six months, which is the average stay of an asylum seeker.

Vouchers can be spent only in the area of the issuing municipality. This limited circulation is their strength. Merchants who receive them can in turn use them to make other payments until the expiration date. Alternatively, starting from the first transaction, the vouchers could last 30 days that automatically renew each time they are used to make a purchase, up to six months. "Some

studies tell us that local public spending has a higher multiplier ratio than central government spending. Injecting liquidity is not enough, though. It is necessary to increase the monetary flow in local areas. These vouchers contribute to integration, care of the public good and territorial development."

The idea of a euro with an expiration date was developed in the framework of Digipay4Growth, a European project that aims to use local payment systems to stimulate economic growth. In February 2018, the Buoni di Solidarietà Territoriale project was approved by the city council of San Martino in Rio. "It is now necessary to overcome labor law and IT platform issues and prejudices against complementary currencies."



MASSIMO AMATO
Associate Professor
of Economic History
at Bocconi

goal, the conversion of digital money into paper money should come at a cost, with the disincentive increasing as the volume of funds and/or frequency of transactions increase.

For a private citizen the choice of one form of money over another would be linked to his/her preferences with respect to various sources of risk. For example, today those who dislike transparency because they violate criminal laws and financial regulations tend to prefer cash or encrypted currencies; for these reasons, the introduction of a public virtual currency should be accompanied by penalizations of transfers toward cryptocurrencies guaranteeing greater levels of anonymity.

The idea of issuing e-cash is not a figment of the author's imagination: several central banks, officially or unofficially, are considering the idea of issuing digital currencies. The future of money in the third millennium is already being written. ■

LUCA FANTACCI Creating an "eBay of Bankruptcies"

In Italy, the economic crisis has contributed to increasing the number of insolvency procedures and their average duration, which is around seven years. The lack of buyers makes it difficult to liquidate the assets, and prices are knocked down in one auction after another. There are about 100,000 pending procedures that involve assets worth 200, if not 300 billion euros.

Five years ago, Pasquale Liccario, who was then President of the Bankruptcy Court in Bologna, had an idea when reading the book by Massimo Amato and Luca Fantacci "The End of Finance." His idea was to pay back creditors immediately by giving them a reasonable share of their claim in a currency that they could spend only on auctions of insolvency procedures. This complementary currency is called Common. It is regulated by a government act approved on October 2017 and waiting to be implemented. "The advance in Commons gives creditors a readily available purchasing power," Fantacci says. "Given that this currency can circulate only in the insolvency procedures domain, it helps to speed up auction sales and counteract falling prices. At the end of the procedure, the creditor gets the remaining share of the claim in euros."

LUCA FANTACCI
Lecturer in Economic
History at Bocconi



The system is based on two pillars: 1) a register of procedures at the Ministry of Justice, which is already functioning; 2) a certification body whose job is to standardize the credit assessments at national level on the basis of data of a digital marketplace that features all insolvency procedures. This "eBay of bankruptcies," so to speak, has a double advantage: it helps to fight connivances, collusion, cartels, and it is universally accessible, thus overcoming the problem of the under-advertising of sales. But what happens when a creditor fails to spend his Commons? "The complementary currency expires after three years. It turns into a shareholding in a fund into which unsold assets are contributed, allowing the procedure to be closed. The Common can help to dramatically reduce the duration of the procedures."

The Risks of Monetary Democracy

Andrea Munari, Bocconi alumnus and CEO of BNL, looks at the future of money and its regulation. A future in which a hybrid system will emerge

by Andrea Munari @

Rapid advances in technology are affecting every area of our daily business, leading to considerable changes in habits and lifestyles. Cash is gradually giving way to electronic payment tools, and credit cards and debit cards are flanked by digital purses managed via mobile applications. At the same time, economic and financial operators have a growing ecosystem of monetary instruments at their disposal: worldwide, there are now several hundred complementary currencies. Some of these systems have extended the concept of exchange value, attributing it to elements that are not typically monetary, such as time or reputation. Interesting examples of complementary currencies with local relevance are proving successful, such as Sardex, a commercial credit circuit in Sardinia, which now boasts more than 4,000 member companies and 700,000 transactions, and which is also extending to use by private individuals. However, what characterizes cryptocurrencies (starting from Bitcoin) is a substantial reversal of the fiduciary relationship at the base of all modern monetary systems. It is no longer an issuing body (a central bank or a state) to guarantee the value of money and the fairness of exchanges, but a validation system distributed in peer-to-peer mode within a community. The promise underlying these systems is fascinating and revolutionary in principle: a sort of monetary democracy managed from below.

The reality, however, is that any system without regulation almost always hides risks, especially for the weakest and least prepared participants.

Complementary currencies are often linked to current currencies, so that any inflationary phenomena could undermine the system of credit within the communities. Cryptocurrencies are also highly exposed to the risk of potentially uncontrollable speculative phenomena.

The speed and breadth of change have led to questions about the future of money, as we understand it today, and about the possibility of arriving at a cashless society. Personally, I do not think it will come to that any time soon. Traditionally, the currency, in addition to being a unit of account, performs two important functions: as medium of exchange and as value reserve. Cash is a widely accepted, easy-to-use payment method

ANDREA MUNARI
With a degree in Political
Economy from Bocconi
in 1989, Munari is CEO and
General manager at BNL



and does not require the possession of a bank account or a mobile device. The immediate availability of cash is also an element of security in the face of unforeseen circumstances, emergency situations or sudden crises in banking and financial systems. Concerning the greater or lesser propensity to hold cash there are many factors, above all income and interest rates. As income increases, the volumes of expenditure and the amount of cash that individuals tend to keep in order to cope with their purchases increase. However, holding money means renouncing a possible remuneration that is measured by the rate of interest. When interest rates are very low this replacement cost tends to decrease and the volume of cash in circulation tends to increase.

Is it really feasible to expect a progressive abandonment of physical currency? The data available to us do not seem to indicate this path. Despite the increasing use of electronic payments globally, in many advanced economies, the demand for cash has increased since the advent of the financial crisis. This is due to a higher perception of risk and exceptionally low interest rates. The World Bank has shown that between 2000 and 2016 the amount of cash in circulation, measured as a percentage of GDP, has increased from 7% to 9%. The increase is mainly explained by an increase in advanced economies that occurred after the onslaught of the financial crisis. This trend implies that money still plays a significant role as a value reserve, mitigating the reduction of money in circulation linked to the growth of alternative payment systems.

The digital evolution is accompanied by a constantly evolving regulatory framework; those who work in a bank know it well. In this context, technological development, the evolution of payment systems, digital banking and blockchain remain key priorities and drivers for the future architecture of financial systems. However, despite the wide variety of digital options, the demand for banknotes and coins remains high at global level and does not seem to show signs of slowing down. Digital or physical, currency is changing and will keep changing. In the realm of environmental sustainability, the future is hybrid. As it is for energy, so I think it will be for currency. ■

ALESSANDRA CILLO When Paying Online, People Like to Be Anonymous

The literature on payment instruments has focused on two main features: liquidity risk, i.e. the likelihood that the currency does not perform or underperforms its task, and the opportunity cost, expressed by the expected return. Little is known about a third feature that is typical of cash and new cryptocurrencies: anonymity. Emanuele Borgonovo, Stefano Caselli, Alessandra Cillo, Donato Masciandaro and doctoral student Giovanni Rabitti investigated the value of anonymity by conducting an experiment.

Last June, eighty students were called upon to make a number of choices between payment tools each with a different combination of risk, return and anonymity. They were incentivized to perform real choices by knowing that, at the end of the experiment, a number of them would receive a reward that would put into effect one of their choices. The researchers analyzed the results in order to elicit participants' preferences.

"All other things being equal, anonymous payment methods are preferred by far to non-anonymous ones," Alessandra Cillo says. "When two payment instruments differ in terms of liquidity risk and return, anonymity remains surprisingly relevant, although less important than the



forementioned features. Moreover, risk attitude does not seem to affect the preference for anonymity." Authors tried to understand what ratio between return and risk makes anonymous payment instruments attractive. They discovered that when the ratio is less than 2 to 1, people allocate only 20% of their budget to an anonymous and risky currency. Return has to be 5 times higher than risk for convincing people to allocate 50% of their budget to new currencies. Cryptocurrencies guarantee anonymity, but they are only attractive if the expected return is much higher than the risks.

ALESSANDRA CILLO
Adjunct Professor
at the Department
of Decision Sciences
at Bocconi

ANATOLI COLICEV Raise Prices or Keep Customers?



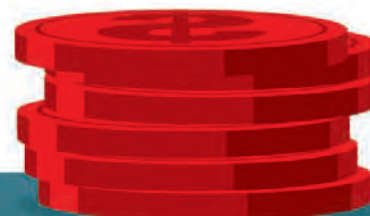
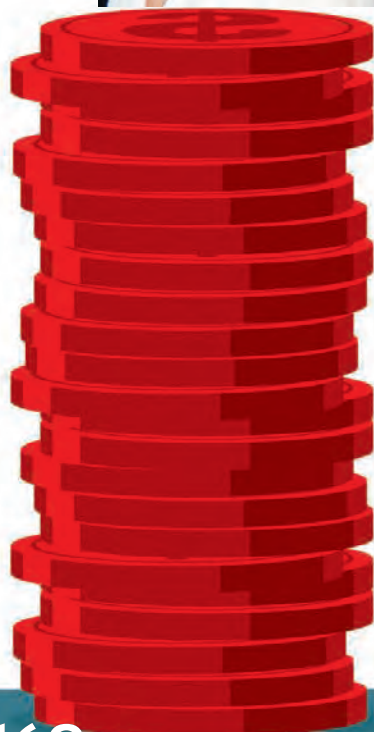
ANATOLI COLICEV
Assistant Professor
at the Department
of Marketing at Bocconi

How do retailers adjust their prices when faced with dramatic currency fluctuations? The answer comes from an ongoing project by Anatoli Colicev, Assistant Professor at the Department of Marketing, with Joep Konings (University of Liverpool Management School) and Joris Hoste (KU Leuven). They have engaged in a two-year big data analysis project "Currency Shocks in Emerging Markets: How

Does Supplier and Consumer Demand Find Equilibrium?". They turned their attention to Kazakhstan where in 2015 the government devaluated the Tenge overnight and with no announcement, cutting its value by 30% and on an annual basis by more than 50%. These currency shocks have caused uncertainty about optimal price setting. Do you pass on the currency shock to consumers by charging higher prices, or do you keep prices stable not to lose customers? "We collected daily product label data from one of the largest supermarket chains in Kazakhstan over many years and for different stores. They amounted to more than 30 million data points," Professor Colicev says. "We have also collected data on the prices charged by suppliers, because the retailers sell in Tenge, but they buy products in different currencies, primarily in US Dollars, Euros and Russian Rubles."

It turns out that the retailers adjusted the price of some products quite frequently, sometimes on a daily basis, to test consumers' response. But for other products they did not adjust their prices. So, they took into account that consumers are more responsive to price changes for some products, like gadgets you do not really need, while for other products consumers were not very responsive to price changes, like basic food, which is a necessity. But there were many products for which the retailers did not extract enough knowledge from the data and they ended up using an inefficient trial-and-error approach.

"The economic theory argues that firms engage in full rational behavior and therefore they adjust their prices correctly. This is not always the case. We also observed differences based on the store location: the closest to the border had better negotiating power with suppliers". The overall aim of the project, that will develop in a two-year span and will generate multiple papers, is to understand the evolution of consumer prices in different countries under macroeconomic shocks. The authors will also investigate the behavior of retail companies in Turkey, Russia, and Germany.



Smile at the Camera, Your Train Is About to Leave

From his position at Mastercard, Bocconi grad Michele Centemero can see the future of payments

by Claudio Todesco @

We are going to pay the subway fare by showing our face to a camera and make purchases online without communicating our credit card number. This is the future of payments according to Michele Centemero, Bocconi alumnus and Mastercard Country Manager for Italy. Fierce fintech companies and menacing tech giants are emerging in the payments business. The only way to deal with this ever changing scenario is to optimize the user experience and strengthen the trust bond with consumers.

→ What are the specific of the Italian payments market?

Almost all Italian consumers have a debit card, 35% of them have a credit card too. Italy is one of the biggest markets for prepaid cards worldwide. Italians use them especially for online purchases due to the often oversized perceived risks of transactions over the Internet. The share of cash use is pretty high, 77%, but services for card holders such as food delivery or car sharing are creating a flywheel effect. As a result, the average ticket for purchases made with cards has fallen to 43 euros and one in every two transactions is contactless. We encourage any and all new user

experiences on the market, including traveling on the metro by paying with a contactless card in Milan. They contribute to the fall in the share of cash. Our goal is to make

consumers' life easier, faster, and safer.

→ Do you think that plastic

MICHELE CENTEMERO
For Centemero, who got his degree in Corporate Economy in 1999, it was the "start of an incredible career adventure." He likes to tell this anecdote. At a three-day orientation program at Bocconi for new graduates, he took part in a series of interviews, workshops and role playing with a participant who was actually a headhunter. "After the three days were over, Reuters called me for an interview. The head of HR told me: it seems you worked three years with banks. I replied: no, actually it was with boats. And on it went, a series of incorrect but flattering information that I had to deny. I only discovered four years later that I was spotted during the three days at Bocconi and the questions were to test my honesty." Centemero stayed at Reuters until 2005. He worked for three years at Pmi Mortgage Insurance Company and in 2008 he arrived at Mastercard where he has held a series of increasingly important roles. "I hope now that my daughters choose Bocconi."

cards, signature and passwords will become extinct?

Traditional cards will probably disappear in the long run, but they will always be used as a backup, especially for travelers. The radical change that is coming concerns passwords and signature. They will be replaced by biometric authentication such as voice, eye and fingerprint identification. We recently displayed a new turnstile for transportation fare. The traveler will access bus, metro and railway simply by approaching a camera. We are working on all possible applications of biometrics, a technology that is already available to our main customers.

→ Is the sixteen-digit number going to disappear?

The number will remain, but it will disappear from the websites where we shop. We will no longer type the number. It will be turned into a token valid only for that specific merchant. Stealing it will therefore be useless. This is a major change that will reduce costs in the event of loss, theft or duplication of the card.

Tokenization will significantly boost security.

→ Mastercard interacts with banks and merchants. For some time now, new players have appeared on the scene: on the one hand fintech companies, on the other tech giants such as Apple, Samsung and Google. Is this an opportunity or a threat?

The scenario has changed dramatically. In the last few years, our company has become a technology company and about three years ago we have taken away the capital letter C from our logo, from MasterCard to Mastercard, to convey the idea that the card is just one type of payment. We act from an ecosystem perspective. We help fintech and startup companies to connect to our world and simplify user experiences. We also collaborate with tech giants. In a country where cash still rules, the payments market provides everyone with opportunities to grow.

→ What is happening with the implementation of the EU PSD2 directive on open banking?

PSD2 opens up opportunities for newcomers, but many years will pass before physical and virtual cards will become extinct. The cards are very popular in Italy, every Italian has at least one in his wallet. Furthermore, our payment system is considered well-established and safe. Our surveys tell us that only a very small share of consumers are willing to use non-bank payment systems. ■

Making Online Payments Easier

Bocconi alumnus Remo Giovanni Abbondandolo and Checkout.com handle everything from credit cards to digital wallets, and want to enter cash-based markets

by Claudio Todesco @

There is a lot of talk about cryptocurrencies and blockchain, but cash is still the main payment solution in many developing countries.” The alumnus Remo Giovanni Abbondandolo is Vice President of Business Development for the Middle East and North Africa at Checkout.com, a global online payment solutions provider. Checkout.com is a fintech company with a 50% growth rate per year, the kind of place whose meeting rooms have no chairs, so everyone has to stand, yet Abbondandolo does not indulge in techno-optimism.

“Our mission is to make life easier for e-commerce merchants by giving them the ability to accept any payment type, from credit and debit cards to digital wallets. We process 180 currencies.” Checkout.com was launched in 2012. It currently covers North America, Europe, Middle East and AsiaPacific. Samsung, Virgin, and Deliveroo are among its customers. The company makes all the collected data available to its customers so that they can optimize payment processes and find out transaction losses. “To optimize 1% or 2% of millions of transactions means to boost your earnings by hundreds of thousands of dollars each week. We also offer key

customers our own analysis and recommendations. We work on fraud prevention. We think it is our responsibility to educate the market and therefore we work with regulators and provide them aggregated macro data.” Guillaume Pousaz, CEO and founder of the company, said that Checkout.com plans to become the bank of the future. “There will be more and more Checkouts in the world,” Abbondandolo says. “In our business, tech companies are replacing banks. The latter have a traditional approach to business, they do not have the technological expertise to meet the needs of online merchants, they do not respond quickly enough to the changes in the market.”

So, what is the future of payments? “We face the challenge of making people understand the value of what we do in countries where cash is still king. I believe that mobile payments will continue to grow. You do not even need a digital wallet or a smartphone to operate. In Kenya, for instance, SMS payments are very

REMO GIOVANNI
ABBONDANDOLO

Born in Avellino in 1986, he did an undergraduate course at Bocconi and then completed a degree in Economics and management of innovation and technology. He points to his experience overseas at exchange programs in the US and China, and an internship in India, and the double degree with Copenhagen Business School as key moments of his academic career. Today Abbondandolo lives in Dubai and works with the Arab Peninsula chapter of Bocconi Alumni. “My years at Bocconi were important in developing the formative skills that helped me face problems by experimenting, innovating, and developing dynamic skills.” His university years were also important for his personal life. “I met my wife at Bocconi.”



THE BOOK

“The Blockchain Journey” by Gianluca Salvitti, Leonardo Maria De Rossi and Nico Abbateamarco looks at some of the reasons behind the current blockchain craze. Venture capital investment in cryptocurrency startups is a big driver, and so are players from outside the sector. (Ubp, 2018, 144 pages, 22.50)



popular.” Digital wallets will be disruptive in countries where plastic money is not widespread. People will bypass plastic and use digital. This is the same process that led people in those countries to buy tablets and smartphones without ever laying their hands on a personal computer.”

LEONARDO MARIA DE ROSSI Blockchains and Their Imitators

"I know we do not need a blockchain, but let's create a problem that can be solved with it." The hype that surrounds the digital transaction ledger of Bitcoin is so strong that managers fabricate problems as an excuse to use it. This is one of the stranger things that Leonardo Maria De Rossi has encountered in his three-year research on the topic. He is the coordinator of the blockchain observatory of DEVO, the research lab of SDA Bocconi School of Management that addresses the impact of digital transformation on enterprises.



LEONARDO MARIA DE ROSSI
Research Fellow
of Information systems
at SDA Bocconi School
of Management.

DEVO Lab carries out continuous research on the most interesting areas of application of the blockchain. A part of its research activity is summarized in the book *The Blockchain Journey. A Guide to Practical Business Applications* (Egea) and in a number of papers. "Most blockchains are an imitation of Bitcoin or a failed attempt to compete with it," De Rossi says. Blockchain basically replaces an intermediary – in the case of Bitcoin, the bank – by using a distributed network. This idea has been applied in many areas. Those networks are similar to those of the cryptocurrency, but they store data of different kinds. "They lack both the critical mass of active users – the so-called miners of Bitcoin – and a strong community. These are fatal shortcomings. Due to its characteristics, the more diffused a blockchain, the safer and valuable it is." Not to mention the case of traditional players such as banks and insurance companies that have tried to imitate Bitcoin by creating a similar network, only centralized and closed. "These are called permissioned blockchains. To use them, you need an authorization from a central authority. There is no real distribution and the information is simply replicated in many nodes, which is an inefficient redundancy". So why do companies use the blockchain technology? According to De Rossi, there are two reasons: the media hype that surrounds it and need to digitize and make very complex processes more efficient, most of which, however, do not need the Bitcoin technology. So much so that, De Rossi says, "only 1, maybe 2, at most 3 out of the 2000 existing public blockchains will endure."

FILIPPO ANNUNZIATA Digital Assets, an Evolving Market

The answer to a simple question could decide the fate of Initial Coin Offerings (ICOs), the innovative form of raising funds from individual investors by selling digital assets, the so-called coins or tokens. The question is: are ICOs financial products? Filippo Annunziata (Department of Legal Studies) is working on a paper focused on their definition and regulation.

"Tokens are usually – and simplistically – divided into security (or financial) tokens and utility tokens. The former are digital assets that come with a right, which is similar to the right of an investor who expects to receive a risk-related remuneration. Utility tokens come with the right to receive goods or services. According to legislators and scholars alike, only the former are financial products. In hybrid cases, the trend is to check which component is predominant." Annunziata says this is a narrow idea because it neglects the size of the secondary market. In other words, what happens to tokens after an ICO?

"Once a token is exchanged on a trading platform, for instance on a Multilateral Trading Facility, it can qualify as a financial asset regardless of whether it was issued as a security or as a utility token."

Secondary markets are struggling to take off because of technical issues inherent to the design of a blockchain platform as fast and efficient as a trading platform. However, this technological constraint will sooner or later be removed. In the meantime, the lack of a secondary market is holding back the primary market.

"It is worth making another point clear, that is the relationship between ICOs and cryptocurrencies," Annunziata says. "They are structurally different and should not be confused. In ICOs there is a company that issues digital assets that come with a right. In the case of cryptocurrencies like Bitcoin there is not a single issuer." The two may interact, nonetheless. An ICO can be paid for with a cryptocurrency and a token could turn into an exchange currency over time.



FILIPPO ANNUNZIATA
Associate Professor
at the Department
of Legal Studies
at Bocconi

ANNA OMARINI The Trojan Horse with a Mobile Wallet Inside

The electronic payment industry is rapidly evolving. Technological innovations and changing consumer needs have opened up the market to players from outside the world of banking. Fintech companies, telcos and tech giants are given the chance to win new customers and try to steal the role of payment service provider from banks.

An important role in this context is played by mobile wallets. They are virtual wallets that store payment card information and feature additional services on a mobile device. This is a fast growing market. According to the World Payments Report 2017 and Deutsche Bank, in 2019 a billion people will use mobile payments. In 2015 there were only 60 million of them. "Payments have always been the Cinderella of financial services," says Anna Omarini, who dealt with the issue in the working paper "Fintech and the future of the payment landscape: The mobile wallet ecosystem. A challenge for retail banks?" "They have always been ancillary to major services such

ANNA OMARINI
Researcher
at the Department
of Finance at Bocconi



as credit and investment, despite being a highly profitable business. Then, in the late 90s, payment became the gateway to the banking world for fintech companies."

Payment services are the Trojan Horse that has allowed Google, Samsung and Apple to access new customers by offering them financial and commercial services in the context of a wider ecosystem. "Banks still handle cashless payment services and they must continue to look after them by creating an attractive ecosystem that allows them to improve onboarding and retention. They cannot just safeguard their role in the payment system. The banks are there anyway, but they should find ways to make themselves visible to the users of mobile wallets."

If a line were drawn connecting each of the Bocconi alumni scattered around the world, now around 114,000, it would probably look like a very thick-meshed net. Weaving it day by day, sharing the alma mater's values, is the task of the new Bocconi Alumni Community. An all-around effort with the motto **#Everyone matters**: "We are working to build a more inclusive global Alumni Community integrated within our University," Director Elena Gelosa explains. "The tagline **#Everyone matters** means that every one of you is really crucial for our Community. Our Community can only flourish if we all stay connected." This network (which currently has a new tool, the platform bocconialumniconnect.com) is the key and is made possible thanks to the work of those people who represent the Bocconi Alumni Community locally. These are the Chapter Leaders in Italy and abroad, and, based on field of interest, the Topic Leaders. There is a kind of horizontal leadership – as one of them explains – at the service of the community, permeated with the sense of belonging as Bocconi alumni: "They act with energy, passion and enthusiasm to help us grow and strengthen our Alumni Community around the world," adds Gelosa. Who are the Community's Chapter and Topic Leaders? You can find out more about them here.

(The Accounting Topic Group has no Leader at the moment. The Group can be reached at topic-accounting@bocconialumni.it)

The Map of 81 Chapter and Topic Leaders



AMSTERDAM

Luca Della Santa
Alumnus 2001
Corporate Development & Strategic
Advisor NN Investment Partners
amsterdam@bocconialumni.it



ARABIAN PENINSULA

Francesca Paolino
Alumna 2013
Associate Analyst - FIG Moody's
Investors Service
arabianpeninsula@bocconialumni.it

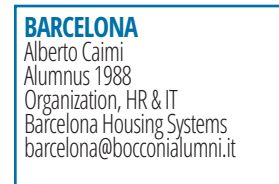
ASCOLI-FERMO-MACERATA

Priscilla Alessandrini
Alumna 2004
Priscilla Alessandrini
Comunicazione, eventi, cultura
ascoli-fermo-macerata@bocconialumni.it



ATHENS

Konstantinos Kalogerakis
Alumnus 2002
Senior Advisor in Digital Channels
National Bank of Greece
athens@bocconialumni.it



BARCELONA

Alberto Caimi
Alumnus 1988
Organization, HR & IT
Barcelona Housing Systems
barcelona@bocconialumni.it





BOARD – ITALY CHAPTERS REFERENCE PERSON

Demis Diotalleivi
Alumnus 2006
CFO & Deputy CEO Gruppo Sgr – Società Gas Rimini

The concept, explains Demis Diotalleivi, is that leadership in the Community is horizontal: to be a leader is to be at the service of others. “My role is above all to listen to the needs of the territory and be of service to the Italy Chapter Leaders, who, in turn, are at the service of the local Communities,” he says. It is a fundamental perspective, “all on a voluntary basis,” that radiates from top to bottom in all the areas of the Community. The key is enthusiasm: “I am enthusiastic about Bocconi, so are all the Leaders (Demis in the past was also at the head of the Rimini Chapter) as well as all the other activists. And we are all grateful towards Bocconi,” continues Diotalleivi. The presence of Bocconi throughout the alumni network is an added value: “Networking means being able to access not only recreational events, but also continuous learning and business opportunities.”

BARI

Gianpaolo Camaggio
Alumnus 2002
Managing Director
SinoGlobal Investments Advisory
bari@bocconialumni.it



BEIJING

Sarah Orlando
Alumna 2004
Co-Founder B/Side Design
beijing@bocconialumni.it

BELGRADE

Dubravka Gojkov
Alumna 2005
Founder & Owner
L'Artisan Belgrade
belgrade@bocconialumni.it



BERGAMO

Jacopo Palermo
Alumnus 2008
Director General
Immobiliare Percassi Srl
bergamo@bocconialumni.it



BERLIN

Alberto Berno
Alumnus 2010
Project Manager
Hackerbay
berlin@bocconialumni.it



BOLOGNA

Marco Castricini
Alumnus 2014
Sales Engineer
Keyence Corporation
bologna@bocconialumni.it



BOSTON

Jacopo Cecchi
Alumnus 2012
Strategy & Business Development
Manager
French Tech Hub
boston@bocconialumni.it



BRESCIA

Andrea Puccio
Alumnus 2010
Managing Partner
Puccio Giovannini
Penalisti Associati
brencia@bocconialumni.it



BRUSSELS

Chiara Landolfo
Alumna 2009
Advisor to the Director
European Parliament
brussels@bocconialumni.it



BUDAPEST

Carlo Volpe
Alumnus 2002
Director General
Ovártéj Zrt.
budapest@bocconialumni.it

BOCCONI@ALUMNI



DALLAS

Pietro Macchiarella
Alumnus 1999
Director, Member Research YPO,
Young Presidents' Organization
dallas@bocconialumni.it



ISTANBUL

Kerim Gurkan
Alumnus 2009
Director JLT Group
istanbul@bocconialumni.it



CATANIA

Gabriele Ferlito
Alumnus 2006
Founder FairTax
Studio Legale Tributario
catania@bocconialumni.it



GENEVA

Maria Pia Cappiello
Alumna 1999
E-Learning Project Lead
JTI International SA
geneva@bocconialumni.it



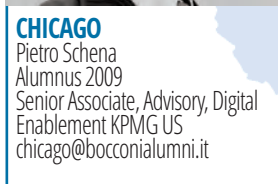
DUBLIN

Andrea Menè
Alumnus 2009
Senior Sales Manager Google
dublin@bocconialumni.it



KUALA LUMPUR

Narciso Podda
Alumnus 2008
Senior Consultant
Frost & Sullivan
kualalumpur@bocconialumni.it



CHICAGO

Pietro Schena
Alumnus 2009
Senior Associate, Advisory, Digital
Enablement KPMG US
chicago@bocconialumni.it



GENOVA

Roberta Piagneri
Alumna 1995
Head of General Application
Development ERG Spa
genova@bocconialumni.it



FERRARA

Valentina Coppola
Alumna 2015
Founder Art&Start Srl
ferrara@bocconialumni.it



LECCE E BRINDISI

Antonio Sansò
Alumnus 2011
Consumer Sales Manager
Vodafone
Co-Founder Piezoskin
lecce-brindisi@bocconialumni.it



COMO

Alessandro Gandolfi
Alumnus 1991
Managing Director
Head of Italy & Iberia – PIMCO
Europe LTD Italy Branch
como@bocconialumni.it



HANOI

Riccardo Bianco Levrin
Alumnus 1987
Owner Bianco Levrin Riccardo Srl
hanoi@bocconialumni.it



FIRENZE

Gianfranco Ghilardi
Alumnus 1993
Owner Studio Ghilardi
firenze@bocconialumni.it



LECCO E SONDRIO

Leonardo Milani
Alumnus 1988
Partner Studio Milani Dottori
Commercialisti
lecco@bocconialumni.it



COPENHAGEN

Gert Mortensen
Alumnus 1993
Director, BDO Corporate Finance
BDO Danmark
copenhagen@bocconialumni.it



HONG KONG

Stefano Passarello
Alumnus 2004
Managing Director Corporate
Services
Hawksford
hongkong@bocconialumni.it





MADRID

Andrea Carissimo
Alumnus 1990
Finance Advisor
CLEON Capital Adviser SL
madrid@bocconialumni.it



MUMBAI

Alessandro Giuliani
Alumnus 1988
Managing Director
SDA Bocconi Asia Center
mumbai@bocconialumni.it

LISBON
Tiago Sequeira
Alumnus 2011
Corporate Finance Associate
Banco de Investimento Global
lisbon@bocconialumni.it



MIAMI

Chiara Baldassarre
Alumna 2012
Global Investment Strategy
Millicom
miami@bocconialumni.it



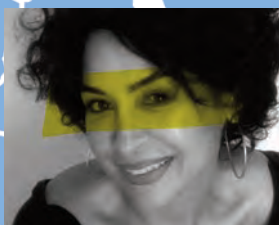
LONDON

Stefano Donati
Alumnus 2001
Partner CIV
london@bocconialumni.it



MONZA

Marco Mosconi
Alumnus 1993
Partner International Tax Moore
Stephens Professionisti Associati
monza@bocconialumni.it



LOS ANGELES

Mona Bavar
Alumna 2005
Founder & Principal
Cellar Door Consulting
losangeles@bocconialumni.it



MOSCOW

Angelo Sartoni
Alumnus 2000
Owner and CEO Alba Consulting
moscow@bocconialumni.it



LUXEMBOURG

Claudio Zucca
Alumnus 1993
Portfolio Manager
European Investment Bank
luxembourg@bocconialumni.it



NAPOLI

Sveva Polispermi
Alumna 2011
CEO Native Agency Srl
napoli@bocconialumni.it



MUNICH

Umberto Prandi
Alumnus 2005
Vice President, Account Management – PIMCO
munich@bocconialumni.it

“Bocconi has been a crucial experience for me, it has allowed me to internationalize my education. I started working in Munich thanks to contacts with the Bocconi community.” A very strong sense of belonging is what Bocconi provides, says Umberto. It is therefore natural “to share this experience, as an alumnus abroad and working as a Chapter Leader, making the Community network even more united and active.” In short, it means “raising awareness that your link with your alma mater does not stop when you graduate.” And, regarding international Chapter activities, he adds: “Bocconi is a well-known brand abroad. Representing the Community of alumni means having a great responsibility but also the chance to get in touch with important institutions, companies and local partners.”





NEW YORK

Mariafrancesca Carli
Alumna 1988
Managing Director
BDT & Company
newyork@bocconialumni.it

PADOVA-ROVIGO

Andrea Rizzi
Alumnus 2015
CFO & Board Member
THRON Spa
padova-rovigo@bocconialumni.it



PALERMO

Dario Marino
Alumnus 2006
Finance Professional
palermo@bocconialumni.it

PRINCIPALITY OF MONACO

Maurizio Cohen
Alumnus 1980
President Interlaw Monaco
monaco@bocconialumni.it



MARKETING TOPIC GROUP

Emanuele Acconciamezza
Alumnus 2005
COO Focus Management Spa
topic-marketing@bocconialumni.it

Heading the Marketing Topic Group since July, Emanuele describes two characteristics that are intrinsic to Topic Groups and their Leaders: "On one hand, it's a role of driving innovation, because they make sure the Community of alumni revolving around a topic can more easily get in touch with information and high profile cases," he explains. "On the other hand, it also requires observing the trends and needs of the community of reference." Furthermore, the commonality of professional interests contributes to converging the common values of being alumni even more: "I find that meeting also on the basis of our passions is a very high added value," continues Acconciamezza. "My being an alumnus means sharing values, identifying with Bocconi in its growth, its past and its future."



PARIS

Giovanni Di Francesco
Alumnus 1991
Partner
Dirigeants et Investisseurs
paris@bocconialumni.it

RIMINI

Sabrina Weissbach
Alumna 1997
Head of Events San Patrignano
rimini@bocconialumni.it



PAVIA

Roberto Perotti
Alumnus 2013
Program Manager
Mitsubishi Electric Hydraulics & IT
Cooling Systems Spa
pavia@bocconialumni.it

ROMA

Paolo Cuccia
Alumnus 1980
Chairman and CEO Gambero Rosso, CEO- Class Editori
roma@bocconialumni.it



PESCARA-CHIETI

Guglielmo Lancasteri
Alumnus 1984
Founder Studio Lancasteri
Corporate and Tax Consulting
pescara-chieti@bocconialumni.it

SAN FRANCISCO

Pietro Bonanno
Alumnus 2006
Director of International Sales and Business Development
Hydrotech Engineering S.r.l.
sanfrancisco@bocconialumni.it





STOCKHOLM

Maurizio Fausti
Alumnus 1988
Business Controller
Hoist Finance
Strategic Advisor SWEDITA
stockholm@bocconialumni.it



TORONTO

Paola Floris
Alumna 2011
VP and Country General Manager
CHEP Canada
toronto@bocconialumni.it

SAO PAULO

Tomas Barrandeguy
Alumnus 2001
Procurement Manager Fibria
saopaulo@bocconialumni.it



SYDNEY

Anastasia Di Carlo
Alumna 2007
Associate Director
Investments Quentin Ayers
sydney@bocconialumni.it



TORINO

Marco Rimondi
Alumnus 2012
Owner M+ Consulting
torino@bocconialumni.it



SARDEGNA

Sergio Salis
Alumnus 1993
CEO and Owner Hum innovation
network - Brand of King Srl
sardegna@bocconialumni.it

VIENNA

Sergio Giannella
Alumnus 1997
Managing Director
Emporion GMBH
vienna@bocconialumni.it



WARSAW

Giacomo Passoni
Alumnus 2008
Relationship Manager
Central Eastern Europe (CEE)
PayPal
warsaw@bocconialumni.it



TICINO

Michele Cassiani
Alumnus 2001
Associate Director
Bank Vontobel AG
ticino@bocconialumni.it



VARESE

Ivan Spertini
Alumnus 1988
Partner KPMG
varese@bocconialumni.it



SHANGHAI

Pierluigi Giraudi
Alumnus 2001
CEO Asia Pacific
New Crazy Colors Srl
shanghai@bocconialumni.it

WASHINGTON D.C.

Claudia Pereira Da Conceição
Alumna 2012
Senior Econometric Consultant
Bates White Economic Consulting
washingtondc@bocconialumni.it



TOKYO

Kyoko Shinonaga
Alumnus 2002
Communication and Trade
Marketing Manager for Japan
Nestlé Waters
tokyo@bocconialumni.it



VERONA

Paola Berton
Alumna 1995
Studio Paola Berton
Law and Accounting
verona@bocconialumni.it



SINGAPORE

Valentina Salmoiraghi
Alumna 2006
Anticounterfeiting Advisor
Asia-Pacific International Trademark
Association (INTA)
singapore@bocconialumni.it

ZURICH

Omar Misuraca
Alumnus 2004
EM Trader
zurich@bocconialumni.it





PEOPLE & DIVERSITY TOPIC GROUP

Pietro Gaddi
Alumnus 1990
HR Senior Vice President Eni
topic-people@bocconialumni.it

“Being an alumnus is a way of life, roots that are never lost,” explains Pietro Gaddi. “It means acquiring strong values to which you remain bound, which nourish us at first and which we later convey. I rediscovered this sense of belonging during this second step, when I came back to the alma mater after a few years and I decided to give back a bit of what I had received.” People & Diversity Topic Leader Pietro explains that “thanks to the debate and networking that develops, the work of the Topic Groups is very important for providing a mental openness on the topic. I have worked for 28 years in HR and being Topic Leader is a great opportunity for growth.” Not only that, but provoking reflection on new aspects of one’s work “is also an incentive to keep up your relationship with the Bocconi Alumni Community.”

FINANCE & REAL ESTATE

Fabio Lombardi
Alumnus 2015
CFO & Rainmaker
Nuvolab srl
topic-financerealestate@
bocconialumni.it



FINANCE & REAL ESTATE

Piergiulio Dentice di Accadia
Alumnus 2009
Head of Real Estate Advisory &
Development Immobiliare
Percassi topic-financerealestate@
bocconialumni.it

ENERGY & UTILITIES

Pier Paolo Raimondi
Alumnus 1993
Managing Director
Finadvice AG
topic-energy@bocconialumni.it



DIGITAL & INNOVATION

Gianluca Colombo
Alumnus 2015
Solution Sr. Manager Italy & Iberia
Dell EMC
topic-innovation@
bocconialumni.it

FASHION LUXURY DESIGN

Alexandra Trosin
Alumna 2010
Managing Director
Club degli Orafi Italia
topic-fashion@bocconialumni.it



LEGAL

Piergiorgio Mancone
Alumnus 2004
Managing Partner
LegisLAB
topic-legal@bocconialumni.it

GOVERNANCE

Stefano Modena
Alumnus 1986
Managing Partner Governance
Advisors Srl
topic-governance@
bocconialumni.it



SPORT

Maurizio Cohen
Alumnus 1980
President
Interlaw Monaco
topic-sport@bocconialumni.it

HEALTHCARE

Giovanni Maria Soro
Alumnus 1994
Director General Provincia
Lombardo Veneta Fatebenefratelli
topic-healthcare@
bocconialumni.it



SUSTAINABILITY

Isabella Goldmann
Alumna 1987
Managing Partner
Goldmann & Partners
topic-sustainability@
bocconialumni.it

OPEN UP YOUR MIND AND FREE YOUR FUTURE.



**Limitless like a blue sky, knowledge brings fresh energy.
And infinite like a wide horizon, imagination boosts inspiration.**

Together, knowledge and imagination have the power to expand vision, improve lives and fuel organizations and society at large with drive and commitment. Based in Milano, Italy's hub of culture and innovation, SDA Bocconi School of Management fosters the development of individuals and organizations by creating and disseminating innovative managerial knowledge and skills: from **Research to Executive & Custom Programs**, from **MBA & Master** to **Doctoral Programs**, empowering lives for a better future.

SDABOCCONI.IT

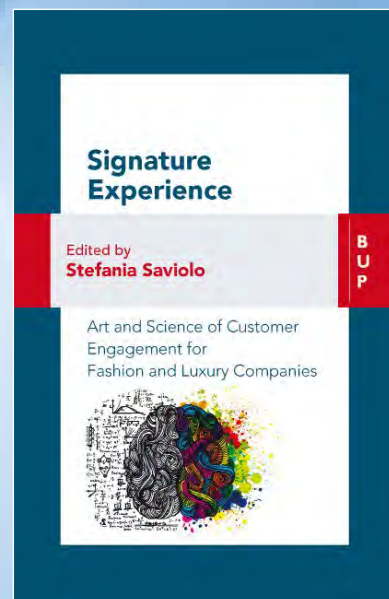
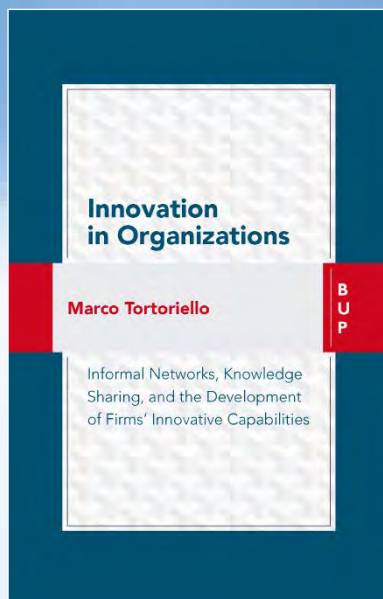
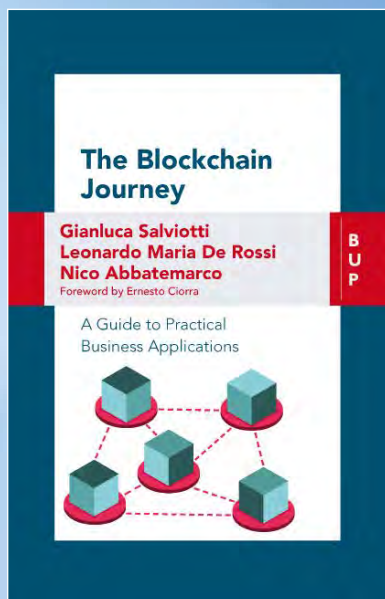
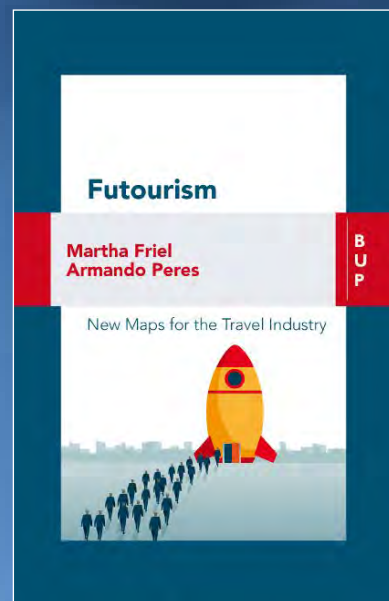
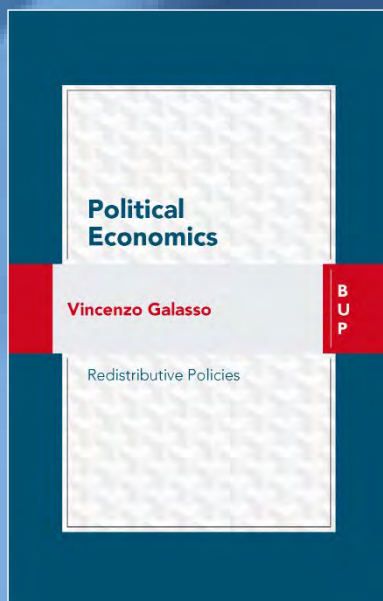
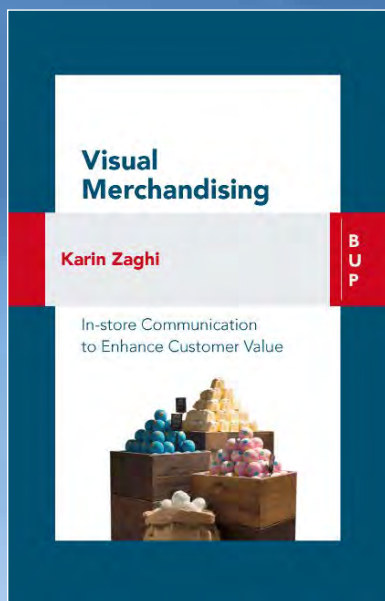


Bocconi
School of Management

MILANO | ITALY

SDA Bocconi

BOCCONI UNIVERSITY PRESS



Follow Egea on



30^e Egea
dal 1988
spazio alle idee

www.egeaeditore.it