



Toulouse
School of
Economics



Research
+ Partnerships

Impact 2022

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From top to bottom:
Panel discussion during the Yale-TSE Regulating the Digital
Economy Workshop on May 13
K. Van Der Straeten, a TSE researcher involved in research
partnership activities
View of the Jean-Jacques Laffont Auditorium

STANDING ON THE SHOULDERS OF A GIANT

TSE founder Jean-Jacques Laffont promoted an approach to research combining theory and facts in pursuit of the common good. His scientific and humanist values continue to shape the way in which TSE engages with private corporations and public institutions.



The TSE-Partnerships Foundation (TSE-P) helps to advance and transmit knowledge in economics and related disciplines to address today's societal challenges. Following in Jean-Jacques' footsteps, TSE researchers involved in research partnerships aim to empower decision-makers with the scientific knowledge and tools to identify and implement well-informed, impactful decisions. We are deeply grateful to our partners who have supported TSE over the years and pushed TSE research beyond the frontiers of current knowledge.

In a new condensed format, this annual report celebrates a busy year of productive interactions with decision-makers. It is divided into four main sections:

"2022 AT A GLANCE" including key figures, an overview of recent highlights, and Nobel laureate Jean Tirole's thoughts on the development, strategy and ambitions of research partnerships;

"PARTNERSHIP IMPACT: RESEARCH ADVANCES & OUTREACH", sharing key research advances and outreach activities stemming from our partnerships, as well as TSE's special efforts to engage with regulators;

"OUR RESOURCES: RESEARCH PARTNERS & PEOPLE", offering an overview of our partnerships and research teams;

and "RESEARCH PARTNERSHIPS IN THE TSE ECOSYSTEM", sharing additional opportunities for our partners to support and benefit from TSE activities.

Many thanks to the partners and research teams who have worked hard to make 2022 a successful year for research and outreach. Let's develop research partnerships in the same spirit as we face the challenges ahead. We have high expectations for 2023!

Yassine Lefouili,
Director, TSE-Partnerships Foundation (TSE-P)
Professor, Toulouse School of Economics (TSE)

2022 at a glance

KEY FIGURES

33 partners
(corporations, institutions and foundations)



11 new or renewed partnerships in 2022

9 partnerships now running for **10 years or more**

65% of partnerships agreed for **3 years or more**

126 researchers involved in partnerships



€5M dedicated to research projects and centers



6 research centers (platforms for developing partnerships)



18 workshops and conferences organized with the support of research partners



91 scientific publications offering guidance for decision-makers



SNAPSHOT OF 2022

An intense year, marked by major scientific advances and events promoting research and outreach in a wide range of economics fields: digital, energy and climate, sustainable finance, health, competition policy and regulation.

APR

TSE, April 7-8

Postal economics in the digital age

How should regulation of the postal sector respond to Big Tech dominance and environmental concerns? The 11th edition of the Postal Economics Conference, part of an ongoing partnership between TSE and La Poste Groupe, addressed many of the digital, media and e-commerce challenges facing society today.

[Learn more](#)



L. de La Raudière (Arcep) and P. Wahl (La Poste Groupe)

MAY

TSE, May 12-13

Partnership with the Tobin Center at Yale

As policymakers around the world confront the difficult issues about how to regulate large digital platforms, the TSE Competition Policy & Regulation Center and the Digital Economy Project at Yale's Tobin Center for Economic Policy convened top researchers to advance our understanding of digital markets and provide practical insights for policy. The program also included discussions with guest speakers from Microsoft and the European Commission.

[Learn more](#)



TSE, May 18

Initiative for Corporate Climate Action

Sponsored by Getlink (formerly Groupe Eurotunnel), TSE launched a two-year research and exchange project to study the effectiveness of corporate climate action.

[Learn more](#)



MAY

TSE, May 19

Networking with partners at the Common Good Summit

Debates at the Summit this year focused on climate, inflation, transport, aging and AI with prestigious speakers including three Nobel laureates, EU Commissioner Margrethe Vestager, as well as industry leaders from Amazon, AXA, BNP Paribas and many more. Our partners were invited to join the speakers at a private cocktail party at the end of the first day.



JUL

Seville, July 8

Strengthening links with the European Commission

A one-day workshop, organized by the Joint Research Center (JRC) of the European Commission and TSE, brought together academics, policymakers, and practitioners who discussed the latest developments on liability in digital economy. The two central topics tackled by the speakers and panelists (including a representative from Meta) were AI & liability, and platform liability.



[See the program](#)

OCT

Brussels, October 27

TSE brings together national competition authorities

With the help of the Belgian Competition Authority, the TSE Competition Policy & Regulation Center organized a workshop bringing together four chief economists from national competition authorities in Europe and four TSE faculty members. This was an occasion for informal discussion and brainstorming about antitrust-related topics of interest to policymakers and practitioners such as competition policy and inflation, net neutrality and fair cost sharing, and sustainability.



G. Jans (Belgian Competition Authority)

OCT

TSE, October 20-21

Managing risk in the 21st century

What are the best tools for managing risk, from climate change to aging populations and pandemics? How should we regulate insurance markets in the interests of consumers, firms and society? The SCOR-TSE Conference showcased some of the latest attempts by economists to answer such questions. The SCOR "Risk Markets and Value Creation" Chair, which supplements the work of the TSE Sustainable Finance Center, has supported on the regulation of insurance markets and risk since 2008.

[Learn more](#)



P. Trainar (SCOR Corporate Foundation for Science) and C. Gollier (TSE)

NOV

Joining the fight against antibiotic resistance

TSE researchers revealed the first results of a research project which aims to identify new economic models adapted to innovations developed in the antimicrobial resistance sector. They showed that transferable exclusivity vouchers can be implemented at the EU level in a timely fashion while avoiding free riding. These results benefited from many interactions between researchers and other actors within the ecosystem.

[Read the full policy paper](#)



DEC

TSE, December 15-16

Research in support of financial inclusion

The winning research teams of the first FIT IN Initiative's call for projects met in Toulouse and shared their findings at a workshop on mobile money. Part of a four-year project funded by the Bill & Melinda Gates Foundation, this was another important step towards building an international research community committed to constructively influence the design and regulation of interoperable digital financial services in poorer countries.

[See the program](#)



TSE IS FOR TEAMWORK

Scientific Director of TSE-P, Jean Tirole shares his thoughts on the year's highlights and on the challenges for research partnerships at TSE.



What is your overall assessment of 2022?

In 2022 we expanded our efforts to produce and share cutting-edge **research findings on issues of critical interest to our governments and economic players**. For example, in both the debate around the energy crisis and the global fight against antimicrobial resistance, TSE researchers mobilized the results of research conducted over several years and developed under the impetus of our private and public partners. High-level research requires time to develop so it is important to identify impending questions in advance to make it as relevant as possible. In times of crisis, we have demonstrated our ability to inform public debate and decision-making.

In this context, what are your key concerns for TSE?

TSE strives to attract the best researchers in a global context dominated by intense competition among universities. Fortunately, our research partnerships and public and corporate support help to **make TSE increasingly attractive to the best international researchers**. In addition to new

intellectual challenges, research partnerships bring in funding that is essential for making long-term investments in human capital. By human capital, I mean both researchers and the staff that provide them with an optimal working environment in which their research can thrive. Besides funding, partnerships often suggest **innovative research fields** that had been neglected in academia. Sustaining and developing research partnerships over the long term is therefore a strategic choice for our institution.

Equally important is the preservation of TSE **scientific integrity**. The lasting success of TSE research partnerships is built upon **high ethical standards**. As stated in our charter, the originality, objectivity, non-partisanship and scientific rigor of the research undertaken by researchers at TSE are among its most important assets. The credibility of TSE's research hinges on its independence, its ability to freely publish, and the validation of much of this research in top peer-reviewed academic journals. It's our duty as researchers to never let our guard down.

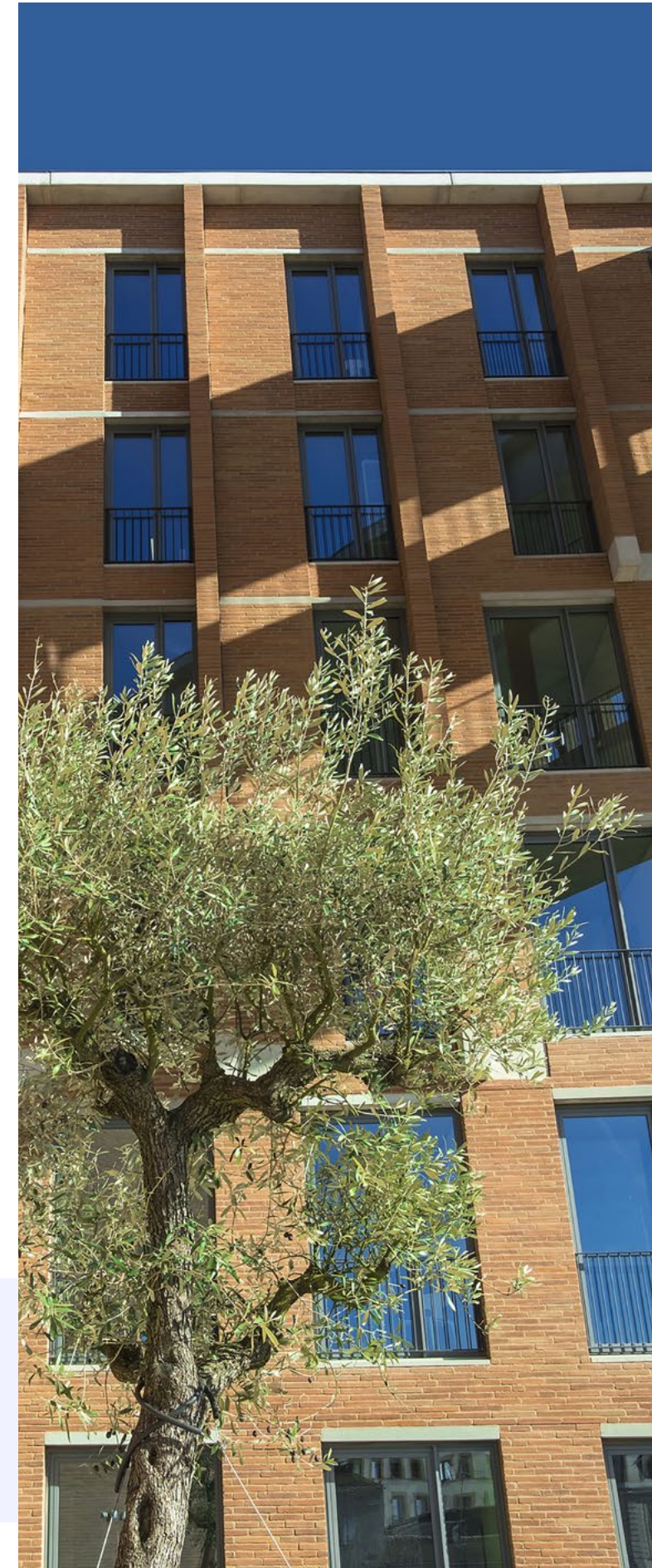
A word about the future?

In the coming years, TSE will aim to **strengthen its already solid bond** with decision-makers. Our ongoing collaborations with actors from the business world and public institutions will be key to the future development of TSE. As our students and programs gain further visibility and our reputation for education becomes as international as it is for research, we will also be able to rely more on our growing community of **alumni**, which is an incredible opportunity for TSE.

On a different note, I would be happy to see more research partnerships in development economics. This field was dear to Jean-Jacques Laffont and TSE has been collaborating with the French Development Agency for many years. Thanks to the support and guidance of the Bill & Melinda Gates Foundation, we have expanded our expertise in this field with the FIT IN Initiative, and I hope that we will continue to do so. Without overstressing our human resources, I would also like us to continue to **diversify the pool of partners**. It's an efficient way to **identify innovative research topics** at an early stage and to **leverage our impact** on a variety of issues.

Lastly, we can expect a very positive impact on research partnerships from TSE's increased autonomy as it takes on **Grand Etablissement** status, and from the integration of IAST, our interdisciplinary sister school, among TSE's research departments. In the future, we should be able to even more easily put together **multidisciplinary and interdisciplinary** research teams for research partnership projects. We should also aim to **involve more practitioners in the training** of our students to better prepare them for the challenges ahead. I am convinced that we must be able to rely on our community of research partners to achieve this goal.

I could sum it all up in one sentence: working together makes a real difference!



Partnership impact: Research advances & outreach

The research developed in the framework of bilateral research partnerships is usually linked to TSE research centers. Rather than detailing each bilateral project and initiative, this section showcases the impact of our partners' support through the lens of our Centers.

TSE Research Centers

TSE's first research center was launched in 2017. Other centers have since emerged, bringing the total to six.

Objectives of the Centers

Bring together TSE's scientific expertise within a given area

Organize TSE's contribution to public debate

Facilitate relations with partners and policymakers



Digital Center

Leading the way in digital economics research

Health Center

Enabling health economics research to flourish

Sustainable Finance Center

Exploring the world of sustainable finance

Energy & Climate Center

Rising to environmental challenges

Infrastructure & Network Center

Building infrastructure and networks

Competition Policy & Regulation Center

Sharing our expertise with regulators

Leading the way in digital economics



TSE Digital Center was created in 2018, as a continuation of the Jean-Jacques Laffont Digital Chair. Its teams develop research aimed at improving the understanding of the opportunities and risks of the digital economy. The Center's research areas include **analytics and economics of Big Data, AI and society, digital, platforms, financial technologies and digital market, and intellectual property in the digital economy.**

the last year in the context of the proposed Digital Markets Act. At the same time, as part of the Center's commitment to anticipate the future needs of society, much of our attention has also been devoted to identifying ground-breaking issues in the field of digital economics, from industrial data-sharing to economic issues related to cloud computing."

Christophe Bisière and Jacques Crémer*
Co-directors, TSE Digital Center

“In many ways, 2022 was a year of consolidation for TSE Digital Center: a time to build on past achievements and focus on producing and delivering research results for more people. The dialogue between TSE researchers and decision-makers from the public and private sectors has intensified over

* Former Scientific Director of TSE Digital Center, Jacques stepped in as Co-director in February 2023, replacing Bruno Jullien who led the Center alongside Christophe for three years.



Key numbers
for 2022

13

articles in peer-reviewed journals

8

working papers

61



researchers

34



scientific events for a total of 1,220 attendees

11

related partnerships



Research advances | Examples of publications in each of the Center's research areas

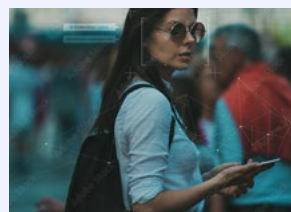
Artificial Intelligence and society

Our objective is to investigate the ethical expectations that citizens and consumers hold to smooth the transition to the new AI society. We conduct research in the high-stakes domain of algorithmic justice and study areas in which AI and powerful algorithms can redesign the social fabric.

Program leader:
Jean-François Bonnefon

Would you let a machine score your morals?

Attitudes to artificial intelligence swing quickly from excitement to dystopian dread. TSE Digital Center provides a more measured response, helping regulators to consider the social acceptability of digital technologies and ethical concerns about privacy, surveillance, and discrimination. In this paper, **Zoe Purcell** and **Jean-François Bonnefon** suggest that applications such as AI social scoring will run into persistent psychological barriers.



“Humans Feel Too Special for Machines to Score Their Morals”, TSE Working Paper n. 22-1387, November 2022

Financial technologies and digital markets

This program analyzes the implications of key features of FinTech and cryptocurrencies, and their impact on social welfare. We study the design of markets, institutions and regulations to mitigate coordination problems, information asymmetries and other market failures.

Program leader:
Christophe Bisière

What is the fundamental value of cryptocurrencies?

Do the high market valuations of cryptocurrencies reflect their fundamental value or speculation? Is their volatility caused by irrational investors? **Bruno Biais, Christophe Bisière, Matthieu Bouvard, Catherine Casamatta** and **Albert Menkveld** investigate the impact of transactional costs and benefits, as well as extrinsic volatility, on cryptocurrency prices.



“Equilibrium Bitcoin Pricing”, *The Journal of Finance*, vol. 78, n. 2, April 2023

Digital platforms

Research in this program is centered on understanding the business models of platforms and their impact on society and welfare. We hope to shed light on the functioning of platform markets and offer policy recommendations regarding the regulation of such markets.

Program leader:
Doh-Shin Jeon

Does social media deliver bad news?

The explosive rise of social media is reshaping the news, for both producers and consumers. **Alexandre de Cornière** and **Miklos Sarvary** examine platforms' role as aggregators and curators of online content. In particular, they analyze the implications for news quality.



“Social Media News: Content Bundling and News Quality”, *Management Science*, vol. 69, n. 1, January 2023

Intellectual property in the digital economy

The goal of this initiative is to offer a better understanding of intellectual property protection and transfer in the digital economy. We analyze patent litigation involving IoT players and the licensing of intellectual property to manufacturers of connected devices. Our researchers assess the economic effects of making platforms liable for intellectual property infringements by third-party users.

Program leader:
Yassine Lefouili

Should platforms block sellers of fake goods?

Should e-commerce giants like Amazon and eBay be held to account for illegal knock-offs sold by third parties on their platforms? **Doh-Shin Jeon, Yassine Lefouili** and **Leonardo Madio** investigate the impact on innovation and consumers of forcing platforms to ban third-party sellers who break intellectual property laws.



“Platform Liability and Innovation”, TSE Working Paper n° 22-1361, September 2022

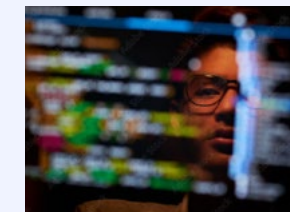
Analytics and economics of Big Data

With the help of mathematicians, our economists develop optimization techniques, applied econometric tools and game-theory concepts that help us to handle high-dimensional random phenomena. We study data-related issues such as privacy protection, data markets, and the impact of data on competition.

Program leader:
Sébastien Gadat

Optimizing portfolio returns while managing risk

How can investors best allocate resources given the risk of occasional catastrophic losses that spark financial crisis? Conditional value at risk (CVaR), also known as expected shortfall, quantifies this risk by taking a weighted average of extreme losses in the tail of possible returns. Using a “stochastic mirror descent” algorithm, **Sébastien Gadat, Manon Costa** and **Lorick Huang** solve the problem of optimal portfolio allocation with CVaR constraints and sophisticated financial assets **in a context of streamed data. Their approach allows them to build online the Markovitz efficient frontier (CVaR vs Optimal return) associated with the portfolio optimization problem.**



“Portfolio optimization under CV@R constraint with stochastic mirror descent”, TSE Working Paper, n° 22-1342, June 2022

Scientific events

Keynote presentations

We could not hold the 15th **Digital Economics Conference** in January 2022 because of the pandemic. The organizers decided to maintain two presentations, delivered online on January 14. These sessions were well attended and positively received by a global audience. Drawing on his research on innovation and firm performance, **John Van Reenen (London School of Economics)** examined **the rise of superstar firms**. Combining economics and computer science, **Giacomo Calzolari (European University Institute)** focused on the **recommendation technologies** exploited by many of the 21st century's new behemoths.

[▶ See the videos](#)



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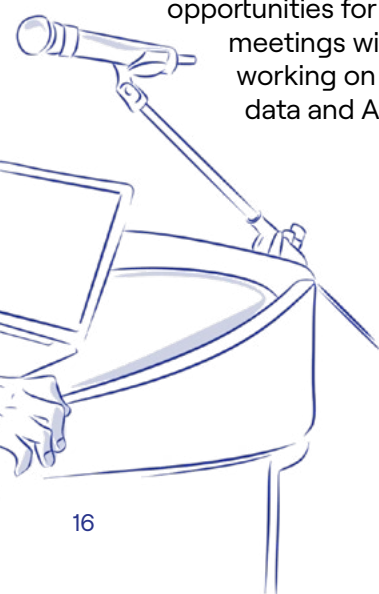
*In 2022 we welcomed speakers from very different horizons. In June, for example, **Ariel Pakes (Harvard)** presented his work on AI pricing algorithms and **Stefan Hunt (UK Competition and Markets Authority)** gave a talk on the digital transformation of competition and consumer agencies.”*

Daniel Ershov (TSE)
Co-organizer of the workshops

11 digital workshops

Organized by Daniel Ershov and Doh-Shin Jeon, these workshops covered a broad range of topics such as **AI, cybersecurity, privacy and data, digital platforms, social media and fintech**. Attracting a broad group of faculty and PhD students, the workshops also offer a framework for **interactions with practitioners in the private sector and researchers** in various disciplines.

In addition to giving talks, speakers have opportunities for one-on-one meetings with TSE researchers working on digital markets, big data and AI.





19 seminars on the economics of platforms


Hosted by TSE Digital Center, these virtual seminars covered **all aspects related to platform economics including competition, strategy, design, governance, and policy issues**.

Other scientific events

TSE Digital Center has also collaborated with other TSE Centers in the organization of scientific events, some of which are presented in other sections of this report.

 Yale-TSE Regulating the Digital Economy Workshop
TSE, May 12–13

 Workshop on Mobile Money Interoperability with the FIT IN Initiative
TSE, December 15–16

 JRC-TSE Workshop on Liability in the Digital Economy
Seville, July 8



F. Scott Morton (Yale School of Management) and J. Tirole (TSE)



“

*Many thanks to my co-chairs **Andrei Hagiu (Boston University)** and **Julian Wright (National University of Singapore)**, and all members of the scientific committee for their commitment to making this seminar series a success. Among this year's speakers, we had the pleasure to welcome **Ben Casner (Bureau of Economics, Federal Trade Commission)** for a presentation on content-hosting platforms in March.”*

Jacques Crémer (TSE)
Co-chair of the seminars

[▶ See the videos](#)

Policy-oriented engagements

TSE researchers participated in a wide range of **expert groups** in 2022. For example, Doh-Shin Jeon has been an active member of the expert group of the **European Commission's** observatory on the online platform economy. Also at the European Commission, Jean-François Bonnefon was an advisor in the steering committee of an initiative on Meaningful and Ethical Communication, created to examine the relationship

between online technologies and political behavior, as well as understanding values and identities. Yassine Lefouili acted as an expert for the European Commission in the context of the Digital Services Act. On a national level, Jacques Crémer served on the scientific council set up by **France Stratégie** to evaluate the consequences of the French plan to subsidize access to high-speed internet (PFTHD).

Our researchers have also been involved in many **policy-related events**. A notable example was Jacques Crémer, who chaired a roundtable at a **Ministry of Finance event** organized in February to mark the French presidency of the European Union. Participants included Commissioner Margrethe Vestager, Brad Smith from Microsoft, and Cedric O, the French Minister in charge of Digital affairs.

Contributions to the public debate

TSE researchers have contributed to the public debate in several ways. On top of the media exposure generated by their research results, they took part in efforts to disseminate scientific knowledge at the Common Good Summit and on the Crossing Channels podcast series.

Common Good Summit

The latest edition of the Summit, organized by Challenges magazine and TSE in Toulouse on May 19-20, included two sessions focused on digital issues:

“When digital goes a click too far”

Jean Tirole (TSE) and Margrethe Vestager (European Commission) exchanged ideas in a debate on how best to regulate the digital world. Their discussion gave credit to the pioneering role of Europe with the Digital Services Act, Digital Markets Act, and the General Data Protection Regulation (GDPR), and underlined the need for regulation on a global scale.

[▶ See the video](#)



Panel with M. Vestager (European Commission)

“AI: Opportunity or threat?”

How do we harness the potential of digital technologies to serve the common good? Should there be limits to the collection and sharing of personal data? How can we regulate the “innovation machine” without breaking it? These were some of the key questions discussed by **Jean-François Bonnefon (TSE)**, **Marc-Antoine Dilhac (University of Montreal)** and **Didier Mamma (Vice-President of Data Value Creation, Decathlon)**.

[▶ See the video](#)

Crossing Channels podcast

Crossing Channels is a monthly podcast series produced by the Bennett Institute for Public Policy (Cambridge) and Institute for Advanced Study in Toulouse (IAST, TSE’s sister institution) to give interdisciplinary answers to today’s great challenges. Three episodes addressed digital topics in 2022.

Can AI be ethical? (S 1, Ep 3, January): Jean-Francois Bonnefon and Daniel Chen (IAST) joined Diane Coyle (Bennett Institute) to discuss why we need to care about the morality of artificial intelligence (AI) and whether there is a double standard for AI and humans.

Broadband before bridges: Can digital technologies leapfrog the obstacles to development? (S 1, Ep 4, January): Stephanie Diepeveen, Rehema Msulwa (Bennett Institute), and Stéphane Straub (TSE) considered emerging digital divides and the impact of American and Chinese tech giants on development.

Has digital technology made us better off? (S 2, Ep 1, October): Diane Coyle (Bennett Institute), Jacques Crémer (TSE), and Jean Tirole (TSE-IAST) explore why the era of smartphones and social media has also been an age of sluggish economic growth.

[▶ Listen](#)

Doctoral student research grant

In 2022, the TSE Digital Center awarded a scholarship to Luise Eisfeld. Her main areas of expertise are empirical industrial organization and the economics of digitization.



“*In my thesis, I study competition and innovation in the context of digital markets. More broadly, I explore the implications of digitization for market outcomes and welfare.”*

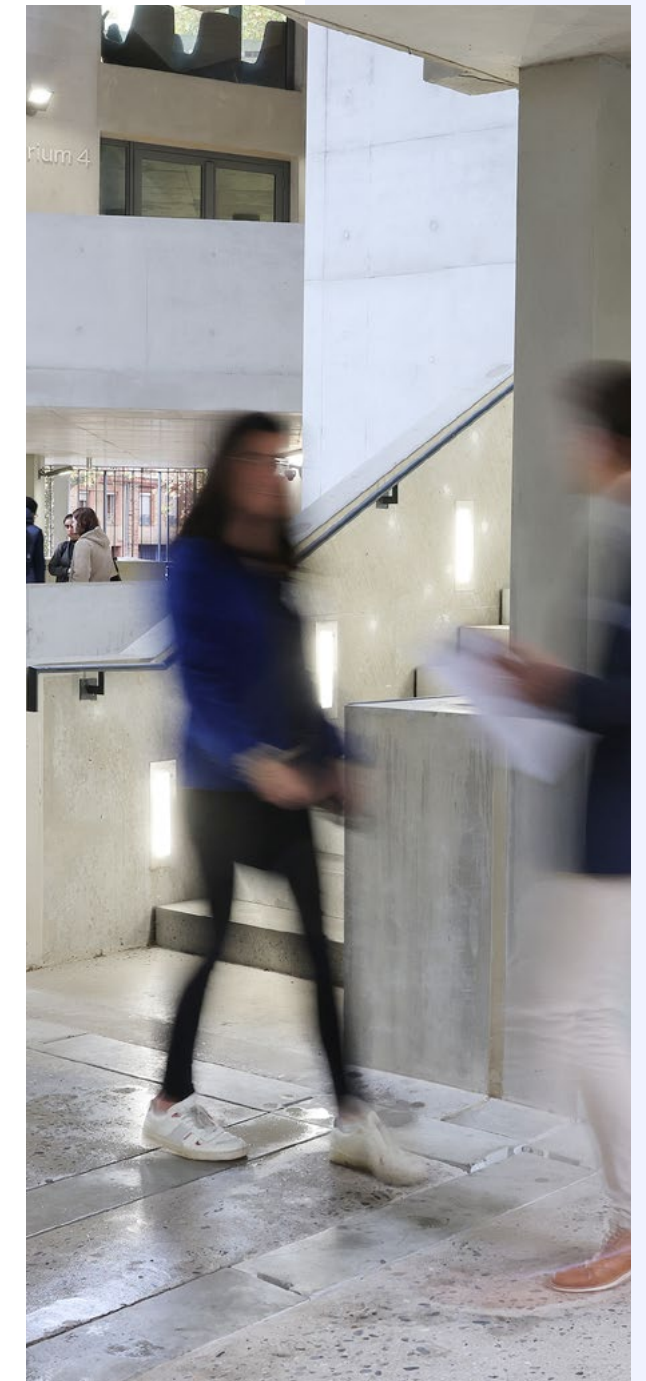
Luise Eisfeld

Advisory Board

The primary role of the advisory board is to provide advice and support for the development and dissemination of the Center’s activities. It meets once every two years, and is composed of TSE researchers, three representatives of the Center’s corporate donors (Airbus, Ant Group - Luohan Academy, and Orange), and two external members (Andrei Hagiu from Boston University’s Questrom School of Business and Nestor Duch-Brown from the European Commission’s Joint Research Center). It meets every two years.

Partners for specific research projects

Airbus, Amazon, Ant Group - Luohan Academy, BBVA, Bill & Melinda Gates Foundation (for the FIT IN Initiative), Huawei, Orange, Causality Link, La Poste Groupe, Meta, Microsoft.



More information at www.tse-fr.eu/digital
Scan the QR Code



TSE Energy & Climate Center was set up in 2017 to promote research in energy and climate economics. Its aim is to take research one step further and use scientific findings to guide policy in the energy sector and inform decision-making related to environmental issues such as climate change. This research implies knowledge sharing on the institutional framework, empirical observations, and basic theoretical modelling. Research at the Center revolves around the **economics of energy industries** and the **economics of natural resources and the environment**.

reputation and our connections with other researchers in the field by inviting them to Toulouse and participating in high-level academic networks in environmental and energy economics. In the context of the energy crisis and climate events of 2022, the Center has worked hard to share insights into the economics behind pressing questions related to energy prices and climate goals. Our members have been extremely active participants in the public debate, with regular contributions to the media and outreach events. We intend to continue in the same dynamic in 2023."

“ In 2022, our economists produced world-class research on energy and environment issues. We strengthened the TSE Energy & Climate Center's


Stefan Ambec
Director, TSE Energy & Climate Center



Rising to environmental challenges



Key numbers for 2022

13 
articles in peer-reviewed journals

12 
working papers

48 
researchers

23 
scientific events and a total of 558 attendees

5 
related partnerships

Research advances | Examples of publications in each of the Center's research areas



“The energy crisis which hit European energy and electricity markets has reminded us of the importance of finding efficient energy allocation and regulation rules for our collective prosperity. Our Center is at the core of scientific research in this domain.”

Christian Gollier
Scientific director, TSE Energy & Climate Center

The economics of energy industries

Our researchers investigate how the energy transition modifies energy markets and the industrial organization of the sector. We identify market designs and pricing mechanisms that insure a reliable supply of clean energy for electricity provision and transportation. We also focus on wholesale and retail markets, network tariffs and international trade.

Supergrids need the power of cooperation

Rampant energy prices and Russian aggression, coupled with the threat of climate catastrophe, have heightened the pressure to improve energy efficiency. The TSE Infrastructure & Network Center supports research on how to achieve such gains by sharing access and long-term investments in utilities. International electricity networks offer great promise but **Claude Crampes** explains that reaping their full benefits will require coordination to go far beyond the physical construction of cross-border links.



“Decentralised Cross-Border Interconnection”, *The Energy Journal*, vol. 44, n. 4, 2023

The economics of natural resources and the environment

In this program, our goal is to analyze public policies and business strategies that aim to decarbonate economic activities and improve the environment. We evaluate their impact on the economy, health, biodiversity and the climate, providing recommendations and impact evaluations to practitioners and policymakers.

Can Europe plug its carbon leaks?

How can the EU pursue ambitious net-zero targets without fueling carbon emissions overseas? This report by **Stefan Ambec**, Director of TSE Energy & Climate Center, provides an economic analysis of its proposed Carbon Border Adjustment Mechanism (CBAM). He discusses the likely impacts of the policy and some of the challenges regulators still need to address.



“The European Union's Carbon Border Adjustment Mechanism: Challenges and Perspectives”, TSE Working Paper n. 221365, September 2022

Is it time to tax meat?

Despite the huge impact of the meat industry on the environment and our health, governments have paid little attention to its unsustainable global trajectory. To help policymakers evaluate the tools they might use to steer firms, innovators, and consumers on to the path of the green transition, **Nicolas Treich** and his coauthors review the empirical evidence on the true costs of livestock farming and examine the politically charged case for taxing meat consumption.



“Toward Optimal Meat Pricing: Is It Time to Tax Meat Consumption?”, *Review of Environmental Economics and Policy*, vol. 16, n. 2, July 2022

Can the precautionary principle light the way ahead?

As our actions continue to heat the planet, we may trigger tipping points that accelerate the onset of climate catastrophe. Examples include the collapse of the West Antarctic ice sheet, or mass die-off of coral reefs. Faced with such risks, the precautionary principle has often been invoked as a guide to decision-making. It suggests we should refrain from undertaking any action if there is no proof it would not harm future generations' well-being. Louise Guillouët and **David Martimort** examine possible foundations for this principle in a world of irreversible risks, limited information and opportunists.



“Acting in the darkness: some foundations for the precautionary principle”, TSE Working Paper, July 2022

Scientific events

20 environment economics seminars

Featuring both theory and empirical work, the seminar series covered issues such as the **impact of climate change on capital and labor allocation**, the **substitutability of primary and secondary forests**, and the **design and evaluation of public policies**.

“

*Presentations at the seminar addressed major issues in environmental economics. Presentations at the seminar addressed major issues in environmental economics. For example, **Mar Reguant from Northwestern University** presented her work on the dynamic impact of market integration. She showed how expansions of Chile's electric grid led to the connection of new renewable energy capacity. That came with reduction in generation cost and CO2 emissions. Interestingly, the renewable investments anticipated the connection and the effect of market integration would have been underestimated by classical empirical methods.*”

Anouch Missirian (TSE)
Chair of the seminars



N. Fabra (Universidad Carlos III de Madrid)

13th Conference on the Economics of Energy and Climate

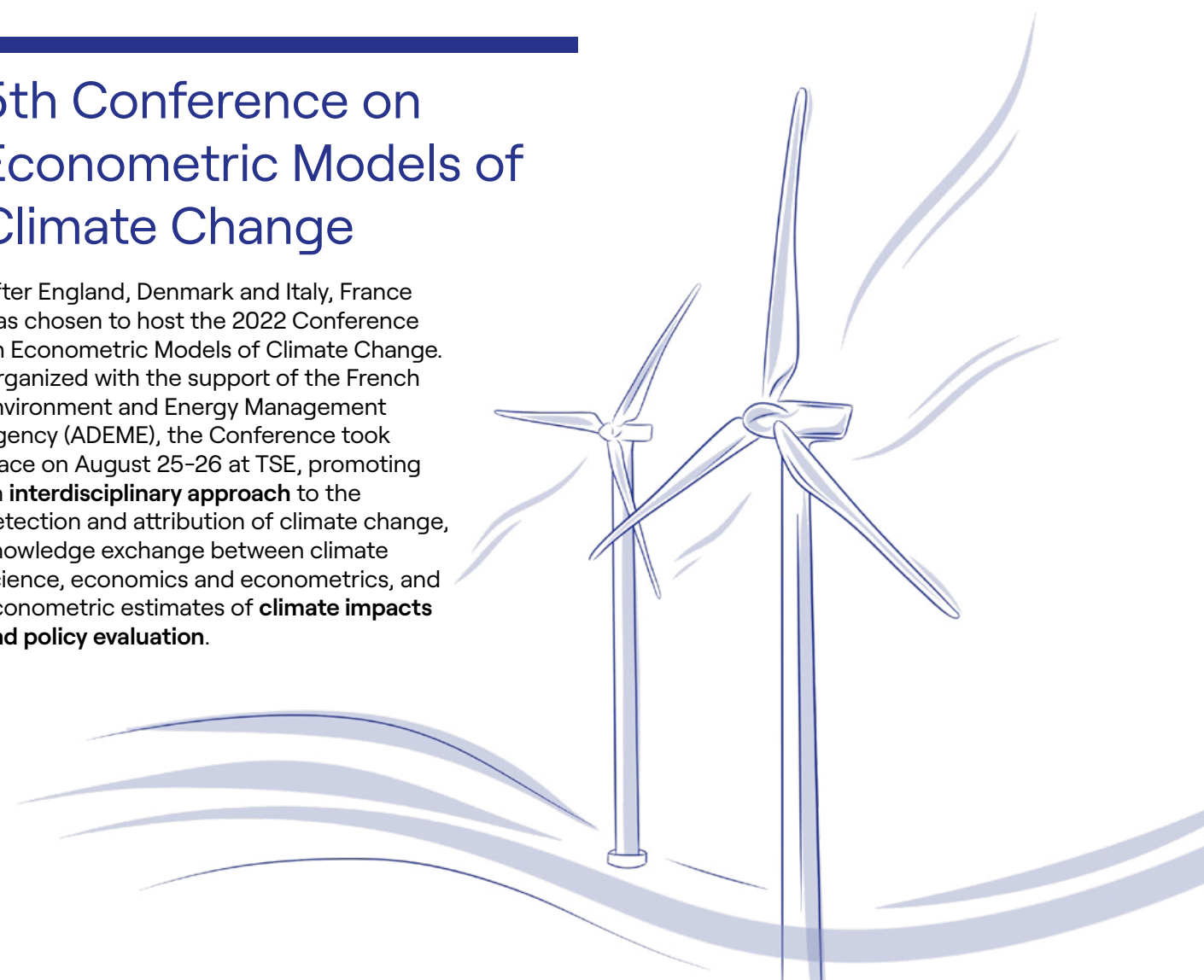
On June 15-16, the Center hosted the biennial energy and climate academic conference, gathering internationally renowned economists in Toulouse. In keeping with the spirit of previous years, the conference featured **theoretical, empirical, experimental and policy-oriented contributions**, with the participation of the Center's partners. Over 37 academic presentations covered a **vast spectrum of topics** including organization of energy markets, climate policies and finance, renewables and network reliability, subsidies in energy markets, electricity prices, air pollution, and carbon pricing. The conference featured two keynote speeches: Natalia Fabra (Universidad Carlos III de Madrid) explained the efficiency and distributional implications of real-time pricing for electricity, while Tatyana Deryugina (University of Illinois) presented research on the number of lives saved by reductions in fossil fuel use. This conference was organized with the support of the EU-funded GEOCEP project.

Energy workshop

This workshop is organized by TSE, Universidad Carlos III (UC3) and the Barcelona School of Economics. In 2022, it was UC3's turn as host, welcoming energy economists from all three institutions to Madrid on March 23-24.

5th Conference on Econometric Models of Climate Change

After England, Denmark and Italy, France was chosen to host the 2022 Conference on Econometric Models of Climate Change. Organized with the support of the French Environment and Energy Management Agency (ADEME), the Conference took place on August 25-26 at TSE, promoting an **interdisciplinary approach** to the detection and attribution of climate change, knowledge exchange between climate science, economics and econometrics, and econometric estimates of **climate impacts and policy evaluation**.



Policy-oriented engagements

Christian Gollier is a member of the independent **Franco-German Council of Economic Experts (FGCEE)** which supports the coordination of economic policy to promote convergence between the two countries and improve the competitiveness of their economies. The Council meets regularly to discuss and make recommendations to the German and French governments on bilateral topics including energy and climate policy, digitization, artificial intelligence, and innovation and industrial policy. Christian also spoke at a Zoom roundtable on “The Sustainability Transition in Europe and

Opportunities for Australia” organized by the Australian France Business Association and the German Australian Business Council in March.

In 2022, Christian Gollier also served on the scientific committee of the **Citizens Climate Lobby**.

Stefan Ambec gave a presentation on “The energy transition with intermittent renewables” at the online seminar of the DG Energy Chief Economist (**European Commission**).

Contributions to the public debate

Common Good Summit

Pascal Canfin (Chair, Committee on the Environment at the European Parliament), business leaders from BNP Paribas, ExxonMobil Europe, Getlink, Pierre Fabre, SNCF Gares & Connexions, and TSE researchers Isis Durrmeyer, Christian Gollier and Jean Tirole discussed the societal, environmental and economic challenges at two sessions of the Common Good Summit (organized by *Challenges* magazine and TSE).

- ▶ [Reducing our carbon footprint](#)
- ▶ [Achieving carbon neutral growth](#)



Y. Leriche (Getlink)

I. Alger (TSE, IAST)



In addition to outreach events organized by TSE, our researchers spoke at several conferences. For example, at **Futurapolis**, an event dedicated to ecological innovation and organized by *Le Point* magazine and Toulouse Métropole on November 24-26, TSE's Ingela Alger shared the floor with Laurent Terray (Cerfacs, Toulouse), Guillaume Martinaud (Chair of Orpi real estate network and co-author of the 6th GIEC report) and Nicolas Misiak (Toulouse city council) to discuss the **measures and sacrifices required to save the planet**. Christian Gollier, meanwhile, joined Marc Benayoun (EDF) to answer the question "**Can frugality be happy?**".

Advisory Board

The primary role of the advisory board is to provide advice and support for the development and dissemination of the Center's activities. It meets once a year, and is composed of TSE researchers, three representatives of the Center's corporate donors (EDF, Engie, and TotalEnergies), and three external members (Aude Pommeret from Université de Savoie Mont-Blanc; Joël Couse from the International Energy Agency, replacing César Alejandro Hernández; and François Levêque from Ecole des Mines).

Partners for specific research projects

EDF, Engie, Esso SAF, GRDF, TotalEnergies

Contributing to international research networks

Researchers from the TSE Energy & Climate Center have been working in close collaboration with peers at Universidad Carlos III and Barcelona School of Economics. They have also been involved in the activities of the **European Association of Environmental and Resource Economists (EAERE)** and taken part in the **Global Exchange in Modelling of Climate and Energy (GEMCLIME)**, a European-funded research project that focuses on the economics of climate and energy and encourages scientific networking and the transfer of knowledge.

The **Global Excellence in Modeling Climate and Energy Policies (GEOCEP)**, another European-funded project that provides an innovative economic modelling framework to aid the green transition, has also renewed TSE Energy & Climate Center's status as a partner institution.

Our Center is also a partner of **Environment for Development (EfD)**, a global network of environmental economics research centers. Coordinated by the EfD Global Hub at the University of Gothenburg, the network consists of over 200 accomplished environmental economists based in the Global South, with many different specializations. TSE researchers Stefan Ambec and Henrik Andersson attended the EfD annual meeting in Uganda in September 2022.



More information at www.tse-fr.eu/energyclimate
Scan the QR Code

Enabling health economics research to flourish



TSE expanded its footprint in the field of health economics by creating TSE Health Center in 2021. This Center encourages research projects with a view to improving quality and access to care both in France and worldwide. The research projects developed under the aegis of the Center fall into five main areas: **pharmaceutical industry and regulation, innovation in health, public healthcare, long-term care & aging, food & healthy behavior economics, and economics of pandemics.**

respond to urgent health issues such as antibiotic resistance and obesity... This year, more than ever, we have developed our scientific work while maintaining a regular dialogue with stakeholders in the health sector. Public institutions, industries and health professionals have been our main interlocutors. The number of TSE economists interested in health issues, initially limited to a small core, has increased in 2022. Health is an exciting field for economists!"

“ The past year has been an intense one for the Center. Researchers spared no effort to produce quality research and

Pierre Dubois
Director, TSE Health Center



Key numbers for 2022

5

articles in peer-reviewed journals

13

working papers

26



researchers

1



scientific event with a total of 75 attendees

5

related partnerships



Research advances | Examples of publications in each of the Center's research areas

Pharmaceutical industry and regulation

Researchers involved in this program seek to provide the best trade-off between maintaining incentives to innovate (with high rewards to new useful medicines) and financing health care expenses. We study how regulatory rules impact profitability and welfare in an international context, and analyze the role of marketing authorizations, detailing effort in fostering access and diffusion of medicines.

Program leader: Pierre Dubois

Will reference pricing make US drugs affordable?

Joe Biden's Build Back Better Act is the latest in a long line of attempts by US administrations to make pharmaceutical drugs cheaper for its citizens, by capping US prices according to levels set in other countries. **Pierre Dubois**, **Ashvin Gandhi** and **Shoshana Vasserman** demonstrate how international reference pricing rules may ultimately raise prices in referenced countries much more than they will decrease prices in the United States.



“[Bargaining and International Reference Pricing in the Pharmaceutical Industry](#)”, TSE Working Paper n. 22-1338, April 2022

Public healthcare, long-term care, and aging

This program aims to offer a better understanding of the complex relationships between the different actors in this sector: patients, insurers, and care providers including practitioners, hospitals, or the pharmaceutical industry. Researchers also study the different forms of financing expenses related to aging and age-related dependency.

Program leader: Jean-Marie Lozachmeur

How should consumers pay for health insurance?

When healthcare providers have monopoly power, the policies of competitive insurers can push up prices for medical goods. In this context, **Helmuth Cremer** and **Jean-Marie Lozachmeur** show that consumers benefit when insurers compete on copayment rates (based on the value of healthcare received by the patient) rather than coinsurance rates (based on the quantity of received care). This research provides strong support for reference pricing.



“[Coinsurance vs. copayments: reimbursement rules for a monopolistic medical product with competitive health insurers](#)”, *Journal of Health Economics*, vol. 84, n. 102642, July 2022

Innovation in health

Research work developed in this area is focused on incentive and privacy issues. It includes the design of analytical models and the testing of predictions with existing empirical and experimental data.

Program leader: Philippe De Donder

Can patent extensions save us from the antibiotic crisis? Antibiotic resistance is a serious global public health problem with significant costs, both in terms of human lives and the financial cost of care for society. Supported by TSE Health Center and the ARPEGE project, **Pierre Dubois**, **Paul-Henri Moisson** and **Jean Tirole** highlight the mechanisms and levers that can encourage innovation in the antimicrobial resistance sector.



“[The Economics of Transferable Patent Extensions](#)”, TSE Working Paper n. 22-1377, November 2022

Food and healthy behavior economics

Researchers involved in this program study the determinants of food behavior with special attention given to the role of socio-economic factors, peer effects, food availability and prices, and the environment. Our work helps assess the impact of food policies on health and social welfare and understand how businesses and markets respond to policies.

Program leader: Céline Bonnet

How does our living environment impact obesity?

Obesity has nearly tripled since 1975, becoming one of the world's leading risks of death. Almost a fifth of French adults are obese. Addressing such problems requires careful analysis of the interplay of individual, corporate and societal choices about healthcare, nutrition, and our living environment.

Céline Bonnet, **Cécile Detang-Dessendre**, **Valérie Orozco**, and **Elodie Rouvière** take up the challenge in this study of the impact of food, sports, and health amenities on obesity in France.



“[Spatial spillovers, living environment and obesity in France: Evidence from a spatial econometric framework](#)”, *Social Science and Medicine*, vol. 305, n. 114999, July 2022

Economics of pandemics

The purpose of this program is to identify the consequences of health crisis and the optimal public investment policy to face them. Researchers involved study the cost-benefit issues of the different public policies, as well as the factors of individual behavior and responsibility that influence compliance with public health recommendations. They also investigate the commercial and pricing regulations that should be put in place in a context of drug shortages and increasing demand for care.

Program leader: Nour Meddahi

Will Covid-19 change the way we care for the elderly?

Covid-19 outbreaks at nursing homes may have had lasting impacts on our ideas and decisions about old age, with major implications for savings and long-term care policies. **Bertrand Achou**, **Philippe De Donder**, **Franca Glenzer**, **Minjoon Lee** and **Marie-Louise Leroux** find that 72% of Canadian respondents are less inclined to enter a nursing home because of the pandemic. This aversion to nursing homes encourages saving for old age and support for subsidizing home care.



“[Nursing home aversion post-pandemic: Implications for savings and long-term care policy](#)”, *Journal of Economic Behavior and Organization*, vol. 201, September 2022



P. Dubois (TSE)

Scientific events

Health Economics workshop

This June 27 event brought together a wide range of researchers and field actors from the health sector to discuss “**Innovation, regulation and organization in healthcare**”. Organized in Paris by TSE with the help of our partners, the workshop allowed researchers from different affiliations to present recent research advances to an audience of 75 academics and practitioners. Presentations revolved around two main themes:

[▶ Price regulation, innovation and access to innovative drugs](#)

[▶ Healthcare savings sources and better quality of care](#)



Policy-oriented engagements

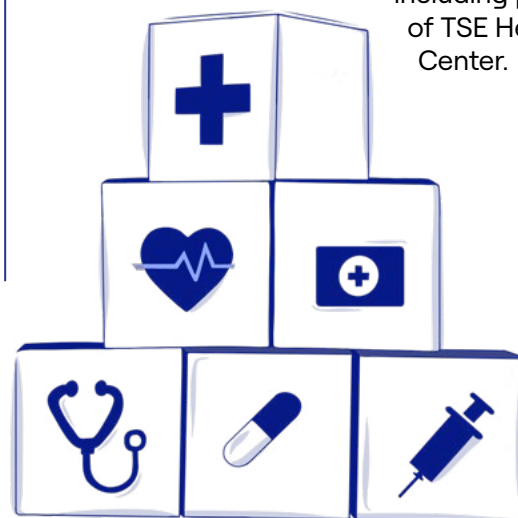
TSE researcher Céline Bonnet joined the expert committee on socio-economic analysis at the **French Agency for Food, Environmental and Occupational Health & Safety (ANSES)**, a membership that will run until 2026.

For their research on the economics of antibiotics, a group of TSE researchers has refined its knowledge of the characteristics and properties of the antibiotics market by meeting with a wide range of practitioners. They have interacted with public and private actors in this field, including members of the **ARPEGE consortium** (the biotech Antabio, bioMérieux, the Hospices Civils de Lyon), and the antibioresistance taskforce within the **Comité Stratégique de Filière des Industries et Technologies de Santé (CSF ITS)** which receives support from the French Conseil National de l’Industrie. These exchanges accelerated in 2022, as the fight against antibiotic resistance was made one of the priorities of the French Presidency of the Council of the European Union.



Contribution to policy-oriented events

Our researchers contributed to many events organized by key players in the health sector in France and abroad, including partners of TSE Health Center.



Conference on “(Re)inventing the economics of medicine”

(Paris, June 27)

Gathering a wide audience of practitioners from the pharmaceutical industry with the help of LEEM, the French pharmaceutical association, this conference addressed concerns about

regulation as well as the funding of **innovation** in the pharmaceutical sector. TSE’s Jean Tirole and Pierre Dubois shared the stage with high-level speakers from pharmaceutical firms and the insurance sector (such as **Amgen, Agipharm, Fédération Nationale de la Mutualité Française, Roche France, and Sanofi**) including Philippe Bouyoux, who chairs the **Comité économique des produits de santé (CEPS)** in France.



From left to right: C. Blachier-Poisson (Amgen France, Agipharm), D. Libault (EN3S, HCFIPS), P. Bouyoux (CEPS), M. Kyle (Mines ParisTech), P. Dubois (TSE), J.-F. Brochard (Roche France), J. Moisset (LEEM)

Symposium on “Research and Innovation to reduce the burden of antibiotic resistance: Strengthening European action”

(Paris, June 7)

In the context of the **French Presidency of the Council of the European Union**, and with the support of the Ministry of Higher Education, Research and Innovation, Inserm and Institut Pasteur organized a scientific symposium on antibiotic resistance (AMR). Organizations and agencies, public and private research actors, and representatives of EU member states discussed

plans to develop research and innovation for the fight against antibiotic resistance. TSE researcher Pierre Dubois participated in a roundtable on antibacterial strategies and the need for new economic models for access and innovation, alongside speakers from the Norwegian Institute of Public Health and the Public Health Agency of Sweden.

Antimicrobial Resistance (AMR) Course – One health

(Veyrier-du-Lac, November 7-11)

This training course, principally targeting **audiences from low- and middle-income countries**, was organized by the Mérieux Foundation and University of Paris. It aimed to reinforce the critical decision-making of experts in human and animal health, and environmental protection. As part of this intensive course, Pierre Dubois gave a lecture on the economics of antibiotics.

Pierre Dubois also shared his insights on various topics at **the 17th Annual Conference of GSF-GETO (Toulouse), the Journée Filière Biothérapie Innovation Occitanie (Montpellier), and the Forum Santé Innovation Lyon**.

Contributions to the public debate

Debate: What economic model for the French healthcare industry?



TSE DEBATE:
 Quel modèle économique pour l'industrie de la santé en France ?
 Jeudi 27 janvier 2022, 17h

Avec Eric Baseilhac (LEEM), Pierre Dubois (TSE) et François Lacoste (bioMérieux)

Rejoignez-nous sur Zoom et sur notre page Facebook #TSEDebate

This online debate organized by TSE on January 27 featured the Director of TSE Health Center Pierre Dubois, Eric Baseilhac (Director of Economic and International Affairs, Leem) and François Lacoste (Executive Vice President, Research & Development, bioMérieux)

[▶ See the video](#)

Common Good Summit

"Living with dependency"

TSE's Catarina Goulão joined Patrick Cohen (AXA France), Laure de la Bretèche (Caisse des Dépôts), and Sylvain Rabuel (Groupe DomusVi) at the 2022 Common Good Summit on May 19 to discuss the upheaval caused by our aging societies.

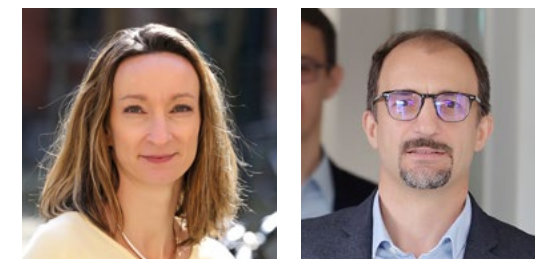
[▶ See the video](#)



From left to right: C. Goulão (TSE), V. Beauflis (Challenges), S. Rabuel (DomusVi)

Award

Céline Bonnet and Pierre Dubois, jointly with eight other researchers, have been awarded the **2021-2022 Gary Lilien ISMS-MSI-EMAC Practice Prize** for a study conducted at the request of the **French government** on the "Effect of front-of-pack labels on the nutritional quality of supermarket food purchases". This prize aims to highlight and celebrate outstanding marketing science work that has had significant organizational impact.



Partners for specific research projects

bioMérieux, Danone, GIE GERS, LEEM, Urosphere

Encouraging the next generation of health economists

I. Natali (TSE)



Strengthening TSE's research capacity in health economics is important to ensure the production of high-quality and visible research. This requires the involvement of senior researchers and young talent. **Six TSE PhD students** have been developing work on health topics in 2022 and, thanks to our partners' support, TSE Health Center was able to offer a two-year **postdoctoral fellowship** to **Ilaria Natali** who joined TSE in 2022 after her PhD at the Université Libre de Bruxelles. Her research focuses on the socioeconomic determinants of drug consumption and health outcomes, the evaluation of policy levers aimed at limiting inappropriate use of pharmaceuticals, as well as the role played by pharmaceutical advertising in the healthcare sector.



More information at www.tse-fr.eu/health

Scan the QR Code

Building infrastructure and networks

TSE Infrastructure & Network Center



Infrastructure development around the world poses ever-changing challenges, including financing, sharing access, and optimizing the often complex and networked underlying structure. The TSE Infrastructure & Network Center was created in 2021 to better understand these issues and provide operational responses. Scientific work developed by the Center's team revolves around three main lines of research covering challenges related to **business strategy, financing, and regulation**. The Center addresses these challenges in six areas: **construction and housing economics, developing countries, postal and telecom, responsible finance and long-term investments, transport, and utilities**.



Key numbers for 2022

7  articles in peer-reviewed journals

16  working papers

53  researchers

4  scientific events with a total of 250 attendees

9  related partnerships

“ We have successfully continued the Center’s missions in 2022. TSE teams have been increasingly active in development economics and transport economics. The FIT IN Initiative and our partnerships with SNCF Réseau and the French transport authorities have notably contributed to this dynamic. After years of a worldwide pandemic, we rediscovered the pleasure of exchanging ideas at in-person events organized in Toulouse. Two exciting examples were our postal conference and the conference on the economics of housing.”

Frédéric Cherbonnier
Director, TSE Infrastructure & Network Center

Main lines of research

1. Finance and decision theory under uncertainty

Infrastructure and network-based industries need to make considerable and irreversible long-term investment decisions even though the parameters guiding these decisions, particularly regarding the future evolution of costs and demand, are highly uncertain. It may be necessary to curtail or partly postpone projects in order to better adjust to future market conditions, whereas financial decision model need to be adapted when facing very long investment horizon and risk with unknown 'ambiguous' probability distributions. These problems concern both private companies and public entities, and implies to refine classical models such as the capital pricing asset model, and its extension based on consumption.

2. Network and spatial economics

In markets studied at the Center, an accurate view of the demand curve and cost structure is crucial, as well as a deeper understanding of the

constraints related to network externalities and geographical location. Econometrics analysis is therefore necessary to assess elasticities, economies of scale and scope, as well as the cost-effectiveness frontier, while modelling choices of agents and competitors must allow us to identify the optimal underlying structure.

3. Procurement and regulation

Infrastructures are often essential facilities on which firms depend to reach customers or to continue their activities. Network industries are generally developed by natural monopolies and oligopolies subject to anti-competitive regulation. Public intervention in this area aims to facilitate non-discriminatory third-party access, incentivizing cost efficiency and high-quality service, while allowing financing of current and future activities. Today, the challenge is to define optimal mechanisms that translate into concrete implications with respect to price, access mechanism, and procurement by private contractors on behalf of a public authority.

Research advances | Examples of publications in each of the Center's research areas

Developing countries

We provide academic insights into the development of infrastructure and networks in the specific context of developing countries. These countries suffer from major gaps in access to infrastructure, which raises complex investment and financing issues.

Program leader:
Stéphane Straub

How to close the infrastructure gap

How will the world's poorest countries afford to develop their infrastructure? Marianne Fay, **David Martimort**, and **Stéphane Straub** examine whether attracting private investors is the best way to jump-start improvements to key sectors such as transport, water, and energy. Rejecting standard policy narratives, their analysis reveals the benefits of balancing private and public-sector strategies.



“Funding and financing infrastructure: The joint-use of public and private finance”, *Journal of Development Economics*, vol. 150, May 2021

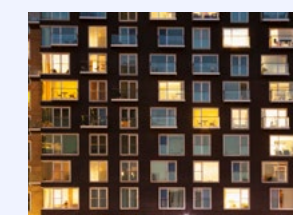
Construction and housing economics

This research program aims to offer a better understanding of housing occupancy choices and the consumption of housing services, the political economy of social housing construction, as well as macroeconomic analysis of construction.

Program leader: Martial Dupaigne

Who benefits from variation in house prices and rents?

Housing affordability and housing wealth do not always go hand-in-hand. Apartment prices in many cities have grown faster than rents, leading to regional divergence in price-to-rent ratios. Given the importance of housing both in household consumption and savings portfolios, **Tuuli Vanhapelto** hopes to shed light on this variation. Using a dynamic spatial model that distinguishes between rents and prices, she shows that urban growth can account for variation in price-to-rent ratios and that, in Finland, trends underlying urban growth have led to important regional divergence in both renter welfare and housing wealth.physical construction of cross-border links.



“House Prices and Rents in a Dynamic Spatial Equilibrium”, *Job market paper of Tuuli Vanhapelto (TSE PhD student) November, 2022*

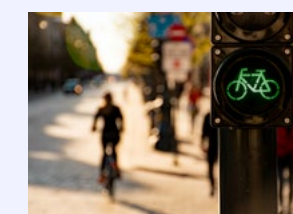
Postal and Telecom

Researchers working on this initiative provide academic insights into economic models of these sectors. We observe their constant need to adapt to the competitive environment, given the rapid advances in digital technologies and the constraints imposed by regulators.

Program leader: Helmuth Cremer

Can consumers encourage sustainable delivery?

Given the dramatic expansion of e-commerce, should delivery operators be required to reveal their emissions? Claire Borsenberger, **Helmuth Cremer**, Denis Joram, **Jean-Marie Lozachmeur**, and **Estelle Malavolti** find that if consumers can observe the level of emissions generated by delivery of their online purchases, their 'environmental awareness' can provide operators with an incentive to reduce emissions toward the optimal level. This affects the design of emissions taxes, while regulatory certification would help operators to reveal emissions in a credible way.



“E-commerce and parcel delivery: environmental policy with green consumers”, TSE Working Paper n. 22-1318, March 2022

Transport

We aim to address a variety of questions of interest to economists in the transport sector, including regulatory policies, optimal resource allocations, and urban development.

Program leader:
Marc Ivaldi

How can cities reduce traffic?

Road traffic is choking the world's cities, with disastrous consequences for our climate, health, and economies. In the US alone, the annual cost of congestion in lost time, wasted fuel and carbon emissions is estimated to be \$87 billion. Optimizing today's increasingly complex urban transport systems is a key target for the TSE Infrastructure & Network Center. In this paper, **Isis Durrmeyer** and **Nicolás Martínez** construct an innovative model to analyze existing efforts to free up our car-clogged streets.



[“The Welfare Consequences of Urban Traffic Regulations”](#), TSE Working Paper n. 22-1378, October 2022

Utilities

Our program seeks to understand the determinants of efficient long-term investments in utilities (water, electricity and gas), confronted with infrastructure aging, decarbonization of economies, extreme climate fluctuations, rapid changes in demand for goods and services, and digitalization of processes.

Program leader:
Arnaud Reynaud



How to invest in our future?

Russian aggression and the climate emergency are among the urgent challenges facing Europe today. An effective response will require massive, long-term investments in energy infrastructure. **Frédéric Cherbonnier** and **Christian Gollier** argue that such initiatives must adopt a risk-adjusted discount rate to ensure value for money. They show how to estimate this rate for public and private projects, with applications to the electricity sector.



[“Risk-adjusted Social Discount Rates”](#), *The Energy Journal*, vol. 43, n. 3, October 2022

Scientific
events

11th Postal Economics Conference


Postponed due to the health crisis, the 11th edition of the Postal Economics Conference was finally held at TSE on April 7-8. It was **organized with La Poste Groupe**, and discussion revolved around **e-commerce, the digital economy and delivery services**. On this occasion, we welcomed more than 80 participants to Toulouse, including senior management from La Poste Groupe. This year's program was quite dense with insightful presentations by 30 academic speakers. The conference ended on high note with a roundtable on **“Regulation and Competition Policy to promote a fair and inclusive digital economy”**. Chaired by Jean Tirole, this roundtable assembled high-level speakers with a variety of perspectives: Yves-Alexandre de Montjoye (Associate professor, Imperial College London), Laure de La Raudière (Chair, Arcep), Pierre Régibeau (Chief Competition Economist at DG Competition, European Commission), and Philippe Wahl (CEO, La Poste Groupe).


[Learn more](#)



Other scientific events

Some scientific events supported by the TSE Infrastructure & Network Center are presented in other sections of this report as their research areas overlap with several TSE Centers.

 13th Toulouse Conference on The Economics of Energy and Climate
TSE, June 15-16

 Workshop on Mobile Money Interoperability with the FIT IN Initiative,
TSE, December 15-16



Policy-oriented engagements

Since 2020, Martial Dupaigne has been advising the Toulouse rent watchdog **Observatoire des Loyers de l'agglomération toulousaine**, part of the observation network set up in 2013 by the French Ministry of Housing.

Until March 2022, Marie-Françoise Calmette was a member of the reference group for the **evaluation of France's contribution to Aid for Trade (AFT)** over the period 2009–2019. The evaluation was set up by the Ministry of the Economy, Finance and Recovery, the Ministry for Europe and Foreign Affairs, and the French Development Agency.

Contribution to policy-oriented events

Our researchers contributed to many policy-oriented events, a few of which were organized or co-organized by public institutions.

8th Conference on Public Policy Evaluation

Paris, December 8

TSE's Christian Gollier and Emmanuelle Auriol spoke at this conference organized by the **French Economic Association (AFSE)** and the **French Treasury**. Christian gave the keynote lecture on "How to do ex ante evaluation under uncertainty" and Emmanuelle, who also chairs the AFSE, gave the closing speech. This annual conference aims to gather contributions on the quantitative analysis and evaluation of public policies.

Socio-economic evaluation of public investments conference

Paris, September 22

The **General Secretariat for Investment and France Stratégie**, in partnership with the **National Agency for Radioactive Waste Management (Andra)** and the **General Inspectorate for the Environment and Sustainable Development (IGEDD)**, organized a one-day conference to explore these issues, including consideration of their impact on society, the limits of economic expertise in the face of uncertainty, and the place of socioeconomic assessment in public decision-making. Frédéric Cherbonnier was invited to speak at a roundtable on the following question: "**Where to place the cursor between uncertainty and/or probability, ambiguity and subjective probabilities?**"

Contributions to the public debate

Common Good Summit

"The future of urban transport"

A session of the 2022 Common Good Summit organized by *Challenges* magazine and TSE in Toulouse in May discussed the future of urban transport. Frédéric Duval (Amazon), Marc Ivaldi (TSE), and Thierry Mallet (Transdev) offered contrasting perspectives on how we can reinvent public transport, reduce the impact of deliveries, and embrace sustainable mobility.

"The roundtable highlighted initiatives that seem to show companies are willing to go beyond the current regulation, which is positive news for the fight against global warming. It may be in the operator's interest to set up virtuous systems because they will have the support of public authorities. It is also important for companies to show that the solutions they propose can be sustainable."

Marc Ivaldi, TSE

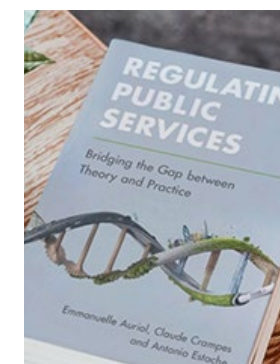


Panel discussion with T. Mallet (Transdev)

[See the video](#)

Award

TSE researchers Emmanuelle Auriol and Claude Crampes, alongside co-author Antonio Estache, won the **2022 AEE Marcel Boiteux prize** for their book, "**Regulating Public Services: Bridging the Gap between Theory and Practice**". The French AEE (Association des Economistes de l'Energie) brings together energy economists from a wide range of academic and public institutions, and across the private sector.



Partners for specific research projects

Agence France Développement (AFD), Association Finance Durable et Investissement Responsable, Autorité de Régulation des Transports (ART), Bill & Melinda Gates Foundation (for the FIT IN Initiative), GRDF, Orange, La Poste Groupe, Royal Mail, SNCF Réseau



More information at www.tse-fr.eu/infrastructure-and-network

Scan the QR Code

Exploring the world of sustainable finance



Launched in 2018, TSE Sustainable Finance Center promotes innovative research on the challenges of finding sustainable finance solutions and assessing their impact on society. Research at the Center focuses on four main themes: **responsible finance and long-term investments, financial technologies and digital markets, financial intermediaries and regulation, and financial behaviors and welfare and market (in) efficiencies.**



“The TSE Sustainable Finance Center has continued to thrive over the past year. With the support of some of our partners, we hosted lively workshops and a conference on mobile money interoperability and risk markets. Our seminar series welcomed speakers from more than 24 leading universities around the world, demonstrating our eagerness to stimulate international exchanges between researchers. TSE researchers have made significant progress on research projects, for instance on how lifetime experiences shape investors’ decisions or the role of Big Tech firms as lenders. We have renewed our partnerships with the Association Finance Durable et Responsable (AFDIR) and Getlink and initiated, in collaboration with HEC, a new partnership with Autorité de contrôle prudentiel et de résolution (ACPR). TSE researchers have also been very involved alongside other public decision-makers and regulators including the Autorité des marchés financiers (AMF) and the European Systemic Risk Board (ESRB). This is just a small selection of the achievements over the past year.”

Sophie Moinas
Director, TSE Sustainable Finance Center




Key numbers
for 2022

11  articles in peer-reviewed journals

19  working papers

60  researchers

34  scientific events and a total of 788 attendees

13  related partnerships

Research advances | Examples of publications in each of the Center's research areas

Responsible finance and long-term investments

Our researchers analyze if we invest enough in long-term assets, evaluating immediate benefits compared to distant ones. We measure and evaluate the externalities imposed by firms on society to identify incentives for economic agents to incorporate these externalities in their decisions. This research is crucial to address contemporary concerns about climate change, nuclear risk, education and training, customer safety, and the welfare of employees and communities.

Program leader:
Catherine Casamatta

Financial technologies and digital markets

This program investigates the implications of key features of FinTech and cryptocurrencies, and their impact on social welfare. We study the design of markets, institutions and regulations to mitigate coordination problems, information asymmetries and other market failures.

Program leader:
Doh-Shin Jeon

Are investors getting greener?

How do life-time experiences affect investors' demand for ESG stocks? Analyzing Shanghai Stock Exchange data, **Milo Bianchi**, Zhengkai Liu and Gang Wang find that some life experiences, notably growing up in periods with good market returns and being exposed to a natural disaster, have large and persistent effects on investors' demand for responsible assets. They show that economic and non-economic experiences affect investors' pro-social concerns, and they are key to understanding how ESG preferences evolve.



“Are We Becoming Greener? Life-time Experiences and Responsible Investment”, TSE Working Paper n. 22-1382, April 2022

Big Tech vs banks: Who wins?

Tech giants are flexing their muscles as providers of credit. **Matthieu Bouvard**, **Catherine Casamatta** and Rui Xiong examine the incentives for this expansion, assessing its impact on merchants, buyers and traditional banks. They show that an e-commerce platform can target subsidized credit at merchants with lower collateral while increasing access fees, and effectively price-discriminating against merchants with lower credit constraints. The platform's lending depends on its monitoring efficiency and its market power in its core business.



“Lending and monitoring: Big Tech vs Banks”, TSE Working Paper n. 22-1386, November 2022

Financial intermediaries and regulation

To deepen our understanding of financial intermediation and the prevention of crises, we investigate various topics related to monetary economics and aggregate liquidity, payment systems, prudential regulation, market finance and microstructure.

Program leader: Patrick Fève

Financial behaviors, welfare and market (in)efficiencies

Researchers in this program strive to understand the capacity of financial markets and intermediaries to price assets, finance the economy and allocate risks which may be hindered by informational frictions and human cognitive biases. We identify the impacts of those frictions on investors welfare and the efficiency of the financial industry, studying whether their effects are worsened or mitigated by different market arrangements.

Program leader: Milo Bianchi

Size isn't everything

How does a firm's ownership structure influence its behavior? Given its potential to impact firms' ability to incorporate externalities in their decisions and to improve society's allocation of risk, understanding this relationship is closely linked to core goals of the TSE Sustainable Finance Center. While existing research has focused on the largest blockholder, **Silvia Rossetto** builds on her theoretical work with an empirical analysis of the role of mid-sized blockholders.



“Ownership concentration and firm risk: The moderating role of mid-sized blockholders”, 2023, forthcoming in *Journal of Business Finance and Accounting*

Does activism make waves in corporate asset markets?

Shareholders are increasingly pushing for changes in corporate behavior. **Ulrich Hege** and **Yifei Zhang** show that most hedge-fund activism campaigns occur in clusters, by industry and time. These waves rock the boat for corporate assets: both target firms and their peers receive more merger bids, divest more and make fewer acquisitions. This causes a liquidity squeeze, reducing transaction prices and encouraging outsiders to buy more industry assets.



“Activism Waves and the Market for Corporate Assets”, TSE Working Paper, n. 22-1397, December 2022

Scientific events

19 finance seminars

Organized on a weekly basis by Matthieu Bouvard and Patrick Coen, the Finance seminar series gathers TSE researchers interested in financial economics and guest speakers from leading academic institutions. It features theoretical and empirical work related to **corporate finance, asset pricing and financial intermediation**.



“ In 2022, the seminar featured speakers from top universities such as Columbia Business School, MIT Sloan and London School of

Economics. Some of the key topics included the interaction between finance and environmental responsibility with Deeksha Gupta (CMU) or Magdalena Rola-Janicka (Tilburg), and the risk of financial intermediaries with Vincent Maurin (Stockholm School of Economics) or Nicola Limodio (Bocconi).”

Matthieu Bouvard
Co-chair of the seminar

SCOR-TSE workshop and conference

On January 28, the SCOR-TSE online **Workshop on Long-Term Care and Aging** showcased some of the latest economic research in this field. As the keynote speaker, Pierre Pestieau (University of Liège) delivered an overview of “The economics of long-term care”. Other speakers included Jean-Marie Lozachmeur (TSE) on “Gender wage and longevity gaps and the design of retirement systems”.

The **TSE-SCOR Conference on Risk Markets and Value Creation** took place in Toulouse in October. Among the many contributors, Jean-Charles Rochet (TSE) outlined his preliminary attempts to develop a new paradigm for understanding digital insurance, focusing on its implications for privacy.

11 macroeconomics seminars

The macroeconomics seminars are organized by four researchers with various areas of specialization: Tiziana Assenza, Fabrice Collard, Patrick Fève and Eugenia Gonzalez-Aguado.

“ Philippe Aghion (Professor at Collège de France, INSEAD, and LSE) is well known for his groundbreaking research on growth and innovation. The day he came to Toulouse to receive the 2022 Jean-Jacques Laffont Prize, we were lucky to have him present his paper ‘Modern Manufacturing Capital, Labor Demand and Product Market Dynamics: Evidence from France’ at one of our macroeconomics seminars.”



Patrick Fève (TSE)
Co-chair of the seminar



J.-C. Rochet (TSE) et F. Collard (TSE)

Financial Inclusion Through Interoperability (FIT IN) workshops

TSE invited two practitioners from Banque de France to speak at a **Workshop on Digital Money and Financial Regulation** in Toulouse on May 9: Adeline Bachellerie (Head of the Digital Money and Innovation Department) and Bruno Monteil (Digital Money Expert). Their presentations were followed by an interesting discussion with several TSE researchers involved in the FIT IN Initiative.

The batch of laureates of the first call for proposals of the FIT IN Initiative selected in 2021 presented their latest research at a **Workshop on Mobile Money Interoperability** organized at TSE on December 15-16. They exchanged ideas with TSE researchers, post-docs and PhD students as well as a representative of the Bill & Melinda Gates Foundation which supports the FIT IN Initiative. Participants heard speakers from various affiliations including the Central Reserve Bank of Peru, the Center for Latin American Monetary Studies (CEMLA), and the University of Ibn Tofail (Morocco).



S. Bair (TSE)



Y. Leriche (Getlink)

Initiative for Effective Corporate Climate Action

TSE hosted the launch event for this initiative on May 18, inviting Yann Leriche (CEO, Getlink) and Geraldine Périchon (CFO, Getlink) to share the floor with TSE researchers. After presentation by TSE’s Ulrich Hege outlining this new initiative, discussions revolved around the opportunities and pitfalls of corporate engagement for various stakeholder groups.

Policy-oriented engagements

Jean-Charles Rochet, who became a permanent member of TSE in 2022, has been on the advisory panel of the **Bank for International Settlements (BIS)** since 2018. The mission of BIS is to support central banks' pursuit of monetary and financial stability through international cooperation, and to act as a bank for central banks.

TSE director Christian Gollier chairs the scientific committee of the **European Savings Institute (Observatoire de l'Épargne européenne - OEE)**. In December 2022, he was also appointed as a scientific advisor

to the **European Systemic Risk Board (ESRB)** which oversees the EU's financial system.

At a national level, Catherine Casamatta and Fany Declerck have been members of the scientific council of the **French financial markets regulator (Autorité des Marchés Financiers - AMF)** since 2020 and 2017 respectively. Sébastien Pouget has been a member of the Haut Comité Certificateur de Place within the same authority since 2021. Christian Gollier has been a member of the independent scientific committee which revises the composition of the **CAC 40 ESG Index** since its launch in 2021. Responding to growing demand for sustainable investment tools, this index is designed

to identify the 40 companies within the CAC Large 60 Index that demonstrate the best environmental, social and governance (ESG) practices.

On a regional level, Fany Declerck joined the board of **Occitanie Place Financière (OPF)** in June 2022. OPF brings together financial professionals and institutional players from across the region.

Our researchers also contributed to many events organized by key players in the finance and insurance sectors in France and abroad. One example is the 2022 Congrès des Actuaire "Enlightening the future in a world in transition" (June, Paris).

Partners for specific research projects

Agence Française de Développement (AFD), Association Finance Durable et Investissement Responsable (AFDIR), Baillie Gifford, Banque Centrale du Luxembourg, Banque de France, BBVA, Bill & Melinda Gates Foundation (for the FIT IN Initiative), Causality Link, Danone, Getlink, Luohan Academy/Ant Group, Netspar, SCOR Corporate Foundation for Science

TSE's special connection with central banks

Decisions taken by central banks, whether they relate to monetary policy, financial stability, banking supervision or macroprudential policy, are based on in-depth analysis. TSE economists are regularly consulted by central bank research teams to strengthen the foundations for future decisions. In particular, TSE economists have long-standing partnerships with teams at Banque de France and Banque Centrale du Luxembourg. In 2022, a few TSE researchers also engaged constructively with researchers from the Bank of Italy and contributed to the "Virtual Seminar on Climate Economics" of the Federal Reserve Bank of San Francisco.

Grants

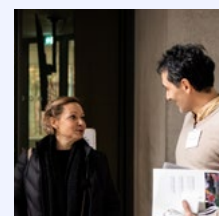


Y. Zhang

Banque de France research grants

Thanks to the support of Banque de France, research grants were awarded to **six TSE PhD students**

developing outstanding research on monetary economics and finance. In their fourth or fifth year of study when they received their grant, most have since successfully defended their thesis. Two joined prestigious American research institutions for a post-doc: Fernando Stipanovic at the Haas School of Business (Berkeley), and Alexandre Gaillard at the Julis-Rabinowitz Center for Public Policy & Finance (Princeton). Filip Mroviac joined Cornerstone Research in New York and Yifei Zhang was appointed assistant professor at the HSBC Business School (University of Beijing). Friederich Lucke became a researcher at the Joint Research Center of the European Commission.



A. Creti (Université Paris-Dauphine) and M. Bouvard (TSE)

FIT IN Initiative research grants

Since the launch of the FIT IN Initiative, TSE has issued two external calls for research proposals related to the **interoperability**

of digital payment systems in poorer countries. The second call, launched in January 2022, resulted in the selection of **five research projects** involving 10 external researchers. Principal investigators are affiliated to the University of Ghana Business School, University of New England Business School, University of Basel, University of Kent, and Stanford University. Selected teams will supply evidence for the Initiative from countries and regions including Bangladesh, Ghana, India, Pakistan and sub-Saharan Africa.

[See the full list of selected projects and teams](#)

Awards for risk and insurance economists

TSE-SCOR Risk Markets and Value Creation Chair supports the prizes awarded during the 2022 annual seminar of the EGRIE (European Group of Risk and Insurance Economists). Lan Zou (University of St.Gallen) received the **SCOR-EGRIE Young Economist Award** for her paper: "The impact of subsidies on deductible choice in health insurance". Alexis Louaas (Ecole polytechnique & Square Research Center) and Pierre Picard (Ecole polytechnique) were awarded the **SCOR - The Geneva Risk and Insurance Review Best Paper Award** for their article: "Optimal insurance coverage of low-probability catastrophic risks".



From left to right: J. Tirole (TSE), F. Villeroy de Galhau (Banque de France), C. Gollier (TSE)



More information at www.tse-fr.eu/sustainablefinance Scan the QR Code



Sharing our expertise with regulators



Competition Policy
& Regulation
Center

Building on a long tradition of producing leading academic research in competition policy and regulation, TSE Competition Policy & Regulation Center was created in 2021. It coordinates the academic and outreach activities of TSE in these areas and aims to promote policy-relevant research and foster interactions between academics and regulators. Research areas include **competition policy, regulation for the digital era, regulation of infrastructure and network industries, and financial intermediaries and regulation.**



Key numbers
for 2022

10 
articles in peer-
reviewed journals

14 
working papers

59 
researchers

6 
academic or policy-oriented
events

2 research partnerships
with regulators



“ In 2022 we were able to share our expertise and interact with regulators in many ways. TSE researchers were involved in a research partnership on the future of motorway concessions with the French transport regulator (ART), and we laid the groundwork for a new research partnership with the banking and insurance regulator (ACPR) and HEC Paris business school. We also partnered with the European Commission and the Belgian Competition Authority to organize cutting-edge discussions between academics and decision-makers from the public and private sector. In addition, we established a new academic partnership with the Tobin Center for Economic Policy at Yale University to produce and promote policy-relevant research on the regulation of the digital economy. We also fostered non-institutional, but equally crucial interactions with regulators to improve the relevance of our research and magnify its impact for society.”

Yassine Lefouili
Director, TSE Competition
Policy & Regulation Center

Research
advancesExamples of publications
in each of the Center's research areas

“The digital revolution is a great source of economic progress but also poses new challenges to antitrust enforcers and regulators. On the forefront of topical research on this issue, TSE's productivity can be measured not only by the many publications of its members, but also by the number of its scientific events addressing this topic, as well the 2022 award of a European Research Council (ERC) senior grant on competition and regulation in the digital economy.”

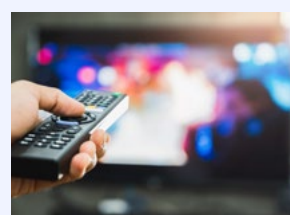
Patrick Rey
Scientific Director, TSE Competition Policy & Regulation Center

Competition policy

Our researchers produce and disseminate academic and policy papers on topics of interest to competition authorities. The target areas for investigation include the effects of mergers, agreements, and unilateral practices on competition and welfare. Special attention is paid to the policy implications regarding specific competition concerns.

How do we regulate platform mergers?

Digital platforms often provide better services 'for free' to retain more users, increasing their appeal to advertisers. This behavior is of particular concern to competition authorities when dominant firms acquire smaller competitors. Analyzing a recent French digital TV merger, **Marc Ivaldi** and Jiekai Zhang show that regulation that fails to account for interactions across two-sided markets – in this case, between viewers and advertisers – can lead to unexpected outcomes.



“Platform Mergers: Lessons from a Case in the Digital TV Market”, *The Journal of Industrial Economics*, vol. 70, n. 3, September 2022

Regulation for the digital era

We study existing and contemplated regulations in digital technologies in many areas, including competition, privacy, consumer protection, and intellectual property enforcement. This program aims to highlight the key trade-offs that policymakers face when designing these regulations.

How should platforms be policed?

Preventing online misconduct requires substantial resources, including state-of-the-art technology and human moderators, and is constrained by the protection of fundamental rights such as freedom of speech. **Yassine Lefouili** and Leonardo Madio study firms' incentives to police their own platforms, arguing that reform of liability rules must consider the impact on online behavior and corporate strategy related to pricing, business models, terms and conditions, and investments.



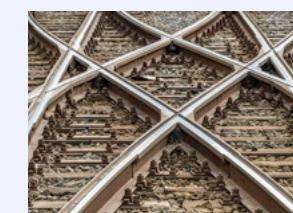
“The Economics of Platform Liability”, *European Journal of Law and Economics*, vol. 53, n. 3, June 2022

Regulation of infrastructure and network industries

We strive to advance research about the design of regulations that address the market failures preventing effective competition in infrastructure and network industries, such as telecommunications, transportation, and energy, which have characteristics that call for ex ante regulation.

Creating a level playing field for public procurement

Many countries are liberalizing the markets for local public services such as transport, waste management, and school meals—with the aim of fostering competition for the market, in the form of tenders for specific services, if not in the market. However, these liberalization efforts are often undermined by the incumbency benefits that confer a comparative advantage to the operators initially providing the tendered services. Examining the impact of market design and, in particular, the timing of tenders, Elisabetta Iossa, **Patrick Rey** and Michael Waterson show that synchronous contracts should be favored when incumbency advantages are so large that monopolization is inevitable, whereas staggered contracts are preferable when persistent competition is viable.



“Organising Competition for the Market”, *Journal of the European Economic Association*, vol. 20, n. 2, April 2022

Financial intermediaries and regulation

Research in this area is focused on various topics related to monetary economics and aggregate liquidity, payment systems, prudential regulation, market finance and microstructure. Our aim is to deepen understanding of financial intermediation and the prevention of crises.

Could the Great Recession have been avoided?

Did structural changes in the banking industry contribute to the slow recovery of the US economy after the 2008 financial crisis? Analyzing key asymmetries with traditional banks in terms of regulation, frictions and shocks, **Patrick Fève**, Alban Moura and Olivier Pierrard demonstrate that the post-crisis collapse of shadow banking weighed heavily on economic activity by limiting credit supply and raising lending rates.



“The Fall in Shadow Banking and the Slow U.S. Recovery”, *Journal of Economic Dynamics and Control*, vol. 139, n. 104404, June 2022

Scientific events

Policy seminars

The Competition Policy & Regulation Center hosted three seminars in 2022. The choice of guest speakers was eclectic: a professor of economics (and former head of the Norwegian competition authority), a partner from a law firm, and the Director General of Competition at the European Commission. Interacting with academics of other affiliations, practitioners and decision-makers is enriching in many ways for the students and faculty members who attend the seminars and work on competition policy issues.

Policy-oriented workshops

TSE partnered with diverse institutions to organize three in-person workshops:

Regulating the Digital Economy workshop

(TSE, May 20-21)

This event was organized by the Competition Policy & Regulation Center and the **Digital Economy Project at Yale's Tobin Center**. Researchers from both institutions have been working together on several papers which will be published in the Yale Journal on Regulation. Filomena Chirico, who heads the digital markets unit at the European Commission (DG Connect) and was previously a member of Thierry Breton's cabinet, shared her insights about the Digital Markets Act.



From left to right: C. Mask (Microsoft), F. Chirico (European Commission), F. Scott Morton (Yale School of Management)

JRC-TSE workshop on Liability in the Digital Economy (Seville, July 8)

Organized by the Competition Policy & Regulation Center and the **Joint Research Centre** (JRC, the European Commission's science and knowledge service), this workshop brought together academics, policymakers, and practitioners to discuss the latest developments regarding liability in the digital economy. Simone Gobello (Public Policy Manager, EU Affairs, Meta) participated in a policy roundtable with Alexandra Matthews (Munich Re), Irene Roche-Laguna (DG Connect, European Commission), and Dirk Staudenmayer (DG for Justice and Consumers, European Commission).



BCA-TSE workshop on Antitrust Frontiers (Brussels, October 27)

Organized by the Competition Policy and Regulation Center and the **Belgian Competition Authority**, the objective of this workshop was to foster interactions between TSE academics and competition enforcers. TSE faculty and chief economists from the Belgian, Dutch, Portuguese and French national competition authorities discussed antitrust issues, such as the role of competition policy in times of inflation or the way competition law should be enforced in cases that present sustainability concerns.



G. Jans (Belgian Competition Authority)

Visitors

The workshops and seminars organized by the Center have fostered numerous interactions with representatives of French and foreign regulatory authorities. Other enriching interactions have taken place in the context of visits to TSE, and sometimes at events organized by other Centers such as TSE Digital Center or TSE Infrastructure & Network Center.

Indicative list of affiliations for our visitors in 2022:

- **Sectoral regulatory bodies:** Autorité de régulation des communications électroniques, des postes et de la distribution de la presse (ARCEP), Commission nationale informatique et libertés (CNIL)
- **National competition authorities:** French Competition Authority, Belgian Competition Authority, Finnish Competition Authority, UK Competition & Markets Authority
- **European regulatory bodies:** Directorate-General for Competition of the European Commission

Partners for specific research projects

Autorité de contrôle prudentiel et de résolution (ACPR), Autorité de régulation des transports (ART)

Developing connections with European regulatory bodies

As part of their research projects, TSE researchers have developed links with the **European Commission's Joint Research Centre (JRC)** and contacts in **several policy departments** (Directorates-General) within the European Commission such as **DG Competition, DG Connect, and DG Energy**.

TSE was also honored to have **Margrethe Vestager**, EU Commissioner for competition and the digital market, and **Pascal Canfin**, Chair of the European Parliament's Committee on the Environment, Public Health and Food Safety, share their thoughts and discuss topical policy-related issues with researchers at the Common Good Summit.



© European Union, 2023

“The role of science in informing policy and supporting decision-making is crucial. In that respect, TSE’s contribution in understanding the digital economy is beyond question.”

Thierry Breton
European Commissioner for the Internal Market

Sharing expertise with public institutions

TSE faculty have also contributed to improving economic reasoning in regulatory debates and practices by **acting as experts for agencies and courts, serving in advisory bodies, and training current and future members of public institutions**.

One good example is Patrick Rey. For the European Commission, he is a founding member of the **Economic Advisory Group on Competition Policy (EAGCP)**. Last year, he participated in the EAGCP subgroup working on new economic tools for the digital economy, the revision of the block exemption, and guidelines on vertical restraints. He has also been closely involved with the **Spanish National Markets and Competition Commission**. In June, the **Hellenic Competition Commission** invited him to speak at its annual conference which focused on asymmetric adjustment of fuel prices in relation to costs. In November, Patrick Rey met the teams of the **Chilean competition**

authority (Fiscalía Nacional Económica) in Santiago.

In addition to the strong involvement of our scientific director, as detailed elsewhere in this report, TSE researchers have also been working closely with scientific committees and evaluation groups linked to regulators and other public institutions such as the **Autorité des Marchés Financiers (AMF)**, **Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES)**, and the **European Commission**.



P. Rey (TSE)

Proud of our alumni community

In 2022 we were delighted to see alumni take on responsibilities within regulatory authorities. For example, Thibault Vergé, who received his PhD from TSE in 2001, was named Vice-President of the French Competition Authority in December. He joined a long list of TSE alumni already involved with such authorities, including Benoît Loutrel, member of ARCOM since 2021.



More information at
www.tse-fr.eu/competition-regulation
Scan the QR Code

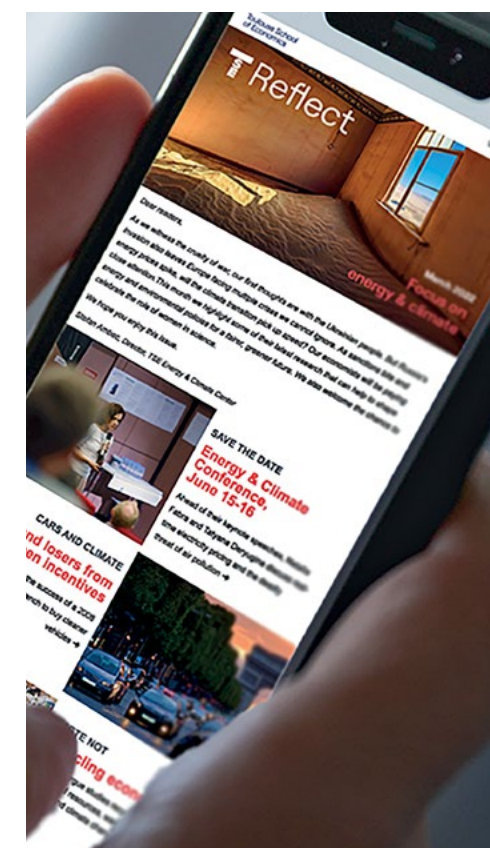
Keeping you informed

TSE Reflect newsletter

The first issue of the TSE Reflect newsletter for practitioners was launched in February 2022. This **monthly missive** is designed to share **research advances** as well as **news regarding our partnerships and upcoming events**, replacing the old format of TSE Center newsletters with a 100% digital format. It highlights the impact of our partners' support for research at TSE and the work of the TSE Centers.

TSE Reflect focuses on a **different theme each month**. Since its creation, we have delivered analysis from our academic community on important current topics about competition, digital economics, energy and climate, health, infrastructure and networks, and sustainable finance.

Read and sign up at www.tse-fr.eu/tse-reflect



TSE Mag

The spring edition of TSE's biannual magazine showcased some of our latest research under the theme "Health economics: Innovation and cost". The fall edition offered insight on "How to fast-track green transport".

Read and sign up at www.tse-fr.eu/tse-mag



In the media

Below is just a selection of the columns our researchers wrote for the press in 2022:

- **Comment rendre les médicaments plus accessibles ?**
Yassine Lefouili, La Tribune, February 19
- **Comment les mathématiques luttent contre le cancer**
Sébastien Gadat, La Tribune, March 1
- **Climat : pas de réindustrialisation sans taxe carbone aux frontières !**
Christian Gollier, L'Express, March 6
- **Quels sont les effets redistributifs de la tarification de l'électricité en temps réel ?**
Stefan Ambec & Claude Crampes, La Tribune, May 25
- **Stratégie bas carbone : être à la fois lièvre et tortue**
Frédéric Cherbonnier, Les Échos, June 9
- **Impérative, la réforme des retraites ne suffira pourtant pas** - Jean Tirole, Challenges, October 13

Our resources: Research partners & people

Major advances in economics have been made thanks to our researchers in 2022. But hundreds of other people, including donors and sponsors, have also helped to make such achievements possible. We are eager to share our successes with you all. Thank you!

**Key numbers
for 2022**

33 
partners supported TSE research partnership activities and centers

3 
new partners

8 
partnerships renewed

Thanks to all our partners



2022 was a year of consolidation for TSE research partnerships, as the world emerged from the Covid crisis. The section below provides a list of all our partners, with a brief description of the research they support. The research topics are varied; as are the types of partners, including a Toulouse start-up, global platforms, and public institutions. But they share a desire to support TSE projects that expand and disseminate knowledge, making a concrete contribution to the common good.

Each partnership has a dedicated research team led by a researcher or a pair of researchers, depending on the size and format of the partnership. To ensure the smooth running of the partnerships, TSE also offers support services to help with development, administration and communication.

Agence Française de Développement (AFD)

Exploring the social and environmental aspects of sustainable development with research on social protection, social linkages, and transition risks, particularly climate and financial risks.

Coordinator:
Emmanuelle Auriol

Autorité de contrôle prudentiel et de résolution (ACPR)

Encouraging research focused on state-of-the-art evaluation and understanding of systemic risks, prudential regulation of the financial and banking system, and related challenges and opportunities.

Coordinator: Sophie Moinas
(jointly with Christophe Pérignon, HEC)



ACPR, a new partner in 2022

TSE joined forces with HEC Paris business school to launch a new research initiative sponsored by ACPR. Launched for three years, this initiative explores a wide range of topics such as regulation and competition in banking and insurance, climate risk and green finance, biases and discrimination in artificial intelligence, modeling and management of risks (cyber, epidemiological...). It aims to promote research on emerging issues and to disseminate cutting-edge research findings towards firms, policymakers, and the wider public. Activities will include the production of high-quality research publications, academic conferences, as well as research workshops and seminars. The initiative gathers a team of around 30 international researchers with different research interests in finance, economics, econometrics, statistics, and accounting.

“ Our partnership provides new opportunities for the ACPR team to interact with academics from TSE and HEC Paris. We are pleased to participate in this constructive dialogue and support the ambition of our academic partners to develop innovative research in the field of regulation and systemic risks.”

Laurent Clerc
Director for Research and Risk Analysis, ACPR



Airbus

Examining a wide range of research topics with a focus on the digital economy.

Coordinator: *Yassine Lefouilli*

Amazon

Exploring a wide range of research topics related to the development of the digital economy.

Coordinator:
Karine Van der Straeten

**Association
Finance Durable
et Investissement
Responsable (AFDIR)**

(in support of the Initiative FDIR, in collaboration with Ecole Polytechnique)

Sponsors include: ABN AMRO IS - Amundi AM - Caisse des Dépôts - Candriam Institute for Sustainable Development - Edmond de Rothschild AM - Fonds de Réserve pour les Retraites - HSBC Global AM - La Banque Postale AM - Square Management. Exploring research topics in the areas of responsible investment and sustainable finance, with a focus on long-term ESG performance and risk evaluation, corporate governance, and shareholder engagement.

Scientific directors (on the TSE side): *Catherine Casamatta* and *Sébastien Pouget*

**Autorité de Régulation
des Transports (ART)**

Investigating the future organization of the motorway sector with a focus on the economics of motorway concessions.

Coordinators:
Marie-Françoise Calmette
and *Philippe Bontems*

Baillie Gifford

Studying a wide range of research topics with a focus on sustainable finance topics.

Coordinator:
Catherine Casamatta

**Banque Centrale du
Luxembourg (BCL)**

Exploring the role of central banks, the conduct of monetary policy, micro and macro-prudential supervision, as well as risks and opportunities in the field of payment systems and services.

Coordinator:
Patrick Fève

Banque de France

Developing research in the fields of microstructure, financial intermediation, risk, and macroeconomic analysis.

Coordinators:
Fany Declerck
and *Fabrice Collard*

BBVA

Investigating a range of research topics at the crossroads between finance and digital economics.

Coordinator:
Alexander Guembel

**Bill & Melinda Gates
Foundation**

(in support of the FIT IN Initiative)

Developing research to understand the implications of alternative competition and regulatory policies and inform efforts to facilitate access to digital payment systems in low- and middle-income countries.

Program director:
Milo Bianchi
Scientific director:
Emmanuelle Auriol

bioMérieux

Addressing emerging issues in health economics with a focus on market failures for innovation in antibiotics and healthcare products, and the economic evaluation of innovation in diagnoses.

Coordinator:
Pierre Dubois

Causality Link

Exploring new applied and theoretical challenges in machine learning, building on TSE expertise in economics, mathematics and finance and the power of predictive analytics.

Coordinator:
Sébastien Gadat

Danone

Advancing knowledge on the societal impact of companies by exploring a range of research topics at the crossroads between sustainable finance and food economics.

Coordinators:
Sébastien Pouget
and *Sophie Moinas*

**Electricité
de France (EDF)**

Studying a wide range of topics related to energy production, and the pricing and distribution of electricity.

Coordinator:
Stefan Ambec

ESSO SAF

Exploring a range of research topics related to carbon pricing and the risk of carbon leakage.

Coordinator:
Stefan Ambec

ENGIE

Developing scientific knowledge to address issues in energy markets (electricity and gas in particular), using the tools of economic theory.

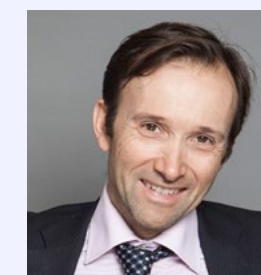
Coordinators: *Christian Gollier* and *Gilles Lafforgue*

Addressing the energy transition with ENGIE

ENGIE and TSE have been partners for almost 15 years. In 2022, they began a new three-year partnership. Within the Strategy Department at ENGIE, the Economics, Markets, Scenarios division has been a privileged interlocutor for TSE researchers. Upcoming work will investigate new forms of organization in electricity and gas markets: these sectors are likely to converge in response to the upheaval caused by the rapid growth of renewable energies in the energy mix. Researchers will also address the anticipated consequences of emission targets on optimal decarbonization scenarios.



“ ENGIE wishes to call upon the economic expertise and modelling know-how which TSE can provide. We seek the objectivity of academic work carried out over the long term.”



Pierre-Laurent Lucille
Chief economist, Engie

Getlink

Studying the effectiveness of corporate climate action initiatives.

Coordinator:
Ulrich Hege

**Groupement pour l'Élaboration et
la Réalisation de Statistiques (GERS)**

Advancing research on public-health issues of concern to the pharmaceutical industry.

Coordinator: *Pierre Dubois*

GERS, providing data and funding research

GERS SAS and GIE GERS, which collect and analyze sales statistics from retail and hospital markets for pharmaceutical firms and regulators, were among the early supporters of the TSE Health Center. Initiated in 2019 and renewed in 2022, this partnership provides TSE with financial support for research, as well as access to drug and health-product sales data for scientific purposes. This enables in-depth analyses to be carried out on research topics of interest to the pharmaceutical industry, including the shortage of medicines, parallel trade in medicines, and the economics of antibiotics.

“ We support researchers in health economics, with a view to better understanding the economic and political issues in our sector, and ultimately to improving quality and access to care.”



Patrick Oscar
CEO, GIE GERS & GERS SAS

**Gaz Réseau
Distribution France
(GRDF)**

Providing scientific insights on several issues, including the investment choices and incentives for firms like GRDF, the optimal cost-sharing method, the use of smart gas meters, and the consumption behavior of gas users in the context of the energy transition.

Coordinator:
Frédéric Cherbonnier

Huawei

Encouraging research at the frontier of machine learning, optimization and statistics.

Coordinators:
Jérôme Bolte
and Sébastien Gadat

La Poste Groupe

Addressing new economic challenges linked to major transformations brought by the arrival of new communication technologies.

Coordinator: Helmuth Cremer

**Les Entreprises du
médicament (LEEM)**

Advancing research on a wide range of topics from drug shortage to the financing of the health insurance system.

Coordinator: Pierre Dubois

**Luohan Academy –
Ant Group**

Exploring research on multiple issues including competition and privacy in platform markets, economic aspects of blockchain technologies, and the fintech revolution.

Coordinator: Doh-Shin Jeon

Meta

Exploring topics related to the development of the digital economy.

Coordinator: Andrew Rhodes

Microsoft

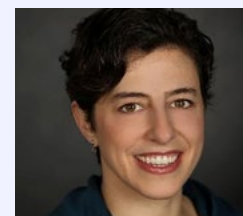
Supporting new research on cloud computing and mergers.

Coordinator: Jacques Crémer

Reinventing our partnership with Microsoft

Microsoft has supported the research of TSE’s economists since 1999. In addition to supporting research projects carried out by researchers, in 2005 Microsoft became the sponsor of the Toulouse Network for Information Technology (TNIT). Soon after TNIT came to an end, Microsoft renewed its support by sponsoring new research on two topics: cloud computing and mergers. Whereas firms, governments and non-profit organizations used to run most of their computing in-house, first through computers and then servers, the world’s computations and data storage are now increasingly carried out “in the cloud”. With the support of Microsoft, TSE aims to advance the understanding of the economic consequences of this very disruptive technology. TSE researchers will also work on a second research project to help determine whether mergers should be classified as horizontal or vertical.

“ The development of the cloud raises important analytical and policy questions, yet very little research has been done in this field. The new research developed by TSE could provide new insights for all those interest in the economics of the cloud.”



Rima Alaily
Corporate VP & Deputy
General Counsel –
Competition Law
Group, Microsoft

Netspar

Encouragement for a research project on sustainable investments, conducted jointly with Rob Hauer, professor of Finance and co-founder of the European Centre for Sustainable Finance (ECCE) at Maastricht University.

Member for TSE:
Sébastien Pouget

Orange

Developing scientific knowledge on the economics of data, the environmental impact of telecoms, and cooperation between operators.

Coordinator: Bruno Jullien

Royal Mail

Proposing research-based solutions for improving demand-forecasting techniques for postal products, estimating the determinants of production boundaries using microdata at delivery points, and estimating price elasticities of demand for postal products such as those used by advertisers or publishers.

Coordinator: Thierry Magnac

**SCOR Corporate
Foundation for
Science**

Exploring applied and theoretical research to better understand how risk transforms and influences economic decisions.

Coordinator:
Stéphane Villeneuve

SNCF Réseau

Identifying the optimal way to adapt the transport offer to different types of demand, as well as the effects of the ecological transition.

Coordinator:
Frédéric Cherbonnier

TotalEnergies

Exploring a range of research topics related to the energy transition.

Coordinator: Stefan Ambec

Urosphere

Providing a better understanding of economic issues related to the global economic market for in vitro tests with avatars in cancerology, or for tests involving personalized medicine.

Coordinator:
Philippe De Donder



D.-S. Jeon (TSE)

How to support us?

Partners can support research within a specific scientific project – **a research initiative or a chair** – and/or contribute to the long-running operations of one or several **TSE Centers**. Many research programs are undertaken across several different Centers – such as Digital and Sustainable Finance – and adopt a multidisciplinary approach.

TSE donors and project sponsors **provide funding** to encourage the **establishment of world-class teams on emerging research issues**, as well as funding for visiting programs and research grants. In addition to financial support, TSE researchers benefit greatly from access to real-world **databases**.

Research partnerships at TSE are undertaken within the **TSE-Partnerships Foundation (TSE-P)**, which operates under the aegis of the TSE - Jean-Jacques Laffont Foundation.

Corporate donations to the TSE-Partnerships Foundation can be made tax-efficiently:

- In France through the TSE- JJ Laffont Foundation,
- In the US through American Friends of TSE (501c3 charitable corporation).

Partnerships with TSE-P can also take the form of a **specific sponsored research agreement** under the French R&D scheme called "Crédit d'Impôt Recherche" (or Research Credit Tax).



“ Research partners at TSE include corporations, public institutions and foundations. We are fortunate to be able to offer a wide range of partnership solutions, and we are committed to finding the best way to combine the needs of our researchers and the expectations of our partners.”

Ève Séjalon
Head of Research Partnerships and Centers, TSE

✉ Contact: partnership@tse-fr.eu

Developing high-level academic alliances to boost scientific excellence

Research partnerships have given TSE the opportunity to formalize research collaborations with research teams from **Ecole Polytechnique** (as part of the FDIR Initiative) and **HEC Paris** (as part of the tripartite partnership with ACPR). These academic partnerships pool diverse expertise to tackle important questions of interest to partners and society.

TSE also developed closer ties with Fudan University in 2022. This led to the launch, on November 27, of the **Fudan University-TSE Research Institute of Innovation and Digital Economy** (or FT-RIDE), inspired by the success of TSE Digital Center.

TSE also relies on its **network of affiliated researchers**. Based in France or abroad, these affiliates are often co-authors of publications with TSE researchers and speakers at scientific or outreach events organized by TSE. On an individual basis, several of them have taken part in our activities involving partners and other decision-makers. Many thanks to them too!



“ At TSE, we pride ourselves on being able to bring together brilliant minds to meet the intellectual challenges before us.”

Christian Gollier
Director, TSE



Launching ceremony of FT-RIDE in Shanghai on November 27

Research partners in the TSE ecosystem

Connecting research and education

Engage with our students

TSE is training tomorrow's top economists by offering multidisciplinary undergraduate, master's, and PhD programs. Its 2,500 students benefit from the academic excellence of TSE faculty but also from the input and advice of practitioners and international experts. Research partners are most welcome to connect with the TSE Career Service to:

- Give a **Business or an Alumni Talk** on economic issues and share career-path experience with our students.
- Participate in **professional development sessions** and offer precious advice on how to navigate the job market.
- Take part in **TSE courses** and present solid **case studies** to share the fundamentals of economics and mathematics and their real-world applications.
- **Recruit** top talent and connect with future collaborators by participating in our career fair: "**Business Networking Day**".
- Post **job and internship** offers on the TSE Alumni website.
- Cooperate with the **associations** affiliated to TSE such as Junior Consulting, and Women in Economics.
- Support the school by giving part of the "**Taxe d'apprentissage**" to TSE.

✉ Contact: careers@tse-fr.eu

On December 8 at TSE, Governor of Banque de France François Villeroy de Galhau gave a talk on the consequences of the energy-price and terms-of-trade shock in the euro area and in France. It was part of a series of "Business Talks" given by practitioners that TSE organized in 2022. The main auditorium of TSE was filled with future TSE graduates aspiring to become an economist, analyst, data scientist, statistical research manager or consultant.



Almost 50 companies and institutions attended the TSE Business Networking Day on November 25.



Organized every year, it is a unique opportunity for students to be in contact with a wide range of French and international firms and public institutions. Our research partners Airbus, Banque de France, and La Poste Group were among those present to offer career opportunities.

Increasing numbers of companies and institutions are also involved in the different programs for TSE students.



An example is the Master in Data Science for Social Sciences and Statistics and Econometrics which organizes statistical consulting workshops throughout the academic year and welcomes many companies including Airbus, Airbus Helicopters, and BVA.

Programs geared to meet the needs of professionals

TSE Executive Education offers carefully designed courses, based on the latest economic research and taught by internationally renowned faculty with the aim of providing in-depth understanding and insights on new and increasingly complex economic challenges.

- **Train your teams**
- **Participate in policy events**

✉ Contact: exed@tse-fr.eu

Executive Education course: Corporate Climate Action (online, June 30)

Over 60 participants gathered to understand the key reasons why companies are implementing climate-related policies. TSE faculty provided an overview of how these policies can be implemented and what the implications are for economic and financial performance.

A case study was an integral part of this course, and we thank our partner Getlink for their involvement with this, and for their participation in the panel discussion that followed the course.

Executive Education Seminar (Brussels, October 28)

TSE Executive Education's annual seminar is one of

many opportunities for our partners to learn about some of the hottest topics in antitrust and merger control in the EU. The seminar was attended by several of our partners who were able to hear from top competition officials, academics and practitioners on topics such as vertical mergers, rebates, and gatekeeper regulation.



Going further: Helping us shape the future TSE

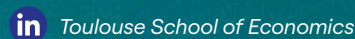


Aside from their support to a Center or a specific research project, several research partners **support the overall development of TSE**. The members of the "TSE Club des partenaires" are corporations, institutions or foundations which have made large-scale, non-targeted and non-expandable donations to at least one of the two TSE – Jean-Jacques Laffont Foundation fundraising campaigns.

🔗 See the list of the members of the TSE Club des partenaires



Economics for the Common Good



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