



Toulouse
School of
Economics

SCOR
FOUNDATION FOR SCIENCE

SCOR Chair Risk Markets & Value Creation Activity report 2025

For the common good

SOMMAIRE

INTRODUCTION.....	3
PUBLISHED WORKS AND SCIENTIFIC CONTRIBUTIONS.....	3
1. Articles in peer-reviewed journals.....	3
2. Working papers under review	4
3. Working papers	5
4. Handbook, Chapters & Books.....	5
FOCUS ON A SELECTION OF PROJECTS.....	6
1. A class of singular control problems with tipping points	6
2. How will genetic tests impact health insurance?	6
3. Investment Timing and Technological Breakthroughs	7
THE TSE-SCOR FOUNDATION FOR SCIENCE JOURNAL.....	7
SCIENTIFIC EVENTS.....	8
1. TSE-SCOR Workshop Machine Learning Methods for Econometrics.....	8
2. Denis Kessler Tribute Conference.....	8
3. 2nd Behavioral Insurance Economics SCOR-TSE Workshop.....	9
BILATERAL MEETINGS.....	9
2025 SCOR AWARDS	9
1. SCOR-EGRIE Young Economist Best Paper Award.....	10
2. SCOR – The Geneva Risk and Insurance Review Best Paper Award.....	10
OTHER OUTREACH MATERIAL	10
3. TSE newsletter.....	10
APPENDIX.....	12
Lists of members of the scientific team and the scientific council	12
Full list of research themes and projects as described in the Chair agreement	13

INTRODUCTION

Risk management and decision-making under uncertainty have been at the heart of the Chair Risk Markets and Value Creation since its establishment in 2008. Supported by SCOR and its corporate foundation, TSE has spent the past 18 years advancing both theoretical and applied research to deepen our understanding of how risk influences economic and social outcomes. The SCOR Foundation for Science renewed its support for this Chair in 2023 for a further three-year period, extending until 2026.

As we present the activity report for the third year of this renewed partnership, the researchers of the Chair would like to express their gratitude to the SCOR Foundation for Science for its continued trust and support.

As a reminder of our framework agreement, the expected outputs and deliverables for the Chair are the following:

- Developing research work on the four risk-related themes in which TSE researchers are involved (see the list of themes and projects, as well of the list of researchers involved in appendix);
- Organization of one conference every 18 months (or two over the duration of the partnership);
- Organization of one or two workshop(s) or webinar(s) per year;
- Editing a biannual newsletter (TSE-SCOR Foundation for Science Journal);
- Organization of an annual meeting of the steering committee in charge of thematic validation.

This report focuses on the outputs and deliverables for the period from June 1st, 2025, to February 1st, 2026.

PUBLISHED WORKS AND SCIENTIFIC CONTRIBUTIONS

1. Articles in peer-reviewed journals

- Jean Tirole, and Roland Bénabou, “[Laws and Norms](#)”, Journal of Political Economy, 2026, 59 pages, forthcoming.
- Jean-Paul Décamps, Fabien Gensbittel, and Thomas Mariotti, “[Mixed Markov-Perfect Equilibria in the Continuous-Time War of Attrition](#)”, Annals of Applied Probability, 2026, forthcoming.
- Christian Gollier, “[The welfare cost of ignoring the beta](#)”, Journal of Political Economy Microeconomics, 2026, forthcoming.
- Simon Fan (Lingnan University), Yu Pang (Macau University of Science and Technology) and Pierre Pestieau (University of Liege, CORE, UCL-Louvain, Paris School of Economics), “[The intriguing relation between parenting styles and eldercare](#)”, Review of Economics of the Household, January, 2026.

- Georges Casamatta, and Helmuth Cremer, “[Tax avoidance and commodity tax differentiation](#)”, *Economics Letters*, vol. 257, n. 112714, December 2025.
- Helmuth Cremer, and Jean-Marie Lozachmeur, “[Nonlinear reimbursement rules for preventive and curative medical care](#)”, *Journal of Health Economics*, vol. 103, n. 103049, September 2025.
- Matthew Adler, Maddalena Ferranna, James K. Hammitt, Eugénie de Laubier, and Nicolas Treich, “[Fair Innings: An Empirical Test](#)”, *Health Economics*, vol. 37, n. 7, July 2025, pp. 1350–1364.
- Harun Onder (The World Bank), Pierre Pestieau (CORE, Paris School of Economics, University of Liege) and Grégory Ponthières (UCLouvain), “[Equivalent income versus equivalent lifetime: does the metric matter?](#)”, *Journal of Demographic Economics*, vol. 91, n. 2, June, 2025, p. 210-239.
- Mathieu Lefebvre (CNRS, France, BETA, Université de Strasbourg), Pierre Pestieau (University of Liege, CORE, Belgium, TSE, Belgium) and Jérôme Schoenmaeckers (University of Liege), “[Grandchild care and eldercare. A quid pro quo arrangement](#)”, *Economic Modelling*, vol. 146, May, 2025.
- Jean-Paul Décamps, Fabien Gensbittel, and Thomas Mariotti, “[Investment Timing and Technological Breakthroughs](#)”, *Mathematics of Operations Research*, vol. 50, n. 2, May 2025, pp. 1478–1513.
- David Bardey, and Philippe De Donder, “[A Welfare Analysis of Genetic Testing in Health Insurance Markets with Adverse Selection and Prevention](#)”, *Canadian Journal of Economics*, Toronto, vol. 58, n. 2, May 2025, pp. 443–483.
- Eduardo Abi Jaber, and Stéphane Villeneuve, “[Gaussian Agency problems with memory and Linear Contracts](#)”, *Finance and Stochastics*, vol. 29, January 2025, p. 143–176.
- Emmanuel Farhi, and Jean Tirole, “[Too Domestic to Fail: Liquidity Provision and National Champions](#)”, *The Review of Economic Studies*, vol. 92, n. 1, January 2025, pp. 268–298.

2. Working papers under review

- Jean-Paul Décamps (Toulouse School of Economics, TSE and University of Toulouse–Capitole) , Fabien Gensbittel (Toulouse School of Economics, CNRS, France, UT1) and Thomas Mariotti (Toulouse School of Economics, CNRS, CEPR, France, CESifo, University of Toulouse Capitole) , “[The War of Attrition under Uncertainty: Theory and Robust Testable Implications](#)”, TSE Working Paper, vol.

22-1374, October, 2022, revised December 2025, in revision in Journal of Political Economy.

- Bruno Biais, Hans Gersbach, Jean-Charles Rochet, Ernst-Ludwig von Thadden, and Stéphane Villeneuve, “[Dynamic Contracting with Many Agents](#)”, TSE Working Paper, n. 25-1642, May 2025, in revision in Review of Financial Studies.

3. Working papers

- Claire Borsenberger, Helmuth Cremer, Denis Joram, Jean-Marie Lozachmeur, and Estelle Malavolti, “[The design of insurance contracts for home versus nursing home Long-Term Care](#)”, TSE Working Paper, n. 24-1528, April 2024, revised November 2025.
- Jean-Paul Décamps (Toulouse School of Economics), Fabien Gensbittel (Toulouse School of Economics), Thomas Mariotti (Toulouse School of Economics, CNRS) and Stéphane Villeneuve (Toulouse School of Economics), “[A class of singular control problems with tipping points.](#)”, TSE Working Paper, vol. 25-1694, October 2025.
- Emmanuel Thibault et Grégory Ponthières, “[Life Expectancy, Income and Long-Term Care: The Preston Curve Reexamined](#)”, TSE Working Paper, n° 23-1474, octobre 2023, revised September 2025.
- Francesca Barigozzi, Chiara Canta et Helmuth Cremer, “[Workers’ Motivation and Quality of Services in Mission-Driven Sectors](#)”, TSE Working Paper, n° 25-1655, juillet 2025.
- Helmuth Cremer, and Firouz Gahvari, “[Endogenous altruism and long term care policies in a Mirrleesian setting](#)”, TSE Working Paper, n. 25-1626, March 2025.

4. Handbook, Chapters & Books

- Pestieau Pestieau, “[The economics of long-term care: the contribution of family, state and market to elder care](#)”, Textbook, Springer Verlag, Forthcoming.
- Christophe Courbage, Richard Peter, Béatrice Rey and Nicolas Treich, “[Prevention and Precaution](#)”, in Handbook of Insurance, Georges Dionne (ed.), Springer Cham, 2025, p. 27-53.
- Andrea Attar, Thomas Mariotti et François Salanié, “[Competitive Nonlinear Pricing under Adverse Selection](#)”, in Advances in Economics and Econometrics, Twelfth World Congress, Cambridge University Press, sous la direction de Victor Chernozhukov, Johannes Hörner, Eliana La Ferrara et Ivän Werning, vol. 1, December 2025, p. 3-46.

FOCUS ON A SELECTION OF PROJECTS

Below are three examples of works-in-progress directly enabled or stimulated by the partnership between TSE and the SCOR Foundation for Science.

1. A class of singular control problems with tipping points

Jean-Paul Décamps, Fabien Gensbittel, Thomas Mariotti et Stéphane Villeneuve

Tipping points are modeled as unknown critical thresholds at which a controlled resource process suffers irreversible damage, after which the Decision Maker (DM) faces a downgraded control problem.

Examples of tipping points discussed include ecological transitions (e.g., forests tipping irreversibly to savanna under excessive fires or grazing, or aquatic systems developing hypoxic “dead zones” after nutrient overload) and financial crises where widespread mortgage defaults led to a sudden collapse in the value of structured credit products and the insolvency of key financial institutions.

The paper studies a reflected Brownian diffusion for the reserve level, controlled via singular extraction, where the tipping level is a non-observable random variable and only its distribution is known. Reformulating the problem in the Markovian setting leads to a new two-dimensional control problem in the reserve and its running minimum, since new minima reveal information about whether the tipping point has been crossed. The authors establish a verification theorem for this new class of bi-dimensional singular control problems, construct the value function explicitly, and characterize optimal extraction policies, which may involve (i) letting reserves grow up to a free boundary depending on the current minimum, (ii) extracting in one block up to an endogenous level, or (iii) cases with no exact optimum but with tractable ϵ -optimal strategies.

2. How will genetic tests impact health insurance?

Based on the research article: A Welfare Analysis of Genetic Testing in Health Insurance Markets with Adverse Selection and Prevention by **David Bardey and Philippe De Donder**.

Genetic tests promise more personalized medicine and targeted prevention strategies, but they also raise significant challenges for health insurance systems. In their research, David Bardey and Philippe De Donder show that the wider use of genetic testing could undermine risk pooling. As genetic information becomes more common, insurers may shift from pooled contracts to differentiated ones, penalizing high-risk individuals. The study highlights regulatory challenges in maintaining fairness, due to information asymmetries and the difficulty of enforcing disclosure requirements. Their analysis reveals an ambiguous impact on social welfare: negative in the short term, but potentially positive in the long run if tests are widely adopted and highly effective. The authors conclude that policymakers must consider the structure of insurance contracts before promoting genetic testing and that long-term support for research and preventive measures is crucial.

3. Investment Timing and Technological Breakthroughs

Jean-Paul Décamps, Fabien Gensbittel and Thomas Mariotti.

In today's fast-moving digital economy, firms face a dilemma between investing in existing technology or waiting for superior innovations. Jean-Paul Décamps, Fabien Gensbittel, and Thomas Mariotti show that uncertainty about future breakthroughs often leads firms to delay adoption, even when current technologies are profitable. Investment timing is influenced by market conditions: companies tend to adopt existing solutions during economic downturns, while booming markets encourage them to wait for potentially better technologies. The study highlights how factors such as regulatory stability, demand expectations, and development costs shape these decisions. Policymakers seeking to accelerate innovation must reduce uncertainty, offer clear incentives, and foster conditions that support technological breakthroughs. Strategic public investment, R&D promotion, and long-term policy commitments can help firms invest sooner. Overall, the research underscores that timing, market dynamics, and incentives are critical for the diffusion of new technologies and the sustainable advancement of innovation.

THE TSE-SCOR FOUNDATION FOR SCIENCE JOURNAL

This journal highlights articles from TSE researchers or, in some cases, researchers from prestigious universities who have been involved in the activities of the Chair, as well as prizes, past or upcoming events, or any other news related to the collaboration between TSE and the SCOR Foundation for Science. The Journals are also disseminated on TSE's social networks, in the TSE Reflect newsletter for practitioners and on the TSE webpage dedicated to the Chair.

All journals are available on [the TSE website](#).

Latest issues:

[Novembre 2025](#)

[May 2025](#)



SCIENTIFIC EVENTS

1. TSE-SCOR Workshop Machine Learning Methods for Econometrics

January 31, 2025

The TSE-SCOR Workshop on Machine Learning Methods for Econometrics was held on January 31, 2025, at SCOR headquarters in Paris. Organized by Nour Meddahi and Stéphane Villeneuve from TSE, the event explored applications and limitations of machine learning in econometrics. Presentations by leading scholars included Nour Meddahi's overview of machine learning in econometrics, René Garcia on portfolio allocation, Christian Gourieroux discussing cyber risk measurement, and Dacheng Xiu addressing machine learning in asset pricing. The workshop provided a platform for examining both advancements and challenges in applying machine learning to economic and financial analysis.

[Program](#)

[Webpage and photos](#)

2. Denis Kessler Tribute Conference

March 20, 2025

In March 2025, TSE and the SCOR Foundation for Science organized a scientific conference at the Maison de la Chimie in Paris to honor Denis Kessler, whose contributions to economics, insurance, and public policy were widely recognized. The event brought together around 60 participants, including academics, colleagues, and friends, to celebrate his career and intellectual legacy.

Introduced by Stéphane Villeneuve (TSE), the conference featured presentations on topics Denis Kessler valued, including privacy in the digital age (Jean Tirole), insurers' mergers and acquisitions in the U.S. and the role of monetary policy (Georges Dionne), the impact of AI on labor markets and inequality (Gilles Saint-Paul), and human capital, inequality, and family structures (Pierre-André Chiappori).

The day concluded with tributes from colleagues and industry leaders, highlighting Denis Kessler's brilliance, commitment to academic freedom, and vision in both research and business. His lifelong dedication to the "art and science of risk" continues to inspire economists and practitioners.



[Program](#)

Presentations:

The following three individuals have given their consent for their presentation to be shared:

- Pierre-André Chiappori (Columbia University), "[Human Capital, Inequality and the Family](#)"
- Georges Dionne (HEC Montréal) (with Akouété Fenou & Mohamed Mnasri), "[Insurers' M&A in the United States during the 1990-2022 period: Is the Fed monetary policy a causal factor?](#)"
- Gilles Saint-Paul (Paris School of Economics), "[Artificial Intelligence, The Collapse of the Middle Class, and Oligarchy](#)"

3. 2nd Behavioral Insurance Economics SCOR-TSE Workshop

November 24, 2025

The 2nd Behavioral Insurance Economics Workshop was organized online by Aisling Bradfield (SCOR) and Nicolas Treich (TSE, INRAE). The workshop explored the rich behavioral aspects of insurance, where risk, complexity, long-term and catastrophic outcomes, regret, family considerations, emotions, and moral judgments all shape decisions. Presentations spanned the entire insurance journey—from Awareness and Purchase to Underwriting, Engagement, and Claims—highlighting factors such as time-inconsistent preferences, household decision dynamics, fairness perceptions, and emotional attachment to pets. Attendees also examined willingness to share wearable and genetic data, consumer sensitivity to non-performance risk, and the emerging role of AI tools across all stages. The program combined theoretical models, survey analyses, and insurance data, fostering lively discussion between academics and industry practitioners. Overall, the workshop emphasized how behavioral economics enhances understanding of consumer behavior, informs product design, supports targeted interventions, and improves both market efficiency and customer satisfaction.

[Program](#)

[Full summary](#)

BILATERAL MEETINGS

Monthly meetings, often involving Philippe Trainar (SCOR Foundation for Science), Stéphane Villeneuve (TSE) either online or in person, have been held to ensure follow-up on the partnership, and prepare upcoming conferences or workshops.

2025 SCOR AWARDS

The SCOR Risk Markets and Value Creation Chair supports the awards organized as part of the annual seminar of the European Group of Risk and Insurance Economists (EGRIE). The 2025 EGRIE annual seminar was held in early August. Following the event, we

interviewed the two 2025 award recipients and shared the interviews on LinkedIn and in the TSE Reflect Newsletter (see Outreach material for more information on the TSE Reflect Newsletter).

Interview of Marcel Freyschmidt (Zurich University of Applied Sciences ZHAW) and Richard Peter (University of Iowa): Celebrating research in risk and insurance economics.

1. SCOR-EGRIE Young Economist Best Paper Award

The selection committee is composed of five people representing the following institutions: EGRIE, SCOR, Fondation du Risque, Dauphine, and TSE-P. (Christophe Courbage *Geneva Association*, Elyes Jouini *Université Paris Dauphine*, Philippe Trainar *Fondation SCOR*, Bertrand Villeneuve *Université Paris Dauphine* and Stéphane Villeneuve *Toulouse School of Economics*).

This year's award went to **Marcel Freyschmidt (ZHAW Zurich University of Applied Sciences)** for his paper "*Tail Overweighting in Catastrophe Bond Pricing*," which offers new insights into how markets evaluate extreme risks.



2. SCOR – The Geneva Risk and Insurance Review Best Paper Award

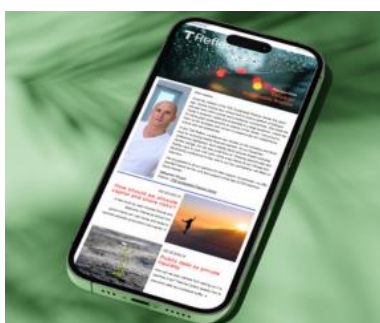
For the SCOR-Geneva Risk and Insurance Review Best Paper Award for the best paper published in the *Geneva Risk and Insurance Review*, the selection committee is composed of the editors and associate editors of the *Geneva Risk and Insurance Review* (GRIR).

The SCOR-Geneva Risk and Insurance Review Best Paper Award for 2025 was awarded to **Richard Peter (University of Iowa)** for his article "*The Economics of Self-Protection*," published in the *Geneva Risk and Insurance Review* (March 2024). This annual prize recognizes the **most impactful paper published in the journal**.



OTHER OUTREACH MATERIAL

3. TSE newsletter



The work undertaken with the support of the SCOR Foundation for Science, and the events organized with its support, have also been a regular feature of the TSE newsletter. TSE sends out the monthly e-newsletter *TSE Reflect* (whose theme varies every two months) to share the latest work of its researchers with economic decision-makers, and first and foremost with its partners. The theme of sustainable finance, risk and insurance is addressed every year, and the other regular topics highlighted are

energy and climate, infrastructure and networks, health, the digital economy, regulation and competition. The new theme for 2026 is human capital and education.

Our work with the SCOR Foundation for Science was featured in the health, in the digital and in the sustainable finance newsletters in:

- [May 2025](#): TSE-SCOR Foundation for Science Journal
- [September 2025](#) : Interview of the SCOR-EGRIE prizes laureates
- [November 2025](#): TSE-SCOR Foundation for Science Journal

APPENDIX

Lists of members of the scientific team and the scientific council

Scientific team funded by the research program

- Andrea ATTAR, TSE
- Helmut CREMER, TSE
- Philippe DE DONDER, TSE
- Jean-Paul DECAMPS, TSE
- Christian GOLLIER, TSE - **Co- Head of the Chair**
- Catarina GOULAO, TSE
- Jean-Marie LOZACHMEUR, TSE
- Thomas MARIOTTI, TSE
- Pierre PESTIEAU, Université de Liège, TSE faculty associate
- Emmanuel THIBAUT, Université de Perpignan, TSE faculty associate
- Jean TIROLE, TSE
- Nicolas TREICH, TSE
- Stéphane VILLENEUVE, TSE - **Head of the Chair**
- Dachend XIU, TSE

Scientific team not funded by the research program

- Milo BIANCHI, TSE
- David MARTIMORT, TSE

Scientific Council

- André Lévy-Lang, Chairman, SCOR Corporate Foundation for Science and Chairman of the supervisory board,
- Sébastien Pouget, Director, TSE-Partnership
- Philippe Trainar, Director, SCOR Foundation
- Elyès Jouini, Scientific Directory President, Institut Louis Bachelier
- Louis Eeckhoudt, Professor, School of Management Lille IESEG
- Xavier Freixas, Professor, Pompeu Fabra University Barcelona

Full list of research themes and projects as described in the Chair agreement

A- Behavioral Economics

1-Ethics by Jean Tirole

This research project aims to propose a comprehensive review of the ethical considerations when implementing policies to change economic behavior. More generally, all studies that define a theoretical framework to ensure that ethical considerations are part of economic policy issues are at the heart of this project led by Jean Tirole. Questions such as « Do markets encourage unethical behaviors? » will receive a particular attention. On the other hand, technology widens the access to information about our conduct. This project aims at shedding theoretical and empirical light on induced behavioral changes with the booming of digital economy.

2- Behavioral Insurance Economics by Nicolas Treich

Most research in insurance economics has assumed that agents are fully rational. The objective of the research project is to explore both theoretically and empirically the impact of behavioral limitations on insurance demand and insurance markets more generally. Indeed, the domain of insurance provides a rich ground for this investigation since it involves (e.g.) decision under risk and uncertainty, long term effects and complexity. Moreover, recent empirical research has identified several puzzles with classical/rational theories in insurance economics, such as underinsurance of catastrophic risks or overinsurance of home risks (Sydnor 2010), excessive demand for extended warranties (Abito and Salant 2019), over-reaction to recent events (Dumm et al. 2017), preference for dominated choices in the health domain (Bhargava et al. 2017, Handel and Kolstad 2015), inconsistent choices across different insurance domains (Barseghyan et al. 2011) or puzzling wealth effects (Armantier et al. 2022). Several recent papers stress in particular the importance of regret, confirmatory bias, motivated reasoning and social norms in risky decisions as well as the emotional or psychological reaction to dramatic events such as death or severe accidents that may play a role in life insurance or annuity demand for instance. Finally, an important aspect is to understand the strategic dimensions, as insurance companies may exploit consumers' behavioral limitations, or instead help consumers to make better insurance-related decisions (through "nudges" for instance). Hence, this research project which lies at the interface of insurance and behavioral economics may also help better understand the role of the supply side of the insurance market in exacerbating or instead mitigating those behavioral failures.

B- Green Challenges for Long-term Investments

1- Sustainability outside the Gaussian world by Christian Gollier

The tradition in finance and economics is to measure risk mostly by the standard deviation. This is fine only for risks whose distributions have only two parameters, as in the Gaussian world. Recent developments in asset pricing theory and actuarial sciences show that people and institutions are much more averse to extreme events than to "gaussian risks". This project aims to examine the meaning of these findings to

reexamine the notion of long-term sustainability and long-term asset pricing. TSE researcher Christian Gollier will be particularly interested in characterizing climate risks in their non-Gaussian dimensions and statistical relationships with other macroeconomic and financial variables, as they appear in standard integrated assessment models, to reevaluate the social cost of carbon.

2- Tipping Points by Jean-Paul Décamps, David Martimort and Stéphane Villeneuve

Tipping points are critical thresholds about some key variables beyond which a whole system abruptly shifts to a completely new and irreversible state. Environmental damages are thought to be characterized by tipping points. For instance, beyond some threshold of release of greenhouse gases, climate change should be irreversible, leading to high societal costs (Van der Ploeg, F. (2014). "Abrupt Positive Feedback and the Social Cost of Carbon," *European Economic Review*, 67: 28-41). Predicting these warning thresholds is challenging. It can be also difficult to observe them and to know whether a system already entered a new irreversible state. Typically, Decision Makers have only incomplete information on the timing and the scope of the changes. For instance, the user of a fragile natural resource must beware of overexploitation that would destroy the resource without however knowing the true threshold of overexploitation. The user of the fragile resource must also take into account the possibility of an abrupt regulation that would impact his/her activity. The regulator for its part has also incomplete information on tipping points, the irreversible nature of the changes and the incurred social costs. How should an optimal policy deal with tipping points that occur at some future random moment?

Jean-Paul Décamps, David Martimort and Stéphane Villeneuve propose in this research program to study a generic model for the optimal liquidity management subject to an abrupt change and to use it as workhorse model to investigate several issues on risk management. Drawing on their previous works funded by the chair, they plan to study cash management under the specter of transition issues. How do transition issues impact corporate cash management when the timing and the scope of these transitions are unknown? How does the magnitude of climate policy change uncertainty impacts cash management and the decision to switch to green technologies? How management policies integrate the risk of sudden changes in regulatory policies? Under which risks and under which conditions is it optimal to switch from a brown technology to a green one and what are the consequences on cash management?

3- Cost of capital, liquidity holding and green transition by Jean-Paul Décamps and Stéphane Villeneuve

The green transition relies on access to low-cost capital, so there is a need to reduce the cost of capital for green transition projects. In Europe, a number of regulations have been introduced in recent years to help redirect financial flows towards more sustainable activities.

Among these, the taxonomy regulation establishes a classification of economic activities that are considered environmentally sustainable, and promotes their financing with the aim of helping to reduce the cost of capital. Because low-carbon projects are technologically highly constrained or require a major research effort, making them less profitable than proven carbon technologies, decision makers face a trade-off between two distinct sets the first one is subsidized but not necessarily

profitable and the second one which is profitable but suffers from a higher cost of capital.

The aim of this paper is to quantify this trade-off relying on dynamic corporate finance models that have been successful in providing insights and guidance for investment and financing when financial markets exhibit frictions. A particular attention will be paid to determine the optimal time for a firm exploiting a carbon technology to switch to a more climate-efficient project and how this transition date depends on the characteristics of the regulation in place.

4- Socially Responsible Investment under the threat of Greenwashing by Andrea Attar, Catherine Casamatta, Arnod Chassagnon and Jean-Paul Décamps

The great environmental crisis we are experiencing, together with the numerous social catastrophes and the corporate instability arising at an international level, have dramatically increased the concern of financial institutions for sustainable development. According to the 2020 Global Sustainable Investment Alliance Review, sustainable investment has reached US\$35.3 trillion assets under management (a growth of 15% in two years), amounting to 36% of the global asset management industry. In recent years, financial economics research has developed to analyze the conditions for SRI to affect entrepreneurial decisions, thereby generating new channels for economic growth. In such contexts, the traditional presumption that firms should maximize their market value (Friedman, 1970) may no longer be valid, and the investors' pressure over the management to fight environmental damages may instead result in socially desirable outcomes (Broccardo, Hart and Zingales, 2022).

In the proposed project, we plan to further investigate this issue, by focusing on a fundamental difficulty faced by socially-responsible investors in allocating their capital. Specifically, we will consider the threat of firms' "greenwashing" behaviors, which consist in all manipulations directed at misleading investors by misstating their sustainability initiatives. This is indeed a growing concern for financial market participants who must rely on companies' subjective SRI disclosures to inform their investment decisions (Musciano, 2022). Yet, few, if any, theoretical results are available on the impact of such practices on market allocations. The objective of the researchers involved in this project is to explicitly analyze the agent's incentives to greenwash in a setting where firms need to raise funds to deploy their strategies, and where the social impact (or "greenness") of these strategies is not perfectly observable. They plan to investigate two distinct questions:

- i) Can SRI funds manage to improve the behavior of their portfolio companies when they cannot fully monitor the responsible conduct of their investees? Is it possible to sustain green strategies that ensure the transition towards a green economy?
- ii) How do firms' incentives to implement responsible strategies vary when both SRI and non-SRI funds can provide capital to implement the firms' projects? In other words, what social outcome can be achieved when funds with different preferences for green/responsible outcomes coexist on the market.

Several recent papers have analyzed the equilibrium return of green and brown firms in the presence of heterogeneous investors (see, for instance, Pastor, Stambaugh and Taylor, 2021). Still few have considered how the resulting allocation of capital can affect firms' incentives to develop green strategies. Overall, it is expected that this project

yields novel results both at a positive and at a normative level. In positive terms, the researchers will contribute to the understanding of the actual conduct of SRI funds, and to shed light on the ongoing debate over the practical impact of SRI. On the normative side, they aim at identifying new forms of regulatory interventions for markets in which socially responsible investors co-exist with conventional ones.

C-Capital requirements for insurance companies

1- Capital requirements for insurance companies by Jean-Charles Rochet and Stéphane Villeneuve

The debate on the costs and benefits of imposing a capital floor on regulated financial institutions has been a major issue for decades, with no real theoretical consensus. The benefits stem from the fact that a larger capital reserve compensates for potential exceptional losses without public intervention, thereby reducing the risk of financial crises, which, as past and recent history has shown, generate substantial economic costs.

On the other hand, too high a level of regulatory constraints undermines investment in productive assets by making access to outside financing more expensive, with potentially lasting effects on the level of economic activity. It is therefore important to quantify the scale of these costs and benefits to impose the optimal level of capital requirement.

To tackle this question, we plan to build an analytically tractable dynamic macro model along lines of Brunnermeier and Sannikov (AER 2014) taking advantage of recent advances in mean-field optimal control theory. It features incomplete financial markets and two-types of risk-averse agents: regulated financial institutions and firms owners subject to idiosyncratic productivity shocks. In addition, the economy faces an aggregate risk which induces a shock that is all the greater the more undercapitalized the financial institutions. Firms finance their investments by raising outside funds from the capital market through financial institutions. The higher the level of capital, the greater the cost of external financing which has a negative impact on the size of investments. Because the firm revenues are private information, the social planner aims to design a dynamic multi-agent mechanism to share risk and optimize inter temporal production and consumption.

D- Health Economics and Aging

1- Screening for fragility with primary and secondary prevention by Helmuth Cremer and Jean-Marie Lozachmeur

A better designed dependency policy appears to be required to prevent a grim future for the upcoming "Papy-Boomer" generation. In particular, preventive care should be developed. Helmuth Cremer and Jean-Marie Lozachmeur propose to analyze the optimal long term care policies which include, in addition to long term care expenditures, also primary and secondary prevention policies. The first stage consists in testing and screening individuals for their risk of becoming dependent. This

screening procedure would allow to target primary prevention in order to reduce the risk of becoming dependent more effectively. The screening procedure would also allow to offer some secondary prevention aimed at mitigating severity of the affection and maintaining individual's capacities. These two types of prevention are complementary and could increase wellbeing of the elderly as well as decrease long term care expenses by reducing health and nursing homes expenditures.

2- Health economics and ageing: Diets across life courses by Catarina Goulao

Ultra-processed (UP) food consumption has been recently associated with the prevalence of obesity and non-communicable chronic diseases such as some types of cancers, diabetes, and heart diseases. Catarina Goulao will construct a unique longitudinal dataset, between 2002 and 2015, of at-home food consumption of French households and will merge this dataset with information regarding nutritional values and degree of food processing. She will develop a panel data econometric analysis to identify the determinants of ultra-processed food consumption exploiting the within- and between-household variations. Socio-economic demographics can in principle explain more the between-household variation than the within-household variation. In fact, differences between households are expected to be due to obesity status, age, poverty. Nonetheless, Catarina Goulao wants to understand whether some life events with impact in time constraint are associated higher UP consumption. She expects to understand whether policies aiming at decreasing UP consumption should, on the one hand, focus on specific population groups or, on the other hand, use price reductions as lever for within-household change of consumption patterns.

3- Social norms and consumption by Catarina Goulao

Estimates suggest that 80% of non-communicable chronic diseases (NCDs)' premature deaths would be preventable with an appropriate change in its most important risk factors such as unhealthy eating, smoking and physical inactivity. The question this project rises is whether there could be a mechanism that could halt obesity and NCDs epidemics from the inner of society. Catarina Goulao proposes a model where consumption norms affect the dynamics of an epidemic of NCDs. First, she will model the epidemics of NCDs by allowing adulthood consumption choices to impact their health capital, which is in part inherited by their offspring and affects their probability of developing a NCD. This mechanism gives rise to an intergenerational externality that would be at the origin of high prevalence levels of NCDs. Then, an additional layer of externality is introduced by allowing for consumption comparisons across cohorts. Individuals learn from previous generations their reference group and what they are expected to eat. This mechanism might counterbalance the former intergenerational externality leading to lower levels of NCDs. Fiscal policies alone or combined with public policies regarding eating comparisons, i.e., consumption norms, can be used to internalize externalities and restore optimality.

4- Social LTC insurance with different sources of dependence by Pierre Pestieau

The need for LTC will increase significantly for those aged 80 and over, and in particular for older women who live longer. LTC economists tend to consider dependence as a one-dimensional reality, whose only variability would be its severity. In reality, there are different sources of old age dependence. Among these sources, one can cite age-related disabilities from chronic diseases such as pulmonary disease and diabetes,

age-related loss of hearing, sight and movement (arthritis), cognitive illnesses such as dementia and Alzheimer. It is important to take into account this heterogeneity. Medical and nursing treatment can vary from one type to another. And social policy can also vary from one type to another. Consider the natural distinction between chronic diseases and dementia. It would seem that the former requires a much more medical approach than the latter. Secondly, if dementia were to affect higher social categories than chronic diseases, one would expect them to benefit less from public support. In this research project, Pierre Pestieau would distinguish between forms of dependency based on the HRS and SHARE panel studies and show how each of them is distributed across the income scale. Then, in a second step, he would develop a theoretical model of social LTC insurance that takes this distinction into account.

5- Bequests, mortality and dependence by Pierre Pestieau and Emmanuel Thibault

Bequest planning can be affected by longevity in two ways. First, in case of premature death, parents involuntarily bequeath the saving they have accumulated for their old days besides what they were intending to transmit to their heirs. Children whose parents pass away prematurely inherit relatively more. Second, in case of disability calling for long-term care (LTC) parents have to deplete their wealth including what they had planned to leave to their children. Empirically, it would be nice to study if the level of bequests depends on these two events, early mortality and disability. Theoretically, Pierre Pestieau and Emmanuel Thibault would study the possibility of using policy tools to maximize the generational steady state utility. Among the instruments they would consider a social LTC insurance and taxes on bequests that could be contingent on whether the parents had a short life or a life with disability.

6- The timing of intergenerational transfers by Helmuth Cremer, Jean-Marie Lozachmeur, Pierre Pestieau and Emmanuel Thibault

The well-known “rotten kid” theorem stipulates that an altruistic parent need not engage in strategic behavior in order to induce his child to maximize family income. As the child's action (like helping his parent) depends on the transfer received, its action internalizes the impact on the family outcome. However, for this theorem to hold, the transfer must be made after the child has chosen his actions. Using a model in which both parents and children are altruistic towards each other, the research team conducting this project wants to study inter-vivo gifts and bequest decisions together with informal care when the timing of bequest and children's aid follows the following sequence: in a first stage parents choose their inter vivo gift; in a second stage, children determine their level of informal care; and finally the parent chooses a bequest. Ultimately, the research team plans to study how the introduction of formal LTC insurance modifies the timing of transfers and the level of informal care.

7- The differential taxation of inter-vivo gifts and bequests and LTC insurance by Helmuth Cremer, Jean-Marie Lozachmeur and Pierre Pestieau

Inter vivo gifts and bequests usually do not face the same tax treatment. In most countries, the taxation scheme on intergenerational transfers favors inter vivo gifts. In this project, the researchers plan to study the optimal tax rates on these two kinds of transfers, and their relation to long term care insurance. In a first pass, they will take the existence of a long-term care insurance contract as given and focus on the optimal

differentiated tax treatments of inter vivo gifts and bequests. Their approach will take into account two important dimensions often neglected in the literature. The first aspect is related to the timing of the transfer. While inter vivo gifts target a relatively “young” generation in need of liquidity, the bequest is usually expected to be received later in life (around the retirement age). Another important difference is that these two kinds of transfers may be motivated by different donor's objectives. As an example, the inter vivo gift may be motivated by parents' altruism while bequests are motivated by joy of giving. In a second pass, they plan to analyze the impact of LTC insurance contracts on the optimal differential taxation of inter vivos and bequests.

8- Worker's motivation and quality of care in nursing homes by Helmuth Cremer

The supply side of formal Long-Term-Care and particularly the organization of the nursing home sector has been mostly neglected in the literature. We take a first step to fill this gap. A striking feature of this sector is that public, for profit and nonprofit providers typically coexist, and compete for patients and nurses. Helmuth Cremer considers a setting with two nursing homes which can be either for profit or nonprofit organizations. Nursing homes differ in two quality dimensions: “hotel” quality and quality of care, which depends on the motivation of nurses hired. Nurses differ in their intrinsic motivation for working in a retirement home and for any of them motivation is higher when they work for a nonprofit organization. Helmuth Cremer plans to determine the equilibria achieved under various configurations and compare their welfare implications. He is particularly interested in determining conditions under which a mixed market is optimal.