

FDIR Finance durable et investissement responsable / Sustainable finance and responsible investment

Academic partner(s) :

- Toulouse School of Economics
- Ecole Polytechnique

Financial partner(s) :

- ABN AMRO IS
- Amundi AM
- Caisse des dépôts
- Candriam Institute for Sustainable Development
- Edmond de Rothschild AM
- Fonds de Réserve pour les Retraites (FRR)
- HSBC Global AM (France)
- La Banque Postale AM
- Square management

Scientific director(s) :

- Catherine Casamatta, Toulouse School of Economics
- Patricia Crifo, Ecole Polytechnique
- Sébastien Pouget, Toulouse School of Economics

Website :

<https://www.tse-fr.eu/fr/fdir>

RESEARCH PROGRAM DESCRIPTION

Faced with the emergence of a demand for responsibly invested savings management, French management companies launched their first investments of this nature several years ago. The rapid development of the amounts invested in responsible investment (RI) requires a reflection on the management, selection, validation and evaluation of these investments. Does a company's social responsibility allow it to generate additional value that portfolio managers should integrate into their evaluations? The development of RI requires thinking about new ways of valuing financial assets to take into account the challenges of sustainable development.

Modern financial theory has not yet provided tools to address this issue. Responsible investment, linked to the concept of sustainable development, offers an interesting alternative. As citizens are also investors, they can express their commitments through their investments.

Few academic works have been devoted to this approach so far; however, it seems both important for economic actors and interesting for economic researchers.

Objectives:

- Contribute to the development and dissemination of theory and practice in the field of responsible investment, both through research and training programs;
- Facilitate direct contact between the academic partners and the members of the initiative, to their mutual benefit;
- Increase and consolidate the level of excellence of the academic partners and members by organizing an activity of reflection, training and research of international dimension around a theme of general interest.

To achieve these objectives, the Research Initiative FDIR carries out research around three main topics.

1) Long-term ESG performance and risk evaluation

A lot of Environmental, Social, and Governance (ESG) factors play out in the long-run. This research theme aims at studying how to value the opportunities and risks of investment projects in the ESG domain. In this setting, researchers explore the link between Socially Responsible Investments and sovereign bonds. They also study how to model social risks and catastrophic risks (related to climate change, nuclear disasters and others), and how to value them (interest rates, risk premium,...).

2) Corporate Governance and Social Performance

This research topic aims at studying the impact of various governance issues, such as board composition (independence, expertise, employee representatives), governance arrangements, executive compensation or shareholders' horizon, on companies' economic, financial and extra-financial performance. The objective is to build both a coherent conceptual framework and a comprehensive empirical investigation on French as well as international financial markets.

3) Shareholder engagement

Shareholder engagement aims at influencing corporate behavior. Engagement can take a number of forms from a dialogue between shareholders and executive, to seeking nominations on the board of directors, and to proposing resolutions and voting in shareholder meetings. The research carried out within the initiative addresses various issues related to engagement. How do SRI investors develop their engagement and dialogue policy? What financial performance can be expected on extra-financial issues? What is the link between shareholder engagement and traditional best-in-class policies?

Researchers

- Ingela Alger, Toulouse School of Economics
 - Geoffrey Barrows, Ecole Polytechnique
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- Silvia Rossetto, Toulouse School of Economics

Doctoral and Postdoctoral Researchers

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- Johanne Trotin, Ecole Polytechnique CREST
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- Vincent Bouchet, Ecole Polytechnique & Edhec
- Esteban Muñoz, Toulouse School of Economics
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- Ruichen Wang, Toulouse School of Management
- Yixin Wang, Toulouse School of Economics
- Xinyue Wen, Toulouse School of Management

PUBLICATIONS 2022-2024 RELATED TO THE RESEARCH PROGRAM

- Alger, Ingela, and Laurent Lehmann, 2023, Evolution of semi-Kantian preferences in two-player assortative interactions with complete and incomplete information and plasticity," *Dynamic Games and Applications*, Vol. 13, pp.1288-1319.
- Alger, Ingela, and Jörgen W. Weibull, 2023, "Evolution and Kantian morality: A correction and addendum" *Games and Economic Behavior*, Vol. 140, 2023, 585-587.
- Alger, Ingela, 2023, "Evolutionarily stable preferences." *Philosophical Transactions of the Royal Society B*, Vol. 378.
- Arjalies DL, Chollet P., Crifo P., Mottis N., 2023. The Motivations and Practices of Impact Assessment in Socially Responsible Investing: The French Case and its Implications for the Accounting and Impact Investing Communities. *Social and Environmental Accountability Journal*, 1-29.
- Blanchard, O., C. Gollier and J. Tirole, 2023, Fighting the war against climate change, *Annual Review of Economics* 15 (1), 689-722.
- Brière M., K. Huynh, O. Laudy, S. Pouget, « Stock market reaction to news: Do tense and horizon matter? », *Finance Research Letters*, Volume 58, Part D, December 2023
- Brodback D., N. Guenster, S. Pouget, Ruichen Wang, « The Valuation of Corporate Social Responsibility: A Willingness-to-Pay Experiment », under revision at *Management Science*
- Bruno Biais, Christophe Bisière, Matthieu Bouvard, Catherine Casamatta, and Albert J. Menkveld "Equilibrium Bitcoin Pricing", *The Journal of Finance*, vol. 78, n. 2, April 2023, pp. 967–1014
- Milo Bianchi, Rose-Anne Dana and Elyès Jouini, "Equilibrium CEO Contract with Belief Heterogeneity" (with *Economic Theory*, 2022, 74(2): 505–546
- Milo Bianchi, Rose-Anne Dana and Elyès Jouini, "Shareholder Heterogeneity, Asymmetric Information, and the Equilibrium Manager", *Economic Theory*, 2022, 73(4): 1101–1134
- Marie Brière, Sébastien Pouget, Martin Schmalz, and Loredana Ureche-Rangau, "Delegated Philanthropy in Mutual Fund Votes on Climate Change Externalities", chapter in *Climate Investing: New Strategies and Implementation Challenges*, ed. Emmanuel Jurczenko, Wiley, January 2023.
- Casamatta C. and S. Pouget, "Actionnaires, responsabilité sociale des entreprises et biens publics mondiaux", *Revue d'économie financière*, 3e trimestre 2023, N°151
- Cherbonnier, F., and C. Gollier, (2023), Fixing our public discounting systems, *Annual Review of Financial Economics* 15, 147-164
- Claude Crampes, and Thomas-Olivier Léautier, "Les Certificats d'Economie d'Energie entre économie et politique", *Revue Économique*, 2023
- Claude Crampes, and Nils-Henrik Von Der Fehr, "Decentralised Cross-Border Interconnection", *The Energy Journal*, vol. 44, n. 4, 2023, pp. 147–169

- Crifo, P. 2024. Green human capital , innovation and growth. *Environmental Modeling and Assessment*. 29, 1-18.
- Crifo, P., Diaye, M.-A. and Pekovic, S. 2023, Wages and corporate social responsibility: entrenchment or ethics?, *Employee Relations*, 45 (2), 495-515.
- Drupp, M.A., M.C. Hansel, E.P. Fenichel, M. Freeman, C. Gollier, B. Groom, G.M. Heal, P.H. Howard, A. Millner, F.C. Moore, F. Nesje, F. Quaas, S. Smulders, T. Sterner, C. Traeger, and F. Venmans, (2024), Accounting for the increasing benefits from scarce ecosystems, *Science* 383,1062-1064
- Romain Espinosa and Nicolas Treich, 2023, “Eliciting non-hypothetical willingness-to-pay for a novel product: A application to cultured meat” *Environmental and Resource Economics*
- Romain Espinosa and Nicolas Treich, 2023, Animal welfare as a public good » *Ecological Economics*
- Franziska Funke, Linus Mattauch, Inge van den Bijgaart, H. Charles J. Godfray, Cameron Hepburn, David Klenert, Marco Springmann and Nicolas Treich, “Toward optimal meat pricing? Is it time to tax meat consumption” *Review of Environmental Economics and Policy*, Volume 16, 2022
- Christian Gollier and Sébastien Pouget, « Investment Strategies and Corporate Behaviour with Socially Responsible Investors: A Theory of Active Ownership », *Economica*, vol. 89, juin 2022, p. 997–1023
- Gollier, C., R. van der Ploeg and J. Zheng, (2024), The discounting premium puzzle: Survey evidence from professional economists, *Journal of Environmental Economics and Management* 122
- Howard, P.H., M. Sarinsky, M. Bauer, C. Cecot, M. Crooper, M. Drupp, M. Freeman, K.T., Gillingham, C. Gollier, B. Groom, Q. Li, M. Livermore, R. Newell, W.A. Pizer, B. Prest, G. Rudebusch,, T. Sterner, and G. Wagner, (2023), U.S. benefit-cost analysis require revision, *Science* vol. 380, 6647, p. 803
- Lydia Mechtenberg, Grischa Perino, Jean-Robert Tyran, Nicolas Treich and Stephanie Wang, “Self-signaling in voting”, *Journal of Public Economics*, 2024
- Silvia Rossetto, Nassima Selmane, and Raffaele Staglianò, “Ownership concentration and firm risk: The moderating role of mid-sized blockholders”, *Journal of Business Finance and Accounting*, vol. 50, n. 1-2, February 2023, pp. 377–410
- Nicolas Treich, « The Dasgupta Review and the problem of anthropocentrism » 2022 *Environmental and Resource Economics*

Working paper

- Milo Bianchi, Zhengkai Liu and Gang Wang , 2024. Who Becomes a Green Investor? Life-time Experiences and Responsible Investment . Working paper
- Cherbonnier, F., C. Gollier and A. Pommeret, (2023), Stress discounting
- Gollier, C., (2024), Evaluating sustainability actions under uncertainty: The role of improbable extreme scenarios, working paper
- Gollier, C., (2023), The welfare cost of ignoring the beta

- Gollier, C. and R.E. Kihlstrom, (2023), Recursive asset pricing with nonrecursive preferences
- Christian Gollier, Jiakun Zheng and Frederick van der Ploeg, « The Discounting Premium Puzzle: Survey evidence from professional economists », TSE Working Paper, n° 22-1345, juin 2022.
- Li Bao, Keller Martinez Solis and Sophie Moinas, “Green certification”, forthcoming 2023
- Catherine Casamatta and Sébastien Pouget, “Shareholders and corporate social responsibility: A literature review”, 2022
- Frédéric Cherbonnier and Ulrich Hege, “Should There be a Green Supporting Factor? Carbon Policies and Climate Financial Regulation”, forthcoming 2023
- Kai Li, Uli Hege, and Yifei Zhang, 2023, Climate Innovation and Carbon Emissions: Evidence from Supply Chain Networks”, working paper.
- Gossner O. and Florig M. 2022. Market equilibrium with management costs and implications for insurance accounting. CREST Working Paper
- Crifo P, Durand R, Fangwa A, Gond, Slager CR, Green and Solidarity Finance: Developments in France and Europe and evaluation of the impact of labels, work in progress
- Cavaco S., Crifo P., Rebérioux A. Codetermination and the bonus culture: Does shared governance increase corporate sustainability? Working paper

Books

- Christian Gollier, Entre fin de mois et fin du monde, Fayard, juin 2022.

Reports, book chapters and other articles

- Brière M., S. Pouget, M. Schmalz, L. Ureche-Rangau, « Delegated Philanthropy in Mutual Fund Votes on Climate Change Externalities », book chapter in “Climate Investing: New Strategies and Implementation Challenges”, Ed. Emmanuel Jurczenko, décembre 2022
- Cavaco S., Crifo P., Guidoux A. 2022. Les “contrats RSE” indexant la rémunération des dirigeants sur l’atteinte d’objectifs RSE ont-ils un réel impact ? Institut des Politiques Publiques n° 85
- Crifo, P. 2023. Normes ESG et transition juste : comment prendre en compte simultanément les enjeux environnementaux et sociaux ? Servir, 520, 16-20
- Crifo, P. 2024. ESG Integration and Disclosure in Private Equity. In: Cumming, D., Hammer, B. (eds) The Palgrave Encyclopedia of Private Equity. Palgrave Macmillan, Cham.
- Mayer, Rankin, van der Marel, Crifo and Besco. 2024. International Law as the foundation for the solution to climate change : an application to plastic waste. Proceedings of the ASIL annual meeting. Cambridge university press.

- Arjaliès, D-L., Bouchet V., Crifo P. and Mottis N. 2024. La mesure d'impact et l'Investissement Socialement Responsable (ISR): Un tour d'horizon, in Tchotourian E., Bres L. and Geelhand de Merxem L. (Eds.), Zone frontières et entreprise socialement responsable – Perspective multiple: droit, administration et éthique, Editions Thomson Reuters and Yvon Blais

- Crifo, P. 2022. La promesse des labels de la finance verte. In Le virus de la recherche – transition environnementale ebook Presses Universitaires de Grenoble

Press articles and interviews

- Nicolas Treich, « Les viandes alternatives sont-elles plus vertueuses que la viande d'élevage ? » *Sesame* (with Tom Bry-Chevalier et Romain Espinosa), July 7, 2022
- Nicolas Treich, « Pour la création d'un ministère de la condition animale », *Libération* (collective contribution), June 1, 2022
- Nicolas Treich, « Consommer de la viande n'est pas anodin », *Les Echos*, (with Romain Espinosa), April 14, 2022
- Christian Gollier, "La transition énergétique peut-elle se faire d'une manière démocratique?" *L'éco*, April 12, 2022
- Christian Gollier, Institut Montaigne : politique économique des Verts allemands, June 20, 2022
- Christian Gollier, le T : Sobriété et croissance sont-elles vraiment incompatibles ? *La Tribune*, September 19, 2022
- Christian Gollier, « C'est arrivé demain/cette semaine » pour parler de « Le climat après la fin du mois », *Europe 1*, September 30, 2022
- Christian Gollier, Interview on COP 27, *L'Opinion*, October 20, 2022
- Christian Gollier, Le climat après la fin du mois, *France Bleu Périgord*, November 23, 2022
- Christian Gollier, Face à la crise climatique, un dialogue de sourds très politique entre économistes et scientifiques – *Le Monde*, 16 Janvier 2023
- Christian Gollier, Les zones à faibles émissions, un système chaotique et inégalitaire - *Le Figaro*, 1 Février 2023
- Christian Gollier, Transition énergétique : le défi d'une électrification de la France d'ici 2050 - *Le Monde*, 2 Février 2023
- Christian Gollier, L'Hémicycle : Regards croisés avec Xavier Piechaczyk (RTE), 07 Février 2023
- Christian Gollier, La transition écologique sera-t-elle supportable sur le plan économique ? - *Le Figaro*, 14 Février 2023
- Christian Gollier, Itw « Philonomist », 14 Février 2023
- Christian Gollier, Une épargne abondante mais mal orientée - *Challenges*, 16 Février, 2023
- Christian Gollier, Subventions : un autre cactus sur le chemin de la transition - *L'Opinion*, 21 Février, 2023
- Christian Gollier, Climat : ce paradoxe qui ruine nos efforts - *L'Opinion*, 21 Février, 2023
- Christian Gollier, "Ceux qui veulent sauver la planète en empêchant l'investissement dans les énergies fossiles commettent une erreur suicidaire" - *Atlantico*, 25 Février, 2023
- Christian Gollier, Trois questions sur le prix de la tonne de CO2 qui a franchi les 100 euros en Europe - *L'Usine Nouvelle*, 1 Mars, 2023
- Christian Gollier, La tonne de carbone peut-elle rester supérieure à 100 euros ? - *L'Opinion*, 15 Mars, 2023

- Christian Gollier, L'énergie, une variable économique qui reste très incertaine - *La Gazette Normandie*, 20 Mars, 2023
- Christian Gollier, The economic impact of french protests and strikes - *Al-Jazeera English*, 28 Mars 2023
- Christian Gollier, Décarbonation des mobilités, *AUAT*, 28 Mars 2023
- Christian Gollier, Pratiques environnementales des grandes banques françaises - *Le Monde*, 28 Mars 2023
- Christian Gollier, Le point de vue de l'économiste - *France Info*, 5 Avril, 2023
- Christian Gollier, Notation EST : et si un compte de résultat carbone était la solution ? - *WanSquare*, 5 Avril, 2023
- Christian Gollier, Capture et stockage carbone, *L'Express* 12 Avril, 2023
- Christian Gollier, Le tunnel sous la Manche calcule sa marge décarbonée - *Le Monde*, 14 Avril, 2023
- Christian Gollier, Entretien sur l'indicateur financier qu'a développé le cabinet Axylia permettant de calculer un EBITDA ajusté du carbone - *L'Express* 18 Avril, 2023
- Christian Gollier, "Facture carbone" : l'initiative qui bouscule les grands groupes du CAC40 - *L'Express*, 19 Avril, 2023
- Christian Gollier, Concurrence : l'Europe fait sa révolution - *L'Opinion*, 17 Mai, 2023
- Christian Gollier, Pourquoi on dit « Fin du monde, fin du mois, même combat » ? - *Nowu*, Mai 2023
- Christian Gollier, Industries vertes : la course à l'échalote - *L'Echo*, 20 Mai, 2023
- Christian Gollier, Face au réchauffement climatique, la nécessaire mobilisation des finances publiques - *RCF*, 22 Mai, 2023
- Christian Gollier, Pour sauver le climat, faut-il court-circuiter la démocratie?" - *Heidi.news*, 07 Juin, 2023
- Christian Gollier, 110 km/h sur autoroute : trop de temps perdu par rapport au gain écologique, selon un chercheur - *Auto-Moto*, 15 Juin, 2023
- Christian Gollier, Décarbonation : les trois non-dits de l'avenir de l'industrie automobile - *Challenges*, 2 Juillet, 2023
- Christian Gollier, "Il est essentiel de mettre une valeur sur le carbone" - *Acteurs Publics*, 3 Juillet, 2023
- Christian Gollier, Projection sur la mise en place d'une taxe carbone équitable en fonction des niveaux de vie - *Nice-Matin/Var-Matin*, 04 Août, 2023
- Christian Gollier, "Les décroissantistes se trompent" : le capitalisme, meilleur allié de la transition écologique - *L'Express*, 21 Août, 2023
- Christian Gollier, Vente à perte du carburant : Face au refus des distributeurs, quelles pistes pour le gouvernement ? - *20 Minutes*, 20 Septembre, 2023
- Christian Gollier, 1 000 milliards en sept ans : l'intermittent financement des énergies fossiles - *Le Monde*, 26 Septembre, 2023
- Christian Gollier, Planification écologique : "On cache aux Français la réalité des coûts de la transition" - *L'Express*, 28 Septembre, 2023
- Christian Gollier, Taxe carbone aux frontières : l'usine à gaz sans CO2 - *L'Opinion*, 2 Octobre, 2023
- Christian Gollier, Pourquoi le monde politique réfléchit-il systématiquement à court terme ? - *La Libre Belgique*, 12 Octobre, 2023
- Christian Gollier, Transition énergétique: l'auteur Jean-Marc Jancovici donnera une conférence à Toulouse - *La Dépêche du Midi*, 18 Octobre, 2023
- Christian Gollier, Sobriété énergétique : ces cinq idées reçues qui vous trompent - *L'Express*, 22 Octobre, 2023
- Christian Gollier, « Que devient l'autoroute A69 dans un monde confronté à une pénurie de pétrole? » (Jean-Marc Jancovici) - *La Tribune*, 24 Octobre, 2023

- Christian Gollier, Conférence TSE et The Shifters : « Quels outils économiques pour décarboner nos modes de vie ? » *Telmi Studio, 26 Octobre, 2023*
- Christian Gollier, Décarboner les territoires – *AUAT, 31 Octobre, 2023*
- Christian Gollier, COP28: «L'ombre de Donald Trump va planer sur ce sommet climatique» - *L'Opinion, 30 Novembre, 2023*
- Christian Gollier, Peut-on imaginer une fiscalité verte à la fois juste et efficace ? - *France Culture, 1 Décembre, 2023*
- Christian Gollier, 110 km/h sur autoroute : une association veut clore ce débat - *Auto Moto, 4 Décembre, 2023*
- Christian Gollier, Jean Pisani-Ferry : après la COP28, « les alarmes des militants du climat restent tout à fait justifiées »
- Patricia Crifo Ghosh E., How to evaluate countries' commitments and progress towards Net Zero Emissions ? *Polytechnique insights, 2022*
- Patricia Crifo, Investissement responsable ou greenwashing : comment faire la différence ? *Polytechnique insights, 2023*
- Patricia Crifo, Les banques centrales et la lutte contre le changement climatique. *Polytechnique insights, 2022.*
- Patricia Crifo Kilhgren Grandi L, Allier les villes et les universités pour le climat. *Polytechnique insights, 2022*
- Patricia Crifo Ghosh E., Comment évaluer les engagements et progrès des pays vers le « Zéro émission nette » ? *Polytechnique insights, 2022*
- Crifo P. Ghosh E. 2023. Say on climate. *Polytechnique insights.*
- Crifo P. Say on climate, *France culture Mai 2023*
- Crifo P. 2023, transition écologique et emploi, *Radio France international Mai 2023*
- Crifo P. 2023, Global finance pact, *Radio France international Juin 2023*
- Crifo P. Elkington M 2024. La guerre de l'eau ne fait que commencer. *Les echos 06/02/2024*
- Crifo P. Elkington M 2024. COP28: Guerre de l'eau et climat *Polytechnique insights*
- Crifo P. Dall'Aglio S. 2024. COP28: a critical conference for small island states *Polytechnique insights*
- Crifo P. Dupre M. 2024. COP28: Why the world needs private investment in climate adaptation projects?
- Crifo P. 2024. Inégalités et neutralité carbone : comment s'engager en faveur d'une transition juste ? *Blog de la Caisse des dépôts et consignations*

TSE Reflect, newsletter of the TSE Sustainable Finance Center

The sponsors of the Research Initiative FDIR, along with all the other partners of the TSE Sustainable Finance Center, have contributed to the development of initiatives aimed at increasing the visibility of the work of TSE researchers to a non-academic audience.

The stakeholders of the Research Initiative FDIR have been kept informed of the latest development of research on sustainable finance through the newsletters of the TSE Sustainable Finance Center. Since 2022, they have been the recipients of a new format of newsletter called "TSE Reflect". This e-newsletter, whose theme varies each month, allows TSE to share the latest work of its researchers with economic decision-makers and, in the first instance, with TSE's partners. Finance is a topic covered twice a year and the other themes regularly addressed are digital, energy and climate, infrastructure and networks, health, and regulation and competition.



Latest issues: on sustainable finance [Dec 2023](#) and [Fev 2024](#).

See all issues: [on sustainable finance](#).

The dec 2022 issue on sustainable finance included the press release announcing the renewal of the Research Initiative FDIR: *“9 sponsors unite in support of sustainable finance : The Research Initiative in Sustainable Finance and Responsible Investment is renewed, led by Ecole Polytechnique and TSE, and with the help of the AFG”*.

MAJOR COMMUNICATIONS RELATED TO THE RESEARCH PROGRAM

The advances made by the researchers of the Research Initiative FDIR have been presented to a wide audience including academic researchers, finance practitioners, and the general public, both in France and abroad. The Initiative has been instrumental in the creation of the knowledge communicated in the various events described below.

A. Communication to finance practitioners and other professionals

The Research Initiative FDIR has organized various events during which researchers have presented the implications of their results for CSR and SRI.

1. Workshops with the sponsors

- November 17, 2022, Are We Becoming Greener? Life-time Experiences and and Responsible Investment with Milo Bianchi
- January 20, 2023, Green and Sustainable Finance Labels, with Fabio Martin (University of Giessen)
- April 12, 2023, Social Performance Indicators, with Pierre Monnin (Council on Economic Policies) and Patricia Crifo (Ecole Polytechnique)
- June 22, 2023 The Value of Green Innovation: Evidence from Climate-Related Patents with Ulrich Hege (TSE)
- January 31, 2024 , “The impact of carbon pricing on the economy” :
 - Noémie Lisack (BCE) : « Carbon Tax in a Production Network: Propagation and Sectoral Incidence
 - Marie Brière (Amundi) « Cascading Effects of Carbon Price Through the Value Chain »
- April 5th, 2024 “ Green finance and carbon emissions: linking financial sector development and decarbonation”
 - Adrien Desroziers , Université Paris 1 & ADEME: “Towards greener economies: does financial development mitigate CO2 emissions ? an empirical analysis on 38 OECD and BRICS countries spanning 1995 to 2019 ”
 - Franck Amalric & Hugo Marin, Square research center : The contribution of banks to the ecological transition
- May 17th, 2024“ Climate scenarios and carbon neutrality: the investors/companies nexus”
 - Jeanne Mansoux, Université Paris 1 & Fideas Capital : “Climate scenarios and low-carbon targets of companies: A theoretical approach on alignment strategies and market equilibrium”

2. Conferences and side events

- UN Conference of the Parties on climate change COP28 & COP27 side events Ecole Polytechnique

- December 8, 2023 “Transforming education to empower youth in climate change science”, in coll. with IPPPC, WMO & UNEP
 - Francisca Cortés Solari-President Philanthropy Cortes Solari
 - Larissa DemelUNICEF Climate and Sustainability,
 - Eric Gilyardi-Office for Climate Education;
 - Patricia Crifo-Professor, Ecole Polytechnique
 - Juliet Oluoch–YOUNGO

- December 9, 2023 “ Decarbonization Ecosystems: The Impact Of University Partnerships”, in coll with University of Toronto & Climate Positive Energy
 - Erwin Franquet, Professor of Engineering at Universite Cote D’Azur, France
 - Patricia Crifo, Professor of Economics at Ecole Polytechnique, France
 - Patrizia Lombardi, Professor of Urban Studies at Politecnico di Torino, Italy
 - Michela Gallo, Professor at Università degli Studi di Genova, Italy
 - Carmela Cucuzzella, Dean of Faculty of Environmental Design at Universite de Montreal, Canada (virtual)
 - Paola Visconti Arizpe, Sustainability Engagement Manager, Tecnológico de Monterrey México, and Second Nature
 - Respect Musiyiwa, MSC Student at University of Edinburgh, UK
 - Kimberly R. Marion Suiseeya, Associate Professor in the Department of Political Science and the Environmental Policy and Culture at Northwestern University, USA
 - Shatha Qaqish-Clavering, Director, Strategy and Operations, Climate Positive Energy, University of Toronto, Canada

- December 10, 2023 “Unleashing Innovation: How Universities Can Drive Progress Towards Net-Zero”, in coll with University of Toronto & Climate Positive Energy
 - Patricia Crifo, Professor of Economics and Director of Smart Cities and Urban Policy Master at Ecole Polytechnique Paris, France
 - Stella Fors, PhD student in Chemistry, Northwestern University, Chicago, USA
 - Ahmed Hanafy, Director at Dunsky Energy + Climate Advisors, Montreal, Canada

- TSE Third Sustainable Center conference, December 7-8, 2023. See program [here](#).

- September 21, 2023 "Investing for Biodiversity Workshop", Toulouse School of Economics
 - Camille PARMESAN (SETE, CNRS) “Nature-based solutions to climate change provide effective adaptation and mitigation while lowering risks from overshoot “
 - Ben GROOM (University of Exeter) “Nature-based solutions to climate change”
 - Eyal FRANK (Harris School of Public Policy, University of Chicago) “Campaigning for extinction: Eradication of sparrows and the Great Famine in China”
 - Anouch MISSIRIAN (TSE, INRAe) “Reversing local extinctions: The economic impacts of reintroducing wolves in North America “
 - Nicolas TREICH (TSE, INRAe) “Beyond anthropocentrism in agricultural and resource economics“
 - Mathias REYNAERT (TSE) “An evaluation of protected area policies in the European Union”
 - Andrew BALMFORD (University of Cambridge) “Meeting people’s future needs at least cost to biodiversity“
 - Sylvain CHABE-FERRET (TSE, INRAe) “The impact of organic farming on productivity and biodiversity: Evidence from a natural experiment”

- Clélia SIRAMI (DYNAFOR, INRAe) “The role of landscape heterogeneity for biodiversity and ecosystem services in agricultural landscapes”
 - Roundtable
 - Julien BETAILLE (Université Toulouse Capitole)
 - Marion DESQUILBET (TSE, INRAe)
 - Guillaume LASSERE (LBP AM)
 - Julie MAURIN (Agence Française du Développement)
- June 2023, Reflexions conference, Ecole Polytechnique
- Welcome speech Eric Labaye Chairman and President of Institut Polytechnique de Paris
 - Keynote speech Agnès Pannier-Runacher Minister of Energy Transition
 - DEVELOPING SCIENCE BASED REGULATION: FOCUS ON THE ENERGY SECTOR
 - Teresa Ribera (Keynote), Third Vice-President of the Government of Spain and Minister for Ecological Transition and Demographic Challenge
 - Valérie Masson-Delmotte, Co-Chair, Working Group I of IPCC, CEA Senior Scientist at LSCE of the Institute Pierre Simon Laplace for Climate Sciences
 - Philippe Drobinski, Director of the Energy4Climate Center
 - Laurence Tubiana, CEO of the European Climate Foundation
 - Estelle Brachlianoff, Chief Executive Officer, Veolia
 - GREEN FINANCE REGULATION: AN ADDED VALUE FOR BUSINESS & CLIMATE
 - Jo Tyndall (Keynote), Director for the Environment Directorate, OECD
 - Pierre-Alix Binet, Head of Institutional and Regulatory Affairs, La Banque Postale
 - Paul Schreiber, Senior Policy Advisor at Reclaim Finance
 - Peter Tankov, Professor of quantitative finance at ENSAE Paris, IP Paris
 - Patricia Crifo, Professor at École Polytechnique, IP Paris & Deputy Director of the Energy4Climate Center
 - Virginie Vitiello, Head of Socially Responsible Investing, Caisse des Dépôts Group
 - MARKET REGULATION AND CONSUMER BEHAVIOR CHANGE
 - Serge Abiteboul, Board member of the French Electronic Communications Regulatory Authority
 - Nathalie Stubler, Special advisor on decarbonization for Air France KLM group
 - Thibaud Vergé, Vice President of the French Competition Authority
 - Isabelle Spiegel, Global Head of Environment, VINCI
 - Pierre-Jean Benghozi, Professor of Digital Economics at École Polytechnique, IP Paris
 - FROM THE WHISTLE BLOWER TO THE DECISION MAKER: A MULTI-ACTOR PERSPECTIVE, GLOBAL & LOCAL ACTORS IN MOTION - THEIR FIGHTS & SUCCESSES IN INFLUENCING REGULATION AND POLICIES
 - Tjaša Ficko, Deputy Mayor Ljubljana, Slovenia
 - Rajendra Shende, Founder of Green TERRE Foundation, Former Director UNEP, Coordinating Lead Author of the IPCC
 - Kahea Pacheco, Co-Executive Director, Women’s Earth Alliance
 - November 8, 2022 “Cities and universities joining for climate action”, in coll with AIMF & City diplomacy lab
 - Ms. Souad Abderrahim, Mayor of Tunis
 - Dr. Michèle Rubirola, Vice Mayor of Marseille
 - Prof. Slim Khalbous, Rector, Agence Universitaire de la Francophonie

- Prof. Etotépé A. Sogbohossou, Dean, Environment Department, Senghor University, Alexandria
- Prof. Patricia Crifo, Director, Economics for Smart Cities and Climate Policy Master's Degree, École Polytechnique, Paris
- Ms. Mélody Braun, Senior Staff Associate, International Research Institute for Climate and Society (IRI), Columbia University's Climate School
- Dr. Lorenzo Kihlgren Grandi, Director, City Diplomacy Lab, Columbia Global Centers | Paris

3. *Presentations*

- Catherine Casamatta, moderator of the roundtable “AI applications in finance: opportunities and risks”, 16th Financial Risks International Forum, ILB, Paris, March 20-21, 2023
- Patricia Crifo 2022. Forum zero carbone, December 8, Paris
- Patricia Crifo 2022. Comment la finance peut-elle répondre au défi de la transition écologique ? 1res Rencontres Rencontres pour le Financement de l'économie, Paris, December 2022
- Patricia Crifo 2022. Villes et Université : quelle alliance pour le climat et le DD ? Pavillon de la Francophonie. COP27 Charm El Cheikh, Novembre 8, 2022
- Patricia Crifo 2022. Assurance et transition énergétique. Printemps de l'assurance. Université Paris Dauphine PSL, June, 2022
- Patricia Crifo, Participation des salariés et RSE. Table ronde partage des profits Décideurs Magazine. April, 14 2022
- Patricia Crifo, Intégrer l'employabilité dans la politique RSE : un pilier de la transition Juste. Observatoire de la matérialité, April, 2022.
- Patricia Crifo, La décarbonation de l'industrie. Table ronde La fabrique de l'industrie, April 7, 2022
- Patricia Crifo, La finance verte est-elle un oxymore ? Tables rondes de macroéconomie financière Université Paris Nanterre, March, 2022.
- Patricia Crifo, Salaires contre profits : un rééquilibrage est-il possible ? RFI le débat du jour February 17,2022
- Crifo P. 2023. Cour des comptes, 05/12/23 keynote speech at the general assembly of the 1st chamber
- Crifo P. 2023. La finance de demain. La cité de l'économie
- Crifo P. 2023. Climate Change: Toward A Paradigm Shift? Science Po Alliance Conference 15/03/23
- Patricia Crifo 2023. The just transition. Round table of the 16th financial risk international forum, Paris, March 2023
- Patricia Crifo 2023. ESG performance and international law. American society of international law 2023, Washington DC
- Patricia Crifo, 2023. La finance de demain, la cité de l'économie, Paris 2023
- Crifo P. 2023. Social performance and environmental question, E4C summerschool, Juin 2023.
- Crifo P. 2024, Climat, CSR & ISR , IGPDE Janv & March 2024, formation des 25 000 cadres de la fonction publique à la transition écologique
- Christian Gollier, "The welfare cost of ignoring the beta", Colorado webinar, April 13, 2022
- Christian Gollier, International Planetary Health Conference in Andorra, May 13, 2022
- Christian Gollier, Diner-débat de la Société d'économie politique, Paris May 17, 2022
- Christian Gollier, « Regards croisés » sur le thème de la durabilité, Congrès des actuaires, Paris, June 23, 2022
- Christian Gollier, OCDE-AEN: webinaire sur l'optimisation, July 4, 2022

- Christian Gollier, “Innovation, Climate Change, and the Bioeconomy”, ICABR Conference, Bologne, July 6, 2022
- Christian Gollier, “The cost-efficiency carbon pricing puzzle”, Webinar Bank of Italy, July 19, 2022
- Christian Gollier, SNCF diner : échanges sur les objectifs climatiques de la France et le rôle du secteur des transports, Paris, July 19, 2022
- Christian Gollier, “Ambiguity: Insurability; disasters and climate change” and “The value of life & Social inflation”, SCOR working session, Bordeaux, September 9, 2022
- Christian Gollier, « Comment prendre en compte le très long terme et le risque dans la décision publique ? », Colloque France Stratégie, Paris, September 22, 2022
- Christian Gollier, Heineken Suisse : Sustainable finance, September 30, 2022
- Christian Gollier, Colloque Meteo France : Valeur de l’information météorologique et climatique, Toulouse, October 18, 2022
- Christian Gollier, “Le financement de la SFEC”, Table-ronde CESE, visio, October 26, 2022
- “Congrès Solvay, Bruxelles, November 7, 2022
- Christian Gollier, Dialogue franco-allemand : table ronde consacrée à la définition d’une nouvelle politique européenne de l’énergie, Paris, November 14, 2022
- Christian Gollier, « La sobriété peut-elle être heureuse ? », Futurapolis, Toulouse, November 25, 2022
- Christian Gollier, « Le dérèglement climatique : perception, information et désinformation », Colloque Fondation Descartes, Paris, November 29, 2022
- Christian Gollier, “Transition tardiness: a problem with the method”, Natixis CIB Green Summit, Paris, November 29, 2022
- Christian Gollier, Sommet de l’économie, Paris, December 1, 2022
- Christian Gollier, Conférence AFSE DG Trésor sur l’évaluation des politiques publiques, Paris, December 8, 2022
- Christian Gollier, Séminaire annuel sur les perspectives économiques et marchés, Crédit Agricole CACIB, Paris, December 13, 2022
- Sophie Moinas, “Sustainable policies and firm performance”, International Days, Toulouse School of Management, January 2023

B. Communication to academic researchers

The researchers of the Research initiative FDIR have been invited to share their work and ideas in various academic conferences and workshops. In their publications or during their presentations, the researchers always gratefully acknowledge the support of the Research Initiative FDIR.

1. *Examples of academic conferences*

- Ingela Alger, “Evolutionary Foundations of Morality and Altruism – Recent Advances”, Tony Atkinson Memorial Lecture, Global Priorities Institute (Oxford University), June 13, 2022
- Ingela Alger, “Homo moralis: on the evolutionary foundations of moral behavior”, French regional conference on Complex Systems, June 20-22, 2022
- Ingela Alger, “Estimating social preferences and Kantian morality in strategic interactions”, American Economic Association Meetings, 2023
- Catherine Casamatta, “Lending and monitoring: Big Tech vs. Banks”, 16th Financial Risks International Forum, ILP, Paris, March 20-21, 2023

- Patrica Crifo, Johanne Trotin, Wael Bousselmi, Climate risk and individual behaviors – Entretiens de la finance durable (Kedge) Paris 15/12/2023
- Patrica Crifo, Johanne Trotin, Wael Bousselmi, Climate risk and individual behaviors French Association of Experimental Economics (ASFEE) 2023, Montpellier Mai 2023
- Patrica Crifo, Johanne Trotin, Wael Bousselmi, Climate risk and individual behaviors French finance association (AFFI) Sustainable Finance Forum, Paris December 2023
- Patrica Crifo, Johanne Trotin, Wael Bousselmi, Climate risk and individual behaviors – Economic Science Association Lyon 26-29/06/2023
- Patricia Crifo, Just transition, 16th financial risk international forum, March 2023
- Patricia Crifo CSR and international law, American society of international law 2023, Washington DC
- Patricia Crifo, green innovation , social motivation and inequality, Copenhagen school of economics, & DTU, 2 invited conference in May 2024
- Rome Non financial disclosure and green finance labels in France , Rome Juin 2024
- Patricia Crifo 2024 ESG, climate risk and impact, Tianjin University keynote. April 1, 2024
- Christian Gollier, “Evidence to Action”, 11th Annual JRCPPF Conference (Princeton University), February 25, 2022
- Christian Gollier, “Modeling Uncertainty in Social, Economic, and Environmental Sciences”, EMLyon conférence, Lyon, March 17, 2022
- Christian Gollier, "Economics of Carbon Border Adjustments", Seventh CEPR/EAERE Webinar on Climate Policy, Paris, March 21, 2022
- Christian Gollier, “The Discounting Premium Puzzle: Survey Evidence from Professional Economists”, Conférence SCOR, TSE, October 21, 2022; Keynote at RIDGE workshop on Environmental Economics, December 5, 2022
- Ulrich Hege, The Impact of Corporate Climate Action on Financial Markets: Evidence from Climate-Related Patents", with Sébastien Pouget and Yifei Zhang, Banque de France-TSE Workshop, Toulouse, September 29, 2022; 5th FirmOrgDyn Conference (SciencesPo-CEPR-BdF), Paris, December 1, 2022
- Ulrich Hege, Should There be a Green Supporting Factor? Carbon Policies and Climate Financial Regulation”, with Frédéric Cherbonnier, 13th Conference on the Economics of Energy and Climate, Toulouse, June 15, 2022
- Sébastine Pouget, The Valuation of Corporate Social Responsibility: A Willingness-to-Pay Experiment”, Economic Science Association (ESA) North American meeting October 12, 2022

2. Examples of workshops and seminars

- Ingela Alger, "Homo moralis goes to the voting booth: coordination and information aggregation", 5th ETH Workshop on Democracy, Zurich, June 9, 2022; Post-Darwinian Societies seminar, Université Catholique de Louvain, February 10, 2022
- Ingela Alger, “Estimating social preferences and Kantian morality in strategic interactions”, ENS Lyon, October 13, 2022; Universidad Iles Balears, Palma Mallorca, 2022
- Milo Bianchi, "Are We Becoming Greener? Life-time Experiences and Responsible Investment",
 - Presented at seminars at CREST, EDHEC, ESSEC, 2022
 - TSE (applied micro seminar), 18 September 2023
 - HEC Montreal (economics seminar), 3 October 2023
 - University of Toronto Rotman (finance seminar), 11 October 2023
 - McGill University (finance seminar), 17 October 2023
 - University of Montreal (economics seminar), 18 October 2023

- McGill University (environmental economics seminar), 20 October 2023
- TSE (environmental economics seminar), 16 November 2023.
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- Patricia Crifo, ESG bonuses. HEC Climate Days, May 2022
- Patricia Crifo, green innovation , social motivation and inequality, E4C summerschool 2023
- Christian Gollier, “The discounting premium puzzle: survey evidence from professional economists”, Renmin University of China lecture, visio, September 15, 2022
- Sébastien Pouget :
 - Seminar at Indiana University, papier présenté: “The impact of corporate climate action on financial markets: Evidence from climate-related patents”, 24 février 2023
 - Séminaire à UC Riverside, papier présenté : “Who benefits from the bond greenium”, 3 mars 2023
 - Séminaire à USC, papier présenté : “Who benefits from the bond greenium”, 7 mars 2023
 - Séminaire à University of Utah, papier présenté : “Who benefits from the bond greenium”, 7 avril 2023
 - Planifiés: Conférence à Sherbrooke University, 5 mai 2023, Concordia University, 9 mai 2023, MIT, 10 mai 2023, NY Federal Reserve Bank, 12 mai 2023, papier présenté : “Who benefits from the bond greenium”
 - Discussion au Western Finance Association meeting du papier “The Great Carbon Arbitrage” écrit par Tobias Adrian, Patrick Bolton et Alissa Kleinnijenhuis, 26 juin 2023
 - Participation aux 2ème Rencontres du Climat organisées par Getlink, le 11 octobre 2023, pour un discussion sur « Le coût du capital des entreprises vertes »
 - Discussion à la CEPR conference on Politics, Corporations and the Common Good du papier « Is Sustainable Finance a Dangerous Placebo? » écrit par Florian Heeb, Julian F Kölbl, Stefano Ramelli, et Anna Vasileva, 20 octobre 2023
 - Presentation du papier “The impact of corporate climate action on financial markets: Evidence from climate-related patents” à la Conference on "CSR, the Economy and Financial Markets", 9 novembre 2023
 - Présentation du papier "Who benefits from the bond greenium" au Conseil Scientifique de l’AMF, le 16 novembre 2023
 - Participation au Forum des Entreprises Familiales Andorranes, le 24 novembre 2023, pour un discussion sur « l’investissement socialement responsable »
 - Keynote speech aux Entretiens de la Finance Durable, 15 décembre 2023, sur le papier “Who benefits from the bond greenium”
 - Présentation du papier “Who benefits from the bond greenium” à l’EUROFIDAI – ESSEC Paris December Finance Meeting, 19 décembre 2023
 - “The impact of corporate climate action on financial markets: Evidence from climate-related patents”, seminar at Indiana University, February 24, 2023
 - “Who benefits from the bond greenium”, seminars at UC Riverside, 3 March 2023, USC, 7 March 2023, University of Utah, 7 April 2023
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OTHER HIGHLIGHTS

Awards, scientific recognition, organization of calls for projects, involvement in master's courses, PhD program visiting researchers, etc...

A. Awards and memberships

- Catherine Casamatta: member of the Scientific Council of the Autorité des Marchés Financiers (renewed in 2023)
- Catherine Casamatta: ILB fellow
- Catherine Casamatta.: member of the jury of the FIR-PRI awards
- Patricia Crifo:
 - o Science deputy director of the interdisciplinary center Energy4Climate (E4C)
 - o Director of the Master Economics for Smart cities and Climate Policy, Ecole Polytechnique
 - o Member of the scientific committee of Ecole Polytechnique's climate action plan , CREST sustainability committee and listening unit
 - o Member of the editorial board of Polytechnique insights, 2024
 - o Scientific advisor, X-Exed, 2024
 - o Member of the French monitoring committee a "climate indicator" for non-financial companies by Banque de France, appointed by the Ministry of economics and finance, 2024
 - o Member of the Prudential Supervision and Resolution Authority (ACPR)'s supervisory college and Vice president of its Climate and Sustainable Finance Commission renewed in 2022
 - o Member of the Sustainable finance committee, appointed by the Ile de France Region since 2022
 - o Member of the FIR-PRI awards and FIR Jury on Employee Savings Plans
 - o ILB fellow, member of the ILB nomination committee and scientific advisory panel, and member of the PARC foundation expert commission, 2024
 - o Member of the ESG committee of Centre des Professions Financières, 2024
- Christian Gollier.: member of the Blanchard-Tirole commission in charge of the Climate Policy chapter
- Christian Gollier.: president of the European Environment Economists Association
- Ulrich Hege: Member of the Commission Climat et Finance Durable, ACPR, since December 2022
- Sébastien Pouget:
 - o Member of the Haut Comité Certificateur de Place de l'Autorité des Marchés Financiers (AMF), to monitor training and certification organizations aiming to obtain the AMF exam and the AMF Finance Durable exam, five meetings a year, in conjunction with the FDIR Chair.
 - o Member of the AMF Scientific Advisory Board, two meetings a year.
 - o Co-director of the Sustainable Finance and Responsible Investment Chair (FDIR), three to four meetings a year
 - o Co-director of the Getlink-TSE Initiative for Effective Corporate Climate Action

B. Highlights

- Ingela Alger was awarded the CNRS silver medal in 2022. Her work focuses on moral and altruistic preferences and on the evolution of preferences.
- On the 19-20 May 2022, TSE organized in partnership with Challenges the second chapter of the Common Good Summit. This event gives experts (Nobel Prize winners in economics, researchers, politicians and business leaders) the opportunity to explain their approach to the Common Good and to draw up a roadmap on the climate challenge, the return of inflation, the transportation revolution, the upheaval of the ageing economy and the rise of artificial intelligence. Replay is available [here](#).

C. Education and training

FDIR is fostering the diffusion of knowledge on CSR and SRI within the young generations of finance practitioners and researchers. State-of-the-art techniques and ideas of CSR and SRI have been taught in various courses offered to Master's in Economics and Finance at Ecole Polytechnique, at Toulouse School of Economics (TSE), and at Toulouse School of Management (TSM) of the University of Toulouse.

Courses

- Milo Bianchi, Behavioral and Household Finance (doctoral program), TSE
- Milo Bianchi, TSM and TSE (lectures on social preferences and responsible investment and Economics for Finance (M2) – group projects related to responsible investment
- Nicolas Treich, Lectures in M2 on “Animal Welfare Economics”, TSE
- Ulrich Hege, “Global Risks for a Living Planet: Biodiversity, Climate Change, Zonosis”, joint course in the Master in Economics of Global Risks, and in the Master Economics and Ecology (TSE)
- Ulrich Hege, “Understanding Global Risks” incl. on climate transition risks, in the Master in Economics of Global Risks (TSE)
- ExecEd seminar on “Externalities, Decarbonization, and Corporate Strategy” at the Institut of the ENS, Paris 29 June 2022
- Sophie Moinas, M2 Corporate Finance, Advanced Corporate Finance: supervision of students' group projects on firms' climate related financial exposures
- Sophie Moinas, M2 Financial Markets and Risk Evaluation, Derivatives: supervision of students' group projects on the development of a green structured product
- Patricia Crifo, CSR, Bachelor Econ&Math, Ecole Polytechnique
- Patricia Crifo, Sustainable finance and climate action plan evaluation, MSct ESCLIP, Ecole Polytechnique
- Patricia Crifo, Impact and ESG, Master EET, AgroParistech
- Patricia Crifo, COPclimat, MSct ESCLIP, Ecole Polytechnique