



NEWSLETTER – November 2019

Portraits

Marianne Bertrand

**The dangers of
corporate philanthropy** P.4

Rod Garratt

**Protect privacy with
electronic cash** P.8

Research highlights

**Are firms more productive
when owned by the CEO?** P.12

Milo Bianchi

**Do banks need
stricter stress tests?** P.15

Alexander Guembel



+Edito

Socially responsible investment and the challenges of sustainable development

Dear readers,

Responsible finance was born in an environment marked by an awareness of the threat from the depletion of our natural resources, the need to reduce the impact of human activity on nature, and the growing importance of notions of well-being and balance.

It is crucial to ensure that the business sector operates in a way that respects the interests of its stakeholders and wider society. Companies' approach to governance issues and long-term investments can have a material impact on society. Financial intermediaries and regulators also have a role to play in favoring sustainable development and alleviating potential inefficiencies and dysfunctions. The challenges of the financial industry – including digital technology – are largely generational.

Concerned by these societal questions, last year TSE launched the Sustainable Finance Center with the ambition of lifting its world-leading expertise in sustainable finance even higher. Our newsletters allow readers to get a glimpse of the research agenda, as well as the scientific and outreach events organized throughout the year.

In this edition, we showcase the work of two of our researchers in behavioral finance and financial markets. In his recent paper, Milo Bianchi sheds light on one of the most fundamental questions for the study of modern corporations, showing that agency costs are an important determinant of firm productivity. In another new paper, Alexander Guembel studies how bank supervisors should design their monitoring technology in light of its potential impact on information reflected in financial markets.

The year end will be particularly eventful for the Center. We hope to see you at the inaugural conference in Toulouse on December 5-6. During these two days, stimulating exchanges and panel discussions will be held on topics such as green investments, digital currencies, and the new risks and challenges for investors in financial markets. Eminent academic personalities like Marianne Bertrand (University of Chicago Booth School of Business) and Rod Garratt (University of California Santa Barbara) will present some of their latest research at the conference. Other events include the Banque de France - TSE conference in Paris.

We hope you enjoy reading this edition. It would be a pleasure to receive your opinions on the topics presented here, and to welcome you to our events.

Sophie Moinas

+News

Banque de France - TSE Prizes in Monetary Economics and Finance

Banque de France and TSE have launched a series of prizes in monetary economics and finance. These annual prizes distinguish academic researchers (both senior and junior) who have developed central concepts to improve our understanding in this field.

The aim of the prizes is to foster conceptual progress that will eventually allow the design and implementation of improved policies by central banks. In March, the prizes were presented by François Villeroy de Galhau, Governor of Banque de France, at a special event in Paris. Traditionally, the laureates deliver a technical talk presenting their work to a large audience.



Senior Prize:
Michael Woodford
(Columbia University)



Junior Prize (Europe):
Victoria Vanasco
(Centre de Recerca en Economia Internacional (CREI))



Junior Prize (World):
Yuriy Gorodnichenko
(University of California, Berkeley)



Fabrice Collard

Maurice Allais Prize

Fabrice Collard, CNRS Research Director (TSE), Michel Habib, Professor (University of Zurich, Department of Banking and Finance) and Jean-Charles Rochet, Professor (University of Geneva, Geneva Finance Research Institute & Associate Researcher at TSE), have been awarded the 2019 Maurice Allais Economics Prize for their article entitled "Sovereign Debt Sustainability in Advanced Economies", published in 2015 in the *Journal of the European Economic Association*.

In their paper, the authors propose a model that presents major advances in economic policy. In particular, it provides a model for assessing a country's maximum sustainable debt-to-GDP ratio, but also for calculating a theoretical probability of default for each country.

Awarded every two years by the Maurice Allais Foundation, this prize aims to encourage research in economics conducted along the lines outlined by Maurice Allais and respecting his scientific methodology: a permanent confrontation of theories with observed facts, with no connection whatsoever to any ideology.

Portrait

Marianne Bertrand

The dangers of corporate philanthropy

“Stakeholder capitalism would be good for society, even though the implementation details are very tricky. Governments have failed to pass many of the laws and regulations that are needed to correct externalities. This means that social welfare is not maximized when corporations solely focus on profits, especially short-term profits.”



As a special guest at TSE's inaugural Sustainable Finance Conference on December 5-6, **Marianne Bertrand** (Chicago Booth School of Business) will deliver a keynote lecture on 'Corporate Philanthropy and Politics'. She will also be in Toulouse on December 3 to accept the 2019 Jean-Jacques Laffont Prize and discuss 'Gender Inequalities in the 21st Century'.

A worthy winner

Organized by TSE, the Jean-Jacques Laffont Prize is awarded every year to an international economist who has made an outstanding contribution to both theoretical and empirical research.

Marianne has already received several prestigious awards, including the American Economic Association's 2004 Elaine Bennett Research Prize and the Society of Labor Economists' 2012 Rosen Prize.

Marianne is an applied micro-economist with interests in labor economics, corporate finance, and development economics. She is a co-director of Chicago Booth's Rustandy Center for Social Sector Innovation, Director of the Poverty Lab at the UChicago Urban Labs and on the Board of Directors for the Abdul Latif Jameel Poverty Action Lab.

Born in Belgium, Marianne earned a PhD in economics from Harvard in 1998. She was a faculty member at Princeton for two years before joining Chicago Booth in 2000.

What do you make of the recent decision by 181 CEOs of the US's biggest companies to embrace stakeholder capitalism?

I wish I could trust corporate benevolence but I am skeptical. I have no doubt that stakeholder capitalism would be good for society, even though the implementation details are very tricky. Governments have failed to pass many of the laws and regulations that are needed to correct externalities.

Climate change is of course the top-of-mind example. This means that social welfare is not maximized when corporations solely focus on profits, especially short-term profits. However, I doubt that we can trust corporations to do much on their own to address these externalities given the competitive pressures they face.

One of your recent papers offers empirical evidence that US corporations use charitable grants to influence lawmakers. What are the dangers of corporate philanthropy?

You are correct that some of my recent work has aimed to show that philanthropy might be partly used by corporations as a way to influence the lawmaking and rulemaking process. In other words, it is another tool of corporate influence on the political process beside the better understood ones, such as lobbying, campaign contributions, or the revolving door.

I believe that corporate influence is one of the key reasons why our laws and regulations do not correct important market failures. For example, corporate influence is an important reason why it has been so difficult to pass any climate-change policy in the US. So, from that perspective, yes, I believe it is important to document all the ways via which this influence gets exerted.

The philanthropy sector is under-scrutinized. Corporations and wealthy families get tax breaks for their charity. At a minimum, we need more easily accessible information and more transparency on what all these charitable dollars are being spent on.

How can we encourage corporate social responsibility without, for example, giving bad actors an opportunity to engage in reputation-washing?

That is a good question, to which I do not have a great answer. I agree with you that a lot of corporate social responsibility, especially in the B2C part of the economy, is not that different from advertising spending. There is a lot of greenwashing going on, even though it is hard to quantify how much. Better reporting systems that force corporations to report on their social outcomes, rather than purely economic outcomes, are going to be important here. However, as I stated before, while the objective is clear, the devil will be in the detail when it comes to developing robust social-impact reporting standards.

Your research has focused heavily on gender, harassment and discrimination. How will labor markets be shaped by these concerns in the 21st century?

There are multiple reasons as to why finding ways to get women to realize their full labor market potential will be a pressing question for many developed countries for many years to come. First, many countries are facing an aging population and will need to increase women's labor-force participation in order to avoid sharp reductions in the workforce. Also, for reasons that we still do not fully understand, women are increasingly accumulated more schooling than men.

That means that the private sector is going to be increasingly interested in finding ways to attract and retain that female talent. That also means that the public sector will also need to find ways to tilt institutions and norms that may still be a barrier to women's fuller engagement with the labor market.

Finally, patience for any discriminatory practice, including gender harassment, is running thin in the richest countries, as exemplified by the strength of the #MeToo movement around the world.

How optimistic are you that race and gender gaps will narrow in the years ahead? To what extent will policymakers need to adapt to new forms of inequality?

There is definitely room for some optimism here. When one looks at the broader conversation today on the rise in inequality, what has been happening with regard to inequalities of race, and especially gender, emerges among some of the most positive trends. In particular, the gender gaps in labor-force participation and earnings have been declining for many decades now, even if there is still a very long way to go to get to gender parity, especially at the top of the talent distribution.

Most alarming are the growing gaps in income and wealth between rich and poor, the growing fragmentation of many of the most developed societies by social class, and the implications of these growing inequalities for social mobility.

What are the costs of the failure of economics, as a discipline, to attract more female researchers?

As I discussed in a recent interview with UBS, there's no doubt that by limiting our profession to men, we are leaving a lot of discoveries on the table. When our profession becomes more diverse, the kind of questions that we study becomes more diverse as well, and that is a great thing.

What measures can be taken to address this?

We need to more institutions to adopt best practices when it comes to reducing bias (implicit or not) in hiring and promotion decisions. The AEA has been doing a lot of work to make these best practices more easily accessible to its members. Here is a link: <https://www.aeaweb.org/resources/best-practices>

We also need to build stronger pipelines, starting in high schools. Too many young people have a poor understanding of what economists do, or the type of questions economists study. Again, the AEA has recently taken on this challenge to help reshape the perception of economics, away from the dry and boring and uncaring stereotype.

Your research also uses insights from behavioral science to highlight how scarcity affects our decisions. How has this helped to identify policy initiatives and financial tools for lifting people out of poverty?

The behavioral science agenda has helped identify some of the common mistakes individuals make when faced with important decisions. This agenda inspired some of the work I did on payday lending. In that work, we showed that "psychology-guided" information disclosure induce borrowers to lower their use of payday loans. In particular, we showed that reminding borrowers of the adding-up dollar fees incurred when rolling over payday loans reduced the take-up of these loans.

While I believe that such a "nudge" approach is useful and helps people at the margin, I am less convinced that it has the power to lift people out of poverty. More meaningful progress can only come from addressing the root cause of why so many people use such expensive financial products in the first place. I don't think the central root cause is a lack of understanding of how expensive these products really are (even if it is a factor, as we show in our work). The root cause is low and stagnant paychecks at the bottom and middle of the income distribution in the US for too many decades.



Portrait

Rod Garratt

Protect privacy with electronic cash

“ *As individuals, we do not bear the full cost of failing to protect our privacy. When an individual allows a vendor to collect private financial information, that information can be used to influence pricing decisions for that individual down the road, and to price discriminate against others with similar observable characteristics.*



TSE's inaugural Sustainable Finance Conference will also feature **Rod Garratt** (University of California Santa Barbara), who recently provided expert testimony on digital currency to the US House of Representatives. Ahead of his December 6 talk on 'Privacy as a public good: a case for electronic cash', we spoke to him about the future of financial privacy.

An expert view

Rod brings a wealth of experience to his current role as Maxwell C and Mary Pellish Chair in Economics at UCSB. He previously served as a technical advisor to the Bank for International Settlements, a research advisor to the Bank of England and as vice-president of the Federal Reserve Bank of New York, where he co-led the Virtual Currency Working Group for the Federal Reserve System.

After leaving the FRBNY, he consulted for Payments Canada and R3 on Project Jasper: a proof of concept for a wholesale interbank payment system that uses distributed ledger technology.

With a PhD from Cornell University, Rod has published in the top economics journals including *Econometrica*, *the American Economic Review* and *the Journal of Political Economy*. He is an associate editor of the *Journal of Financial Market Infrastructures*, *the Journal of Network Theory in Finance* and *Digital Finance*.

How close are modern societies to becoming cashless?

Cash holdings in most developing countries have stayed relatively constant or even increased over the past 20 years or so. However, the composition has shifted toward higher denomination bills, suggesting cash is being held more as a store of value rather than for transaction purposes. Cash use in transactions is on the decline in many places, most notably Sweden, where cash use has fallen to the extent that many businesses do not accept cash and many bank branches no longer provide over-the-counter cash services

What are the implications for consumers, banks and businesses of the declining use of cash?

The decline in cash use is a market outcome. There are some government policies that influence this; for example, Sweden changed its banknote distribution system. But for the most part, it is the result of innovations in electronic-payments technologies and the increase in e-commerce which have led to pressure from both the demand side and the supply side. Most consumers, banks and businesses benefit from increased speed, convenience and reduced costs. However, segments of the population that still prefer to use cash, for whatever reason, are going to find it increasingly difficult to do so.

Is financial privacy dead? If market forces will not protect the privacy of online payments, what remedies are available to regulators?

Uber knows where you live, because they can see where you end up on the last ride of most days. Google knows what products you search for and what ads you see. If they have your financial data, they can tell which ads led to purchases. Facebook knows who your friends are,

where you go on vacation, and what political views you hold. The bottom line is that we have very little privacy and in many situations we do not, or cannot, take necessary actions to preserve our privacy. There is a market failure here, because we, as individuals, do not bear the full cost of failing to protect our privacy. When an individual allows a vendor to collect private financial information, that information can be used not only to influence pricing decisions for that individual down the road, it can also be used to price discriminate against others that have similar observable characteristics.

In a recent paper entitled 'Privacy as a public good: A case for electronic cash', Maarten van Oordt (Bank of Canada) and I show how this externality leads to inefficient outcomes that can be overcome through the provision of electronic cash that offers privacy from vendors. We argue that the central bank may be the best provider of this currency, since it does not have a profit incentive to exploit consumer transaction data.

Is the rise of privately issued cryptocurrencies like Bitcoin to be welcomed? Can we trust them?

We have to welcome and embrace innovation. It creates healthy competition and leads to better products across the board. There is also the potential to improve existing systems by adapting new technologies and, more broadly, rethinking how payments infrastructures should be organized.

Regarding the second question, I'm not sure "trust" is the right word. Generally speaking, central banks do not simply "trust" any institution or infrastructure. I go back to oversight and regulation. Central banks impose rules and have detection and enforcement policies designed to ensure that payments infrastructures operate in a way that is safe and benefits society. Bitcoin is complicated because there is no one to regulate or oversee. However, where possible, the general principle of "same business, same risks, same rules" should apply to people operating Bitcoin-related businesses.



Should central banks be encouraged to issue their own digital currencies?

Central banks have a mandate to promote integrity, operational efficiency, and accessibility in payments markets. In some circumstances (for example, wholesale payments) this mandate is best fulfilled by acting as the operator, but in other instances it only requires regulation and oversight. The justification for issuing a central-bank digital currency should arise from the central bank's mandate.

As I mentioned earlier, there are reasons why markets may not arrive at the socially optimal outcome in regards to privacy. It is equally plausible that underserved populations may not be adequately served by the market. In these cases, the central bank still has to decide whether regulation or provision is the best option. There are also reasons for considering, or perhaps opposing, the provision of central-bank digital currencies that are tied to central banks' other mandates. Some argue that a central-bank digital currency could lead to the disintermediation of banks during normal times and pose a financial-stability threat through flight to safety during times of stress. I would argue that both these concerns could be managed through proper implementation. In addition, I believe the potential for enhancements, such as programmable money, should be a strong part of the case for considering central-bank digital currency.

You held the Guinness World Record for creating the longest hopscotch game (5,506m). What were your inspirations and aspirations?

The record has since been broken. It was a collective effort organized by niece, a cancer survivor, to raise money for charity. However, since it is related, I will take this opportunity to point people to a whole series of academic papers I wrote on optimal bone marrow registries (please see, for starters, 'One chance in a million: Altruism and the bone marrow registry', AER 2007). Bone marrow registries are public goods, and determining the optimal size and racial composition of the registry is an important economic problem that I worked on for many years.



Research highlights

Are firms more productive when owned by the CEO?

Milo Bianchi and Henri Luomaranta

Using high-quality Finnish data on company ownership structures, Toulouse economists Milo Bianchi and Henri Luomaranta shed new light on one of the most fundamental questions for the study of modern corporations. Their analysis goes beyond typical samples of large public firms, showing a substantial increase in productivity when CEOs obtain majority ownership or when majority owners become CEO.



Milo Bianchi

Economists have long been interested in the potential costs for a company when the interests of its owners (the principals) are not aligned with those who run the company (the agents). The catastrophic potential of this principal-agent problem was demonstrated by the collapse of Enron in 2001, caused by unscrupulous directors hiding the company's huge debts from its shareholders.

In the classic example of corporate agency costs, when professional CEOs have no more than a limited stake in ownership, they may be tempted to run firms in ways that maximize their own gains at the expense of the firm's underlying value and productivity. Substantial work has investigated how firms' decisions are shaped by agency conflicts. For instance, bosses who strongly identify with their firms appear to be much less likely to pursue personal gain by diversifying into completely new businesses, or indulging in perks such as corporate jets (Boivie et al, 2010). However, direct measures of agency costs are difficult to obtain.

How costly is separation of ownership and control?

To answer this question empirically, the Toulouse researchers faced two major obstacles. The first was data availability. While good-quality data on firms, employers and employees are increasingly available, firm ownership structure is typically observed only for listed firms. This limits substantially the scope of the analysis. Listed firms are a tiny minority: they may have specific ownership and control structures, and specific regulatory constraints, or they may be intrinsically different from other firms. In addition, there is always some degree of separation between ownership and control in listed firms, which makes it difficult to define a benchmark for which agency costs are minimized.

The second key challenge was endogeneity. Ownership and control structures are not randomly assigned, and are often likely to be themselves affected by the same factors, such as firm outcomes, or by possibly unobserved factors affecting both the firm's outcomes and its governance. This makes it hard to interpret these relations as causal, and to provide clear guidance about corporate governance policy.

Finnish firms

To address these challenges, Milo and Henri use Finnish administrative data on the complete universe of limited liability firms. They have access to detailed plant-level data on the firm balance sheet, a rich set of information about its employees and, importantly, the firm's ownership structure in terms of the identity and holdings of its shareholders. This offers a unique opportunity to investigate issues of ownership and control in a variety of different types of firms, and to test whether agency conflicts can be even costlier outside the usual sample of listed firms.

Finland scores very highly in terms of corporate governance; for example, it was ranked first in the world by the World Bank's Corporate Governance Index. The researchers' estimates of agency costs are quite large, and remarkably so in a country where one would expect them to be minimal.

Productivity gains

The logic of Milo and Henri's empirical exercise is very simple. They define the person who has control over the firm's operations as the CEO, and they say that there is no separation between ownership and control when the CEO is also the majority shareholder. The researchers then compare firm productivity when ownership and control are in the same hands relative to when they are separated.

The results show that when the CEO is also the majority owner output per worker is approximately €1,000 larger, which corresponds to a 1.9% increase in labor productivity. The effect is large: for example, average productivity growth in the sample is just 0.7%. This effect is robust to alternative definitions of the treatment. The effect is also confirmed when employing alternative measures of productivity and profitability, and when performing various specification tests.

CEO health shocks

How can we be certain that CEO ownership is driving productivity? There may be unobserved factors that induce a change in CEO ownership and affect productivity at the same time. An ideal setting to address such concerns would be one in which the CEO has majority ownership and, for external reasons, has to step down as CEO while at the same time keeping his or her shares. This would neatly separate ownership and control within the same firm and the same ownership structure. To get closer to this ideal situation, the researchers exploit shocks to CEO ownership induced by the CEO's retirement.

A CEO's decision to retire is useful here as it is partly driven by reasons that are not related to the future productivity of the firm. At the same time, the decision is voluntary and as such may be related to unobservable confounding factors. Milo and Henri address this by looking at CEO changes induced by shocks to the CEO's health, which they measure by the amount of health benefits paid out from the Finnish health insurance scheme. Increased health benefits are associated with worsened health conditions.

Of course, CEO health can affect firm performance, and vice versa. To address this, the researchers also look at changes to the health of CEO's spouses, restricting the focus to those who are not working in the firm and have no direct effect on the firm operations.

These health shocks may induce the CEO to leave and, when the CEO is also the majority shareholder, they may provide a clean separation between ownership and control. To exploit this variation, Milo and Henri estimate changes in a firm's productivity, in years in which the owner is also the CEO compared to years in which the two are separated. Their estimates confirm their initial results, showing that firm productivity is significantly larger when ownership and control are in the same hands. They show that it is not a change in CEO per se that drives their effects, but CEO changes associated with ownership changes.

Broader sample, richer results

The researchers then explore whether the effects vary across different types of firm. In particular, they investigate whether the estimates are similar in large or in listed firms, that are the typical focus of existing studies. They show that agency

Finland scores very highly in terms of corporate governance; it was ranked first in the world by the World Bank's Corporate Governance Index. The researchers' estimates of agency costs are quite large, and remarkably so in a country where one would expect them to be minimal.

The results show that when the CEO is also the majority owner output per worker is approximately €1,000 larger, which corresponds to a 1.9% increase in labor productivity. The effect is large: for example, average productivity growth in the sample is just 0.7%.



costs are in fact larger in medium-sized private firms (51-250 employees). They replicate some existing results showing that CEO ownership has a negative effect on productivity in listed firms, producing a graph shaped like an inverted U.

However, they also show that these effects cannot be found outside the sample of listed firms. Their results highlight the importance of exploring agency costs outside typical samples. The results from their broader sample are richer, and suggest that agency costs may be particularly severe in firms that are often excluded from corporate governance studies due to a lack of data.

Empire building vs the quiet life

How exactly do agency costs affect firm productivity? Milo and Henri explore some possible mechanisms, distinguishing between empire building, where agency costs are driven by the manager's tendency to undertake inefficient projects; and quiet life, where agency costs are driven by the manager's tendency not to put in effort at work.

The researchers consider various factors associated with empire building - such as investments, assets, capital expenditure, acquisition activities, cash holdings, leverage, dividends - but none of them appear to be significantly related to their analysis.

Milo and Henri then consider factors associated with quiet life, measuring CEO effort by using the number of employment posts the CEO has in other firms (e.g. second job, board membership, or consultancy) and the number of days off taken by the CEO. Their preliminary analysis suggests that the quiet life hypothesis is a plausible explanation for their results: when CEOs are also the owner, they work harder.

Summing up

The Toulouse researchers show that agency costs are an important determinant of firm productivity, documenting a substantial increase in firm productivity when the CEO obtains majority ownership or when the majority owner becomes the CEO.

Extending their analysis beyond typical samples of large public firms, they find that agency costs are particularly important in medium-sized private firms that are usually not the main concern for regulators. They hope this can serve as motivation for similar data-collection efforts and investigations in other countries.

Find out more

Read ['Agency Costs and Firm Productivity'](#) and other research by Milo Bianchi at: tse-fr.eu/people/milo-bianchi

For a review of possible mechanisms through which agency costs may affect firm productivity, see ['Agency, information and corporate investment'](#) by JC Stein (Handbook of the Economics of Finance, 2003).

Do banks need stricter stress tests?

Alexander Guembel and Haina Ding

What is the optimal degree of leniency in a bank stress test? TSE's Alexander Guembel teamed up with Haina Ding from IAE Savoie Mont Blanc to investigate tests that inform regulators whether a bank has sufficient capital.

Their results suggest that supervisors should be more lenient toward banks with relatively illiquid shares, and when the supervisor lacks private information.



Alexander Guembel

How does information conveyed by prices in secondary financial markets influence decisions? There has recently been considerable interest in this question and in the importance of stock price information in guiding regulator choices – for example, when a supervisor needs to decide whether to intervene in a troubled bank. Some commentators have argued that market discipline can complement and support official oversight of risky financial institutions by providing supervisors with useful market signals. In parallel, a number of papers have investigated how supervisors themselves should produce and communicate information, for example via bank stress tests, in order to assess the need for intervention. It remains a largely open question how the two interact.

In a new paper, Alexander and Haina ask how bank supervisors should design their monitoring technology in light of the impact this will have on information reflected in financial markets. They view the monitoring technology as having two roles: firstly, it determines directly what the supervisor can learn, and secondly, it affects the incentives for a speculator to produce and trade on costly information. They have in mind a supervisor who can choose the “pass” hurdle of a stress test, then decide whether or not to intervene, based on the test result and any further information contained in the bank's share price. The supervisor tries to learn about the value of the bank's assets, knowing that a low asset value would induce risk shifting by the bank. The supervisor can intervene and reduce the bank's risk exposure, for example by selling risky assets. Since a speculator can try to learn the value of the bank's assets, stock prices may contain additional information that is useful for the supervisor.

The specific question the researchers ask is: how lenient should a supervisor's stress test be? Unlike existing papers in the literature, their focus is not on information precision per se, but on how the supervisor should optimally tradeoff type I and type II errors. Under a lenient stress test, a bad bank is more likely to pass (type II error), while good banks are more likely to be subject to intervention under a conservative test (type I error).

Key findings

Alexander and Haina show that a speculator's expected trading profits tend to be higher for a bank that passes its stress test than for one that fails it. This is because a bank that fails the test is likely to be subject to intervention by the supervisor, and if that happens, equity value is wiped out, leaving no profitable trading opportunity for the speculator. A supervisor may thus be reluctant to be too conservative as this will deprive the supervisor of valuable information produced in stock markets. The optimal stress test design will therefore tradeoff the increased information conveyed by stock prices under a more lenient test, against the cost of allowing more bad banks to continue without intervention.

The researchers also consider the case where the supervisor may sometimes privately learn more from the stress test than the publicly observed pass/fail signal. Interestingly, the existence of such private information increases the speculator's trading profits following a failed test, because there is now a chance that the supervisor will ignore the test result and allow the bank to continue anyway. Under some parameters, the supervisor can thus induce information following any stress test result. However, this may require distorting the stress test towards more conservatism. The supervisor, being concerned with making trade profitable following a "fail" certification, may need to leave more trading profits to the speculator by making the "fail" outcome less informative. That can be achieved by applying a more conservative test, which will generate erroneous "fail" certifications more frequently. This increases the informational advantage (and trading profits) of a speculator vis-a-vis the market maker who only observes the publicly announced test result.

Alexander and Haina's model shows that lenient tests should be applied to banks whose shares are less liquid, or where information production is particularly costly for speculators. Moreover, when supervisors can rely more heavily on additional information, beyond the publicly observable results of a stress test, they ought to benefit from using a more conservative test design.

Testing tradeoffs

It would be an exaggeration to argue that supervisors in practice determine the leniency of their stress test design, solely on the basis of the tradeoffs described in the model. Nevertheless, it is important to be aware of the tradeoffs the researchers identify. One clear implication of their analysis is that a "one-size-fits-all" approach has costs, as for some banks it will likely result in a drop in the information quality on which intervention decisions are based. For example, a supervisor who adopts a lenient test design should be aware that this will have adverse consequences for the quality of stock price information for banks who failed the test. In a similar vein, the model shows that an increase in conservatism of the test design can actually reduce the unconditional probability of an intervention by the supervisor. This is because conservatism may increase the amount of speculative information produced following a "fail" result, and this additional information can prevent unnecessary interventions in banks that are actually sound (but for which the test erroneously generated a "fail" verdict).

Risk shifting

In addition, Alexander and Haina show the stock market becomes less useful in providing information as the risk-shifting problem becomes more severe. This happens because the value of an equity claim, conditional on no intervention, becomes less sensitive to the underlying state of the world, undermining a speculator's incentives to produce information about it. On the one hand, in the low state of the world, the value of assets in place is low, reducing the value of equity. On the other hand, the bank engages in risk shifting in the low state of the world, and the accompanying expropriation of creditors increases equity value. The researchers thus identify a new wedge between the private and social incentives to produce information.

Private incentives are driven by the variability in value of the traded claim, which is equity. Social incentives, on the other hand, stem from the value that accrues to debt and equity holders together. A worsening risk-shifting problem reduces private incentives of a share trader to produce information, but increases the social value of this information.

A speculator's expected trading profits tend to be higher for a bank that passes its stress test. This is because a bank that fails the test is likely to be subject to intervention by the supervisor, and if that happens, equity value is wiped out, leaving no profitable trading opportunity for the speculator.

Debt trading

Alexander and Haina extend their analysis to allow for trade in debt claims and show that it may be the case that a speculator trades in shares when the stress test was passed, but trades in debt claims when a bank failed the test. Whether in practice the secondary market in debt claims provides an adequate venue for information aggregation is questionable. Debt markets are typically over the counter, making it harder for supervisors to learn from trades. Debt markets are also significantly less liquid than equity markets, and taking short positions in debt markets is more costly, reducing an informed trader's ability to profit. Finally, it is widely believed that in spite of recent regulatory changes, markets expect significant fractions of debt claims to be bailed out in case of a bank failure, limiting their exposure to the risk of failure.

Disclosure matters

Disclosure of stress test results matters, as it may affect market discipline, the functioning of the interbank market, financial stability, bank lending behavior and risk sharing. In their paper, Alexander and Haina take for granted that stress test results are published, which corresponds to the practice on which supervisors have converged. The supervisor's choice of leniency, however, indirectly affects the quality of information that is publicly available, including the limiting case, where all banks always pass the test (or always fail it), which degenerates the stress test to have zero information. Given that their model allows for additional information to be available to the supervisor, the researchers' specification includes the case in which a supervisor is privately informed and chooses not to provide information to the public by choosing a degenerate test. They show that in the limiting case, where the supervisor's private information is so good that he or she never learns anything from the stress test, it may indeed be optimal not to disclose its results.

However, this would only be the case if banks are in sufficiently good shape such that the supervisor refrains from intervening in the absence of any further information. If banks are in sufficiently bad shape so that intervention would occur in the absence of further information, the supervisor will typically be better off disclosing the test result. Doing so can improve the available stock price information for banks that end up passing the test.

Lenient tests should be applied to banks whose shares are less liquid, or where information production is particularly costly for speculators. When supervisors can rely more heavily on additional information, beyond the publicly observable results of a stress test, they ought to benefit from using a more conservative test design.

Summing up

The researchers show that a supervisor optimally distorts the stress test towards leniency for banks with shares that are relatively illiquid, and about which the supervisor has little private information. When the supervisor has substantial private information about a bank, it can be optimal to apply a conservative stress test.

Find out more

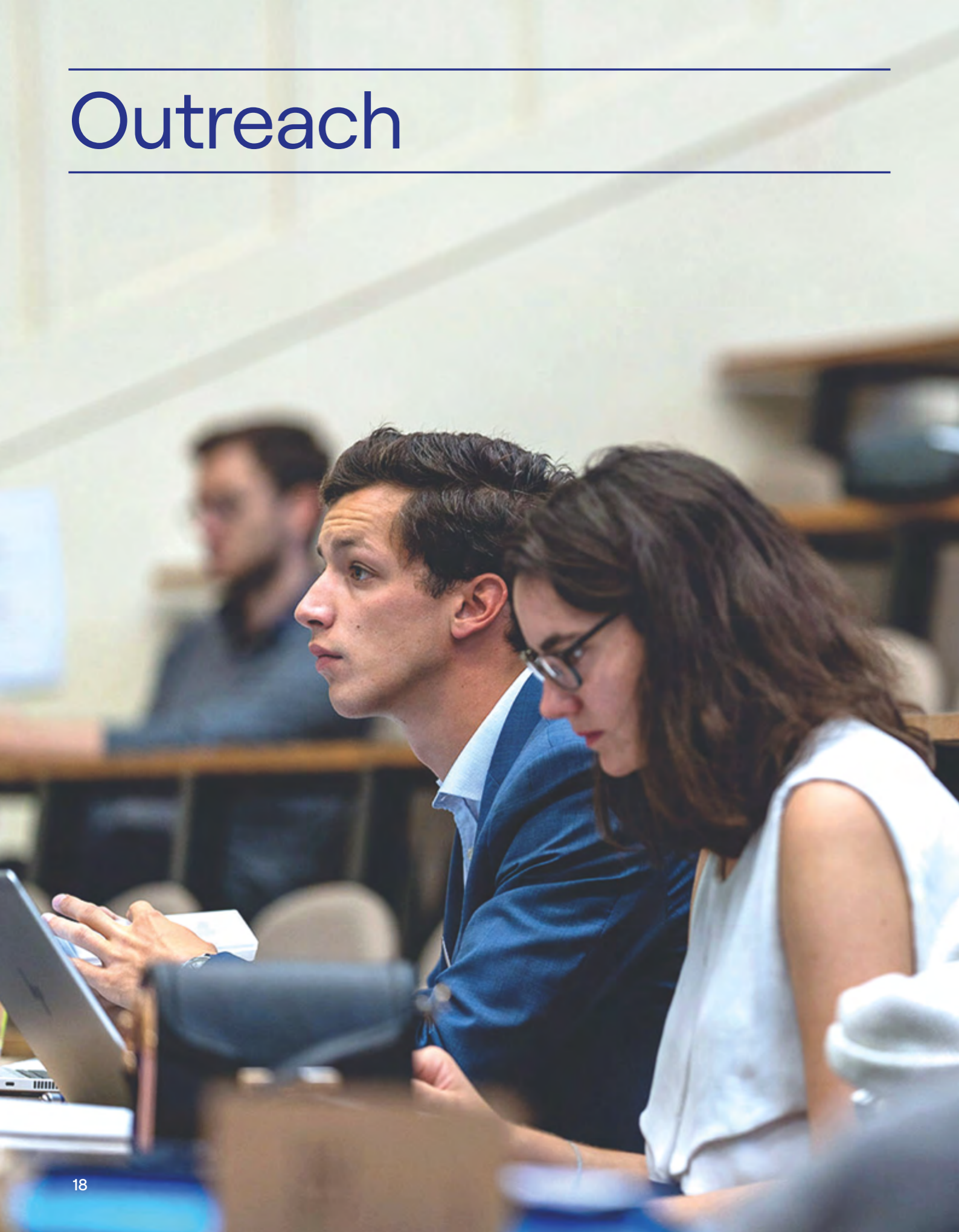
Read ['Market Information in Banking Supervision: The Role of Stress Test Design'](#) and other research by Alexander Guembel at: tse-fr.eu/people/alexander-guembel.

For a survey on how price information in secondary financial markets influences real decisions, see ['The Real Effects of Financial Markets'](#) by Bond, Edmans and Goldstein (Annual Reviews of Financial Economics, 2012).

For an overview of the literature on disclosure, see ['Information Disclosure in Financial Markets'](#) by Goldstein and Yang (Annual Review of Financial Economics, 2017).



Outreach




+Media

TSE Debate is a portal that gathers the opinions and analysis of TSE researchers on topics of public interest. Members of the center regularly publish blog posts and newspaper op-eds that can be consulted in [TSE Debate's "Finance" section](#).


Here we feature some of the recent posts.

Why lowering income tax for high earners is effective

 Frédéric Cherbonnier
Les Echos, May 9, 2019

The reduction of taxes on high incomes is a matter of debate in France, while research shows that it favors innovation, and therefore growth. On the other hand, some absurd tax gifts, such as reduced VAT in the restaurant sector, deserve to be fought.

Reduce public spending, yes, but in the right place

 Frédéric Cherbonnier,
Les Échos, February 28, 2019

Reduction in public spending often leads to simplistic answers. The keys to our fiscal credibility lie not in respecting ad hoc European rules, but in our ability to identify and correct specific sources of inefficiency in today's mixed public and private economy.

Finance must join the fight against ecological and social threats

 Stéphane Villeneuve & collective,
Le Monde, January 29, 2019

About 40 leading economists and scientists launched a manifesto in *Le Monde* to urge the financial industry to commit itself to preventing environmental and social crisis.

The carbon tax: a call to arms

A new book *Le climat après la fin du mois* by Christian Gollier has received widespread coverage in the French national press. According to *Le Point*, his book 'pulverizes' widely held misconceptions about the carbon tax.

An original and insightful thinker, Christian expresses his hope as well as his doubts about our ability to meet the climate challenge and proposes concrete economic solutions to preserve the future of all. To avoid catastrophe, he argues that we need to start making sacrifices now.



“Humanity has an appointment with its destiny, we urgently need to make a significant change in our way of life.”

Christian Gollier



+ Seminars

The Center organizes weekly academic seminars allowing the faculty and members to meet with and exchange ideas with fellow financial experts, often from renowned universities like Boston, Duke, LSE, and Oxford.

Seminars are also an opportunity for PhD researchers to get insightful information on various topics such as:

- Bitcoin
- Venture capital
- Crypto economy
- Banking crisis
- Liquidity management

List of speakers

- Katrin Godker (Maastricht University)
- Francesco D'Acunto (Boston University)
- Marianne Andries (TSE)
- Vladimir Vladimirov (University of Amsterdam)
- Boris Vallee (Harvard University)
- Marco Pagano (University of Naples Federico II)
- William Cong (Cornell University)
- Elisabeth Kempf (Chicago University)
- Oren Sussman (Oxford University)
- Mélissa Prado (Nova School of Business & Economics - Portugal)
- Marie Lambert (HEC, University of Liège)
- Michaela Pagel (Columbia University)
- John Kuong (INSEAD)
- Caroline Flammer (Boston University)
- Hugues Dastarac (TSE - Banque de France)
- Stefano Rossi (Bocconi University)
- Alon Brav (Duke University)
- Matti Keloharju (Aalto University)
- Adrien Matray (Princeton University)
- Rui Silva (London School of Economics)
- Piero Gottardi (University of Essex)
- Artem Neklyudov (University of Lausanne and SFI)
- Claudia Custodio (Imperial College London)
- Roman Kozhan (Warwick Business School - University of Warwick)
- Simon Mayer (Erasmus University Rotterdam)
- Jing Zeng (Frankfurt School of Finance & Management)
- Laurent Fresard (University of Lugano)
- Gur Huberman (Columbia Business School - Columbia University)
- Dimitrios Tsomocos (Saïd Business School - University of Oxford)
- Olivier Dessaint (Rotman School of Management - University of Toronto)
- Alan Moreira (University of Rochester - Simon Business School)
- Ole Wilms (Tilburg University)
- Yue Fei (TSE)
- Jos Van Bommel (University of Luxembourg)
- Fahad Saleh (McGill University - Desautels)



+ Conferences

New challenges in insurance

The insurance sector faces major challenges (ageing, environmental risks, digitalization and big data) that are likely to lead to a restructuring of the sector.

The SCOR-TSE chair "*Market risks and Value creation*" organized a conference in Paris on September 5-6, hosted by the Conservatoire National des Arts et Métiers.

Academics and practitioners gathered to provide an overview of these issues. The conference included 12 selected academic talks and a round table on the theme "*Insurance, technological changes, big data, connected devices and customization*".

About the SCOR-TSE Chair:

Since 2008, the chair has supported theoretical and applied research at TSE on regulation of insurance markets and risk management, combining methods from financial economics, industrial organization and econometrics.



“ In the fast-changing landscape of today's reinsurance market, SCOR representatives can draw directly on the knowledge networks, nuanced advice and latest discoveries of TSE's research teams.

Stéphane Villeneuve
TSE researcher
and a key figure in the partnership

Stéphane Villeneuve

The future of money

On September 17, central bankers and leading academics met at the Banque Centrale du Luxembourg-TSE conference to discuss some of the monetary policy challenges facing the world in the 21st century.

The opening lecture at the Luxembourg event was delivered by Gita Gopinath, chief economist at the IMF. Gita then was joined by ECB chair Philip Lane, Claudio Borio (Bank for International Settlements), and Hélène Rey (London Business School) for presentations and a dynamic panel discussion on *"The Future of the International Monetary System"*.

Subsequent presentations and panel discussion, led by TSE chair Jean Tirole, BCL governor Gaston Reinesch, and Maurice Obstfeld (University of California, Berkeley), focused on *"Crypto-assets, Central Bank Digital Money and Libra: Implications for the International Monetary System"*.

“There is a need to reflect on the future architecture of the international monetary system.”

Gaston Reinesch
BCL governor



From left: Claudio Borio (Bank for International Settlements), Jean Tirole (Chair, TSE), Gita Gopinath (IMF), Gaston Reinesch (Governor, BCL), Maurice Obstfeld (UC Berkeley), Hélène Rey (London Business School), Philip Lane (Chair, ECB), Benoît Coeuré (ECB)



Research for a better world

The 2008 financial crisis and the current sovereign debt crisis in Europe highlighted the need for further reflection on 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.

In 2015, BCL and TSE signed a research collaboration agreement to address these challenges through innovative economic research. The two institutions foster close and mutually beneficial relationships through academic research, mentoring and brainstorming sessions, as well as economic policy discussions.



Bridging the gap between investors and academics

Delivering the latest research on responsible investment practices, the 11th PRI Academic Network Conference aimed to bridge the gap between investors and academic experts on sustainability.

Held on September 9 in Paris, the conference presented leading, peer-reviewed research that highlights emerging trends, suggesting practical solutions and implications for investment professionals. The event is also an opportunity for academics, practitioners, policymakers and educators to come together to network, learn and interact.

The PRI conference was developed by Catherine Casamatta and Sébastien Pouget within the scope of the Research Chair on Sustainable Finance and Responsible Investments (Chaire FDIR) at TSE and École Polytechnique.



The PRI Outstanding Research Submitted papers awarded for the best quantitative paper and the best student paper



Patricia Crifo (Ecole Polytechnique and Paris Nanterre University) presents the results of her research on impact measurements carried out as part of the FDIR Chair.



Catherine Casamatta

Upcoming events

The TSE Sustainable Finance Center is pleased to announce its inaugural conference will take place in Toulouse on December 5–6.



With a keynote lecture by:

Marianne Bertrand

*University of Chicago Booth
& 2019 Jean-Jacques Laffont
Prize Laureate on:*

Corporate Philanthropy and Politics

Several other academic presentations will be delivered by esteemed academics on the following topics:

- Responsible Finance and Long-Term investments
- Financial Intermediaries & Regulation
- Financial Markets (in) Efficiencies
- Fintech

Three panel discussions dedicated to:

- Green investments
- Digital currencies
- New risks, new challenges

Adapting to survive: Climate change and finance

Paris, December 13, 2019

Since 2007, the Banque de France and TSE have run a long-term scientific partnership based on exchanges, research and joint publications. The aim of the partnership is to support and complement the scientific expertise of the Banque de France, and develop joint research projects in the fields of microstructure, financial intermediation, risk, and macroeconomic analysis.

The research projects are organised as a cycle of workshops, seminars and conferences that are open to the public and attract the finest specialists in the field.



In presence of:

François Villeroy de Galhau
Governor of Banque de France

Nicolas Hulot
Former French Minister for Environment

Tokenomics conference

Paris, May 11-12, 2020

Tokenomics is an international forum for the theory, design, analysis, implementation and applications of blockchains and smart contracts. The goal of the conference is to bring together economists, computer science researchers and practitioners working on blockchains in a unique program featuring outstanding guest speakers and academic presentations.

The 2nd International Conference on Blockchain Economics, Security and Protocols will be held at TSE in May, 2020. The submission deadline for papers is December 1, 2019.

Keynote speakers will include:

- **Jean Tirole**, *Honorary Chairman of the Jean-Jacques Laffont - TSE Foundation and chairman of IAST (Institute for Advanced Study Toulouse)*
- **Long Chen**, *Secretary-General of the Luohan Academy, an open research institute initiated by Alibaba, and former Chief Strategy Officer at Ant Financial.*

TSE organizes over 300 scientific and public events every year. We hope to welcome you very soon to our new building.

TSE's brand new building, spread over eight levels and 15,300m², is now open.

Main donors





 AXA
Research Fund

 BANQUE DE FRANCE
EUROSISTÈME

Donors



 bcl
BANQUE CENTRALE DU LUXEMBOURG
EUROSISTÈME

 CRÉDIT
AGRICOLE

 SCOR
The Art & Science of Risk

Publication director: **Sebastien Pouget**
Project manager-Research partnerships
and Managing editor: **Priyanka Talim**
Editorial contributions: **James Nash**

Graphic design and layout: **Olivier Colombe**
Photos: **StudioTchiz, Boris Conte, BCL, PRI Association**
Pictures: **I-Stock**

www.tse-fr.eu
partnership@tse-fr.eu