Chaire Finance Durable et Investissement Responsable

Report for year 2014

http://www.chaire-fdir.fr

ASSOCIATION FD&IR

ÉCOLE POLYTECHNIQUE

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Agenda for the meeting of the Scientific Committee of the Chaire FDIR

January 16, 2015

1. Presentation and approbation of the 2014 annual report

2. Research achievements and projects

3. Miscellaneous

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Ordre du jour de la réunion du Comité d'Orientation de la Chaire FDIR

16 janvier 2015

1. Présentation et approbation du rapport annuel 2014

2. Réalisations et programme de recherche

3. Divers

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Researchers of the Chaire FDIR are working with researchers from other institutions both in France and abroad.

Advances in current research projects

As decided on December 7th, 2012, the researchers of the Chaire FDIR in conjunction with the sponsors have defined four high-priority research projects for the years 2013-2015. These projects are transversal to the main research topics listed in the document of February 2010. These projects are related to the motivations for SRI, to ESG factors and sovereign bond markets, and to the governance and engagement policies of socially responsible firms. These research topics are presented below along with preliminary results and perspectives, and implications for practitioners.

1. Motivation for socially responsible investments

According to Eurosif (2012), socially responsible investment (SRI) represents around 10-15% of the assets under management in Europe, depending on how strict is the definition that one uses. SRI however seems to be mainly driven by institutional demand that represents more than 90% of the assets under management.

Understanding the factors that foster or impede investment in SRI funds is thus a major challenge for asset managers: retail clients may provide significant business opportunities. Moreover, to the extent that SRI represents long-term investments, it becomes important for regulators to better understand how such investments may be promoted in the retail investors' population. This project studies this issue thanks to a field experiment on actual clients of several retail banking companies.

Many different factors may influence the decision to invest in SRI. First, Financial factors might be important drivers of investment in SRI. In particular, the higher the level of expected returns of SRI, in the short or the long run, the higher is the expected level of investment in SRI. Perceived riskiness is expected to also have an impact on the choice of SRI, especially for the most risk averse agents. Familiarity with SRI might also be an important determinant of the choice to invest in a responsible fund (Huberman, 2001).

Second, various psychological factors may affect the decision to invest in SRI. An important psychological factor is related to time preferences, in particular impatience (Jouini, Marin, and Napp, 2010). Some individuals may even discount the distant future excessively compared to the near future, leading to time inconsistency (Laibson, 1997). These individuals suffer from a present bias and might refrain from investing in SRI, especially if they expect future returns to materialize in the long run. Another psychological reason why individual investors choose SRI products might be related to altruism to the extent that SRI might improve environmental and social performance of firms (Andreoni, 1990). Moral issues might also play a role in the decision to invest in SRI. Pro-environment, pro-social, or pro-integrity individuals might consider investing in SRI as a duty, irrespective of the financial consequences for them (Hong and Kacperczyk, 2009).

Finally, external factors, such as the presence of an SRI label (Hainmueller, Hiscox, and Sequeira, 2014) or the publicity of investment decisions (Ariely, Bracha, Meier, 2009), may have an impact on the propensity to choose SRI. A label might be useful to ascertain the credibility of SRI funds' engagement towards sustainable development. Moreover, knowing that their investment decision will be made public may appeal to individuals' need to manage their social image (Benabou and Tirole, 2010), especially for those who are high in self-monitoring (Snyder, 1974).

To study these different factors, a field experiment is implemented in which actual investors have to make actual investment decisions and to answer various survey questions. Having actual investors making actual investment decisions is useful to ensure a good validity for the study. Various experimental conditions (with or without a label, with or without publication of the investment decision…) can be implemented. Finally, using questionnaires enables to gather a rich amount of data on individual investors that are useful to test the various hypotheses.

The field experiment consists in offering investors a chance to win 5,000 euros and asking them to indicate, in case they win the money, how they would allocate it across various responsible and conventional funds from the same investment universe (MSCI Europe Index of large and mid cap stocks). One investor is then actually drawn and actually wins the money to be invested as indicated during the experiment. The experimental set up also includes various psychometric questionnaires to measure the variables that may affect investment decisions.

The population under study is composed of retail clients at three retail-banking companies. The number of clients who have participated in the field experiment is 3,104, which is large enough to obtain many significant results.

The main variables of interest are twofold. We first study what factors affect the decision to invest at all in the SRI fund. For this analysis, we thus consider the entire population of experimental subjects. Conditional on investing in the SRI fund, we then study what factors affect the amount of wealth invested in the SRI fund. For this analysis, we thus restrict the sample to those experimental subjects who have invested a strictly positive amount in the SRI fund.

We find that people are more likely to choose an SRI product when they are more altruistic, when they believe that SRI may have an impact on firms' behavior and is less risky than conventional funds, when they believe that their individual behavior can make a difference, and when they believe that integrity and honesty are important. Moreover, people are more likely to invest in SRI funds when there is a label that certifies the engagement of the fund towards sustainable development.

Regarding the amount of wealth allocated in SRI funds by clients who chose these funds, we find that the amount increases when people are oriented toward social impact, when they are not biased towards the present, when they believe that their individual behavior may have an impact. The presence of a label does not affect the amount invested in the SRI fund.

These results are in line with the conclusions of Riedl and Smeets (2014) and Bauer and Smeets (2014) who show that social preferences and identification to socially responsible funds are positively associated with actual investment in SRI products. We complement these results by studying what psychological factors determine such relationships and how situational factors such as the presence of a label or the publication of the investment decision affects the demand for SRI products.

This project helps understanding which factors are important in individual choices of SRI products. It has implications for both asset managers and institutional investors. For asset managers, it provides insights on the psychological drivers of SRI investments. This could be useful to better design SRI funds and to better communicate to investors about long-term investment products. For institutional investors, this project provides insights about the preferences of the individuals they represent, and could thus be useful to refine their investment policies.

2. ESG factors and sovereign bond markets

Bond markets are among the largest financial markets in the global economy. Fixed-income instruments thus constitute a majority of institutional investors and asset managers' portfolios. To ensure the development and the mainstreaming of extra-financial analysis, it is thus crucial to better understand how environmental, social, and governance (ESG) factors affect the risk-return profile of bond portfolios.

Similar to corporate bonds, government bonds bear a risk of economic default in case of major macroeconomic downturns. But government bonds also bear a strategic default risk to the extent that governments can repudiate their debt due to their sovereignty privilege. ESG factors can have an impact on both types of default risk. On the one hand, sound ESG policies might bring a strong and sustainable economic performance to a country, thereby reducing the risk of economic default. On the other hand, a clear engagement towards sustainable development might signal a country's willingness and ability to address long-term issues, and may thus act as a credible commitment to repay its debt in the future. This might reduce the risk of strategic default.

The researchers of the Chaire FDIR have empirically studied these issues by examining the link between a country's ESG policy and its cost of debt. These studies are presented in the following two subsections and focus on the one hand on OECD countries and on the other hand on emerging countries.

<u>On OECD countries:</u>

An increasing attention is now being paid to the link between sovereign bond spreads and qualitative factors, the so-called environmental, social and governance (ESG) criteria. These supposedly soft factors have prompted renewed interest in the determination of sovereign bond spreads. Nevertheless, if academic and investor research observe that corruption -a key indicator of governance failings- and sovereign debt performance are clearly correlated, that social and political factors help to better assess country's investment risk, the effect of environmental issues on sovereign bond spreads remains less noticeable. However, as noted by Decker and Woher (2012) "the broader economic impacts of climate change, sustainable growth, large-scale environmental accidents, and national energy policies have a decidedly macroeconomic focus". For Heyes (2000), who developed a novel approach that incorporates into the basic fixed price IS-LM framework an environmental constraint: "IS-LM-EE" framework, there is a substantial linkage between environmental performance and macroeconomic variables.

The projects of the chaire FDIR examine whether the extra-financial performance of countries on environmental, social and governance (ESG) factors matter for sovereign bonds markets.

Our main novelty is not to consider the environmental, social and governance dimensions separately but rather together. More precisely, we explore whether government ESG concerns could be considered as a new class of risk that may have a severe impact on bond pricing. The main question raised (and hypothesis tested) here draws from the above-mentioned literature and is as follows: are sustainability criteria such as ESG factors significant predictors of sovereign bond spreads?

We propose an econometric analysis of the relationship between ESG performances and government bond spreads of 23 OECD countries over the 2007-2012 period. To this end, we consider the sustainability country ratings (SCR) produced by Vigeo. We investigate the impact of these ratings on the cost of sovereign borrowing using panel data techniques for 23 countries from 2007 to 2012.

The countries included in the analysis are Australia, Austria, Belgium, Canada, Switzerland, Germany, Denmark, Greece, Spain, Finland, France, the United Kingdom, Ireland, Italy, Japan, the Netherlands, Norway, New Zealand, Portugal and Sweden. Note that the USA is excluded since the yield on the benchmark 'US Bond' is treated as the 'risk-free' rate or the numeraire over which each country's spreads are computed.

This study contributes to the empirical literature on sovereign risk in two ways. First, it provides sound evidence that the performance of countries on ESG concerns may impact sovereign bond markets. Second, it sheds light on a new class of country risk, namely ESG risk factors, and hence, extra-financial analysis which assesses this class of risk, may convey important signals about future country credit risk.

The results obtained reveal that higher ESG ratings are associated with lower borrowing cost and this finding is robust for a wide range of model setups. By implication, efforts to consider qualitative factors in the investment decision would decrease government bond spread, thus reducing the cost of sovereign borrowing.

We also find that the impact of ESG ratings on the cost of sovereign borrowing is more pronounced in bonds of shorter maturities.

Finally, we show that extra-financial performance plays an important role in assessing risk in the financial system. In particular, the informational content of ESG ratings goes beyond the set of quantitative variables traditionally used as determinant of a country's extra-financial rating such as CO2 emissions, the share of protected areas, social expenditure and health expenditure per GDP, or the quality of institutions, and offers an additional evaluation of governments' ESG performance that matters for government bond spreads.

On emerging markets:

We also study the link between a country's sovereign bond returns and its extra-financial performance in the context of emerging markets. Such focus on emerging countries is relevant for two reasons. First, the risk of default is prevalent for emerging countries. This can be seen in the significant number of emerging countries that have experienced default episodes since 1998 (Venezuela, Russia, Ukraine, Ecuador, Peru, Argentina, Uruguay, and Dominican Republic). Second, ESG issues are particularly acute for emerging countries. For example, the Environmental Performance Index (EPI), published every year by Yale University, appears pretty low in 2012 for the countries included in the Emerging Bond Market Index Plus (EMBI+), ranging from 35 (for South Africa) to 62 (for Croatia). This has to be compared to the average EPI score for OECD countries that equals 62.

Why sovereign countries ever pay back their debt has been a long-standing issue in economics. This question is relevant because no external authority may impose repayment though legal coercion. One reason for repayment as highlighted for example by Eaton and Gersovitz (1981) is that sovereign entities want to maintain a good reputation to ensure future access to borrowing. In this case, the more long-term oriented a country is, the more important its reputation is, and the less likely its default.

This logic has been questioned by Bulow and Rogoff (1989b) on the ground that credibility for repayment is very hard to establish: after a country has borrowed, it has an incentive to use the money obtained or generated by positive fiscal shocks to invest and smooth future negative shocks with these savings, thus not depending on future borrowing capacities. Bulow and Rogoff (1989a) then show that additional sanctions, above the fact of not lending, should be exercised in order for sovereign entities to be able to borrow.

Cole and Kehoe (1994) elaborate on this idea by indicating that the threat of terminating non-lending relationships such as collaborations to exploit common ressources, as suggested by Conklin (1998), might induce countries to repay in order to preserve these agreements. Dhillon, Garcia-Fronti, and Zhang (2013) further show that borrowing countries and their lenders might be involved in long-term relationships, aside from the lending ones, that may also enable lenders to impose penalties on borrowers in case of default. This reduces the risk of default of the sovereign borrower. Overall, in these models, sovereign countries repay their debt because they are concerned about their long-term reputation. Finally, following the insight of Grossman and Van Huyk (1988), sovereign (partial) default may be viewed as an efficient way of smoothing shocks over time (countries pay back when they are rich but pay back less when they are poor).

Given these conceptual considerations, a good extra-financial performance at the country level might serve three distinct economic roles. First, a good performance might act as a signal of a country's long-term orientation. Second, to the extent that profiting from natural resources and social development requires the collaboration of outside parties (like foreign countries or large foreign private organizations), countries with a high level of extra-financial performance might have more to loose in case of default because they would not only loose future opportunities to borrow but also loose part of the future benefits from its natural and social resources. Third, a country’s natural and social resources may act as a buffer against negative shocks. These considerations indicate that countries with a good extra-financial performance should have a lower risk of default and thus a lower cost of debt.

We focus on the cost of debt, as measured by the spread over the US interest rate: it is more easily observable then actual defaults that occur pretty infrequently. Moreover, it is obviously possible that other factors than the extra-financial performance of a country affect its spread. We thus include a number of control variables in our analysis, including sovereign credit ratings and macroeconomic variables. Finally, it is also possible that the extra-financial performance of a country has a direct effect on its future macroeconomic performance. As a result, we first estimate this direct effect and then look at how the extra-financial factors that do not influence future macroeconomic performance affect the sovereign spreads.

We measure a country's extra-financial performance using three indices, on Environmental, Social and Governance issues based on data from Yale University (i.e., Environmental Performance Index) and the World Bank (e.g., World Governance Index). Other economic data include government bond spreads, macroeconomic variables and credit ratings.

Overall, our results suggest that a good country's ESG performance is associated with a lower cost of debt, in particular the environmental and social performance. The environmental performance measures how well countries manage their natural resources while social performance reflects a country’s health related government spending as a percentage of GDP.

Practical implications are twofold. First, these results indicate that ESG factors are priced by sovereign bond markets, good ESG being associated with less default risk and thus lower cost of debt. This is important to take into consideration when designing strategic asset allocations across countries. Second, these results suggest that tactical reallocations that aim at anticipating changes in countries ESG performance might improve sovereign bond portfolios risk-adjusted returns.

3. Governance

Recent corporate governance debates and reforms have focused on the boards of listed companies and especially on director independence. It is, at least since the mid-80s, the main criteria to assess the adequacy of board composition, in the U.S.A, the U.K. and in continental Europe. A significant number of independent members should improve board functioning, as it increases the probability for a deficient CEO to be properly sanctioned.

However, a large body of theoretical and empirical research has questioned the effective monitoring ability of independent directors. The 'informational gap' argument stresses in particular that CEOs may be reluctant to share critical firm-specific information with directors perceived as 'watch dogs' (Raheja 2005, Adams and Ferreira 2007). In turn, this literature highlights the heterogeneity of independent directors in terms of expertise and informal network affiliation, as both attributes may influence their ability to cope with the informational gap and to intervene in case of CEO deficiencies (see e.g. Dass et al. 2014 or Kramarz and Thesmar 2013). The net effect of independence on board functioning is therefore still ambiguous.

To this date however, little attention has been paid to what might be another key issue regarding the effectiveness of independence: the selection of board members and the relative bargaining power of CEOs in this process (Hermalin and Weisbach 1998). Does CEO's power lead to an adverse-selection process regarding the appointment of independent directors? Alternatively, do reputation mechanisms favor the selection of the best individuals as independent members? If effective, these processes will result in distinctive intrinsic ability distributions across groups of directors (independent, affiliated and insiders), hardly observable for the econometrician. The crucial point is that selection considerations will then interfere with board functioning to determine independent board members' overall effectiveness (Adams et al. 2010, Withers et al. 2012). And clearly, there is an empirical challenge to properly distinguish, when examining independent directors' effectiveness, what is related to board functioning and what is related to board selection (White et al. 2013).

This project builds upon the negative relationship between firm accounting performance and the proportion of independent directors that has been documented previously and that suggests that there might be (unexpected) flaws of independence that could offset the likely benefits of reduced agency costs. Two explanations have been put forward, that point to the particular position that independent directors have vis-à-vis the firm and its management. First, independent board members may lack, almost by definition, firm-specific or industry-specific knowledge. Second, CEOs may be reluctant to share (firm-specific) information with independent directors, whose role is precisely to monitor them (Adams and Ferreira, 2007). For one reason or the other, independent directors may therefore suffer from an informational gap that impedes their ability to monitor and/or serve as a source of advice and counsel for corporate executives, with detrimental effect on

overall firm performance. Consistent with this argument, we find that our result on independence is robust to controlling for individual heterogeneity. This second result suggests that the negative relationship that we observe is at least to some extent due to the position of the independent director (and not only the person). Taken together, our results show that in the French institutional and legal environment, the costs of independence outweighed its benefits over the last decade.

In this project, we take up this challenge with an original empirical strategy that allows disentangling both mechanisms (board functioning and selection process). This strategy rests on the AKM methodology (Abowd et al. 1999) that makes use of (longitudinal) linked employer-employee data to disentangle firm effects and person effects in wage formation. Applied to the corporate governance-firm performance context, this methodology makes it possible to estimate board-related attributes (independence, expertise, etc.) and director fixed effects in firm performance equation, echoing the approach developed by Bertrand and Schoar (2003) for top executives.

This strategy allows considering and differentiating in a unified empirical framework mechanisms related to board functioning and to director selection. We first show that the independence status, netted out unobservable individual heterogeneity, is negatively related to performance. This result suggests that independent board members experience a strong informational gap that outweighs other monitoring benefits. However, we show that industry-specific expertise as well as informal connections inside the boardroom may help to bridge this gap. Second, we provide evidence that independent directors have higher intrinsic ability as compared to affiliated board members, consistent with a reputation-based selection process.

A last project proposes an empirical investigation of small and mid cap companies' strategic behavior regarding Environmental, Social and Governance (ESG) factors, and aims at testing how it affects their risk-return profile on the stock market. There are several reasons to believe that small and mid cap companies are very different from large publicly traded companies in terms of business strategies, in particular regarding ESG factors.

First, small and mid cap companies are more likely than larger firms to be owned and/or operated by their founder or by the founder's family members (Adams, Almeida, and Ferreira, 2005, and Fahlenbrach (2005)). This provides them with a long-term view and in turn a commitment power that can have valuable business consequences.

For example, commitment power of executives and shareholders might enable small and mid cap companies to implement innovative human resources strategies, i.e. providing insurance to their employees in case of downturns or failures in order to increase their level of implication or creativity (Sraer and Thesmar, 2007). Also, a long-term horizon might enable the firm to develop innovative environmental strategies that necessitate efforts in the short run but are beneficial in the long run (Benabou and Tirole, 2010).

Second, even small and mid cap companies that are not owned and managed by founders or their families could enjoy a high level of economic performance: the relative illiquidity of small and mid cap equity markets provides stronger incentives for shareholders to monitor and engage with management (Maug, 1998).

This project aims at understanding what characteristics of small and mid cap companies may offer them the long-term view and commitment necessary to successfully implement innovative ESG strategies, and how these affect their performances. Preliminary

results suggest that French small and mid-cap companies that display the best social responsibility benefit from a lower cost of capital. This is the case after controlling for the three Fama-French risk factors. This result is in line with the previous literature (Bauer and Hann, 2010, Bauer, Derwall, Hann, 2009, Chava, 2014). It also appears that good news regarding the social responsibility of small and mid cap companies are associated with an increase in the stock price. This implies that portfolio management strategies based on ESG information may only outperform if they are able to anticipate the future evolution of the ESG performance of firms.

The determinants of ESG performance in small and mid cap companies seem to be related with the type of ownership. Firms owned by their founder appear to have a lower ESG performance than the other firms. This might be due to the fact that founders are charismatic enough not to have to cater to the various firms' stakeholders in order to insure their development. Also, we find that firms that are held more by fund management companies display a higher ESG performance except if the firms are under LBO (as measured by a large amount of debt in their balance sheet).

In future work, we would like to extend the cross-section of firms included in our sample and potentially include European corporations. As of now, we measure ESG performance using Vigeo ratings that cover around 130 firms. We are thus eager to receive support to find other sources of information regarding the ESG performance of French and European firms.

4. Shareholder Engagement

Shareholder engagement refers to investors' attempt to influence corporate decisions. One aspect that we have looked at is the role investor relations teams play in the engagement process. Indeed these teams are at the interface between financial markets actors and firm's top executives with whom they have close relationships. The engagement practices around ESG (Environment/Social/Governance) issues are obviously still very heterogeneous but understanding how investor relations' teams integrate ESG issues in their practices is key to evaluate the real impact of responsible investment on firms' policies.

We have developed a short survey that investigates the issues, goals and outcomes of ESG integration, and how these have changed in recent years. As surprising as it may seem, ESG issues are still quite new for most investor relations' teams. Their practices remain very heterogeneous, but most of them anticipate a growing pressure from financial markets on these dimensions. Very few seem to adopt a proactive approach to address these questions and most fear the arrival of new regulations obliging them to report more systematically on extra-financial metrics.

Research achievements since the creation of the Chaire

The research center on Sustainable Finance and Responsible Investment entitled «Chaire Finance Durable et Investissement Responsable» (Chaire FDIR) has been launched in 2007, at the initiative of the French Asset Management Association AFG, by Christian Gollier from Toulouse School of Economics-IDEI and Jean-Pierre Ponssard from Ecole Polytechnique. The inaugural lecture was given by Jean Tirole, the recipient of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2014. His contributions to the scientific work of the Chaire FDIR are presented in another section of this report.

Now co-directed by Sébastien Pouget from Toulouse School of Economics-IDEI and Patricia Crifo from Ecole Polytechnique, the Chaire FDIR has been running for eight years with around twenty internationally renowned scholars and has produced numerous scientific contributions to our understanding of responsible finance. Some of the main contributions are highlighted in this section.

We first present the main results of the Chaire FDIR on how to evaluate distant and uncertain events such as climate change and nuclear risks. We then discuss what the Chaire taught us regarding the motivation for investors to choose responsible investments rather than conventional ones, and regarding the link between Corporate Social Responsibility and financial performance. Finally, we discuss the main insights offered by the Chaire FDIR on governance and shareholder engagement issues.

1. Evaluating distant and uncertain events

Investors determine the value of investment projects by estimating their future cash flows based on financial and extra-financial analysts' insights regarding the materialization of future business opportunities and risks. Standard economic tools prescribe penalizing cash flows that arise in good more often than in bad economic conditions (because diversified investors are already wealthy) and in the distant future (because people are in general impatient and because people in the future are expected to be much richer than today thanks to economic growth). The penalty manifests itself in the form of a discount rate that is large for risky projects and for projects that pay further into the future. As a result, the value of such projects is viewed as low.

This standard valuation framework is relevant to value projects related to sustainable development. Indeed, these projects are deemed to avoid the negative consequences of various global risks such as climate change, nuclear accidents, biodiversity destruction and GMO health impacts. Since it is likely that such risks will be associated with bad economic conditions, sustainable development projects should benefit from a low interest rate and thus from a high value and desirability.

However, because the cash flows of these projects are viewed to occur only in the very long run, they are often penalized by very high discount rates and thus pretty low values. This is reflected for example in the prescription of William D. Nordhaus to use a discount rate of 4%. Such a high discount rate would value at 1 ton of wheat a project that would generate 50 tons of wheat 100 years down into the future. This means that, if a project generates 50 tons of wheat in 100 years and its cost is 2 tons of wheat today, a firm or a government should not accept this project.

The research of the Chaire FDIR has shown that such a high penalty imposed on long-term projects might not be warranted. Several arguments indeed plead for a decreasing

discount rate. First, long-term and global risks are difficult to quantify via probabilities. Decision-makers are thus confronted with a lot of ambiguity, which calls for lower discount rates to value these projects.

Second, the rate at which the economy will grow in the next hundred years is far from certain. If one takes into account this uncertainty and the fact that the world might leave though long periods of stagnation, one is again inclined to using a lower discount rate than 4%.

Third, people's welfare derives not only from consuming standard goods and services but also from enjoying clean air, pure water or beautiful landscapes that might be endangered by economic development due to inadequate regulations. Lowering discount rates for sustainable development projects might thus be appropriate to recognize the complementarity between environmental and standard goods, i.e., to recognize that preserving the quality of the environment ensures that people in the future may fully benefit from their material well-being.

Finally, uncertainty in sustainable development projects may also interact with learning by agents regarding the future impact of these projects. Two opposing effects are then typically put forward: on the one hand, uncertainty about future impacts, for example the future damages due to global warming, often calls for lower discount rates for sustainable projects. On the other hand, learning opportunities will reduce scientific uncertainty about future impacts. This on the contrary calls for a higher discount rate that discourages efforts toward sustainable development to wait for additional information regarding future impacts. The appropriate level of discount rate should thus reflect the benefits derived from learning and the costs from uncertainty.

These scientific contributions have had an impact in practice. Indeed, the researchers of the Chaire FDIR have participated in various groups that were in charge of orienting public policies. For example, Christian Gollier was a lead author in the IPCC, the group of experts on climate change issues who shared the Nobel Peace Prize with Al Gore in 2007. Also, Patricia Crifo and Nicolas Treich are members of the Platform for Corporate Social Responsibility ("Plateforme nationale d'actions globales pour la Responsabilité Sociétale des Entreprises") under the initiative of the French Prime Minister's office for strategic affairs.

2. Motivations for responsible investments

Researchers of the Chaire FDIR have also shed some light on the complex mix of interdependent motivations that underlies the demand for socially responsible investments (SRI). First, investing in SRI funds may be driven by intrinsic altruism: to varying degrees, we all aspire to do good and help. It thus appears important for SRI products to clearly identify what is their impact on social and environmental issues.

Second, material incentives may also be important: people tend to contribute more to public goods when contributions are tax-deductible. In this logic, investors will be more likely to invest in SRI funds if their financial performance is not at odd compared to the one of traditional funds. Evidence reported, for example, by Gil-Bazo, Ruiz-Verdú, Santos (2008), Bauer, Derwall, and Otten (2007), and Bauer, Otten, and Koedijk (2005), indicates that SRI funds or financial assets do not significantly underperform traditional ones and may sometimes outperform in the long run. These results suggest that the demand for SRI funds will increase, as the information concerning their performance will gradually be disseminated among investors.

Third, investors may also be driven by social image concerns. Our behavior defines what type of person we are in the eyes of other people or in our own eyes. Such social-image or self-image concerns is an important motivation for pro-social behavior. For example, donations are in general higher when the gifts are made public, a fact that is exploited by the charity business and exemplified in the practice of naming university buildings after donors. SRI funds could thus increase the demand for their products by leveraging on the image concerns of their investors. Relatedly, one could think that the damage in self-concept suffered by an individual after making selfish actions is amplified if these actions are more salient and memorable. An increase in coverage and attention to SRI might frequently remind us of various issues that we would prefer to ignore such as poverty or climate change. In turn, these reminders may increase the demand for SRI funds.

The research of the Chair FDIR has also identified two potential negative impacts of exploiting social- and self-image motives to spur SRI. On the one hand, the efficacy of publicizing people's a given pro-social behavior might be self-defeating. At one point, it becomes normal to adopt such behavior and nobody gets credit in terms of image anymore. As Bénabou and Tirole (2010) put it: "the more 'advertised' socially responsible investments are, the more they will be discounted".

On the other hand, pro-social intentions might be directed towards more visible and salient choices such as buying a hybrid car but less towards less glamour choices, such as buying SRI products. To mitigate this potential negative impact of image concern, SRI should be made more visible and associated with vivid example of impact.

The framework by researchers of the Chair FDIR might also be applied to institutional investors. In the jargon of professional investors, "altruism" is often replaced by "commitment to improve the environmental, social and governance policies of firms", "material incentives" by "enhanced long-term returns", and "social-image concern" by "reputational issues".

This line of research of the Chair FDIR have also reached practitioners thanks to a large-scale field experiment implemented in collaboration with three different retail banking networks. The idea was to empirically test the impact of various psychological and situational factors on the demand for SRI products. A total of 3,104 clients have participated in the experiment and answered all questions, thus providing a large source of relevant data. In the field experiment, actual investors have to make actual investment decisions and to answer various survey questions.

Having actual investors making actual investment decisions is useful to ensure a good validity for the empirical results. Various experimental conditions (with or without a label, with or without publication of the investment decision, with or without a donation before the investment decision…) can be implemented. Finally, using questionnaires enables to gather a rich amount of data on individual investors that are useful to test the various hypotheses.

The field experiment consisted in offering investors a chance to win 5,000 euros and asking them to indicate how they would allocate their money across various responsible and conventional funds from the same investment universe (MSCI Europe Index of large and mid cap stocks). The experiment ended with individuals filling in various psychometric questionnaires. We did the study on four different populations of clients and, for each population, a client was actually randomly drawn and received the prize of 5,000 euros to be invested as indicated during the experiment.

The results suggest that genuine altruism is at work in the decision to buy SRI products. Moreover, perceived individual effectiveness at influencing environmental and social issues is also associated with a higher propensity to invest in SRI, and with higher amounts invested in SRI. Finally, the presence of a label generates more SRI choices.

3. CSR and financial performance

Researchers of the Chaire FDIR have examined the relationship between corporate social responsibility (CSR) and financial performance. A considerable attention has been given to this issue in the literature, but no consensus has emerged so far on whether or not CSR leads to superior financial performance (for a survey see e.g. Margolis and Walsh, 2003). Several arguments have been developed to explain the contradictory results underlying this absence of consensus. Recent research points to numerous biases and problems in previous work (see e.g. Elsayed and Paton, 2005; Lockett et al., 2006; McWilliams and Siegel, 2000) including the following: model misspecification (endogeneity), omitted variables in the determinants of profitability, limited data (small samples, old periods), cross-sectional analysis invalid in the presence of significant firm heterogeneity, problems of measurement of CSR, and the wide diversity of measures used to assess financial performance. Another problem lies in the direction and mechanisms of causation. Whether CSR leads to superior financial performance, or whether financial performance is rather a necessary condition for CSR is a major issue tackled by few papers (notable exceptions are Belu and Manescu, 2013; Lioui and Sharma, 2012; Scholtens, 2008; Waddock and Graves, 1997).

Three types of contributions have been proposed by the researchers of the chaire FDIR on this topic. A first contribution considers that the absence of consensus on the links between CSR and financial performance rather hides a double phenomenon: high performance in firms which simultaneously adopt some CSR practices that are relative complements, and low performance in firms which simultaneously adopt CSR practices that are relative substitutes (in this case, financial performance would be high were firms invest in one single practice but not all of them). Thus it should be a specific combination of CSR practices that would likely lead to superior financial performance.

The research proposed on this issue makes use of an international matched CSR-firm performance database provided by the European extra-financial agency Vigeo over the 2002-2007 period, resulting in a final unbalanced panel sample of 1094 firms from 15 European countries. Two types of CSR measures are used in the dataset: scores and ratings attributed over three broad CSR domains, human resources, environment and business behavior towards customers and suppliers. On the methodological side, this research relies on an original two-step approach first exploiting the dynamic dimension of our dataset through the system GMM (Generalized Method of Moments) technique and second explicitly testing the complementarity between the environmental, human resources and business behavior dimensions. The concept of complementarity is well established in economics (see e.g. Milgrom and Roberts, 1995). It is based on the idea that the marginal value of one CSR dimension is increasing in the level of another CSR dimension. To test for complementarity among several CSR dimensions, we rely on the mathematical concept of supermodularity (or increasing differences), which has been empirically implemented by Kodde and Palm (1986). We do find some combinations are complementarity inputs of financial performance: human resources and business behavior; while others are substitutable inputs of financial performance: environment and business behavior in the supply chain. In other words, two types of business models are valued by investors. In the

first business model, synergies are exploited by developing CSR strategies focused jointly on human resources and the supply chain, which yield mutual benefits and reduce conflicts among those stakeholders. According to the second business model, it is better to develop CSR strategies focused on either the environment or the supply chain (business behavior) rather than combining both dimensions simultaneously, due to conflict among those stakeholders or over-investment.

A second type of contribution by the researchers of the Chaire FDIR on the relationship between CSR and financial performance has been to study how environmental, social and governance (ESG) issues are integrated in private equity financing based on a framed field experiment in which professional private equity investors competed in closed auctions to acquire fictive firms.

The experiment was run with 33 investors resulting in 330 observations. The results obtained show that corporate non-financial (ESG) performance disclosure impacts firm valuation and investment decision with an asymmetric effect, investors reacting more to bad ESG practices disclosure than to good ESG ones. In particular, irresponsible ESG practices are shown to have a stronger impact than responsible ESG practices. In fact, while irresponsible policies decrease firm price by 11%, 10% and 15% for E, S and G issues, responsible policies increase firm price by 5%, 5.5% and 2% for E, S and G issues.

In other words, these results show that firms would have more to lose from irresponsible policies than to gain from responsible ones. Moreover, investors do care for the content of the corporate social responsibility policy: environmental, social and governance issues do not equally matter, governance appearing specific. Finally, the quality of the corporate practice (whether it is core (hard) or peripheral (soft) for the firm) also matters.

A third type of contribution examines Bottom of the Pyramid strategies, that is how firms succeed both on the financial and extra financial sides when selling products targeted at low income populations, especially in emerging countries.

In the last decade a growing articulation of the business strategy of the firms with some specific global societal challenge in line with its core activities has been observed. This change provides both a need and an opportunity for BoP activities to migrate from their preserved status within the CSR department to business operations. We explore the successive steps associated with this change and show that the newly adopted business strategy of the firm clearly facilitates the change in the mindsets all through the company. Still the need for adapting the management systems remains pending. A key result that emerges from our analysis is that BoP activities cannot be directly transferred to operational entities without simultaneously identifying which of the functional department will be in charge of providing the corresponding management systems.

4. Corporate governance and board independence

Researchers of the Chaire FDIR have examined the relationship between governance, board independence and firm performance.

In economies with high level of stock ownership dispersion, such as the U.S. or the U.K., conventional wisdom strongly supports independence as a way to reduce agency costs (Bhagat and Black, 1999). As Cunningham (2008) notes, the standard response to corporate crises is to look for independent directors in order to provide greater transparency. The

Sarbanes Oxley Act, passed in 2002, is no exception, requiring that audit committees be comprised solely of independent members. Why this emphasis? The argument in favor of board independence has probably been best established by Gordon (2007): in a market-based model of corporate governance, independent board members make sure that (stock) market signals are promptly incorporated into managerial decision-making. As such, they act as watch dogs in the name of dispersed shareholders, in an approach highlighting the disciplinary role of the board.

This argument helps to understand the attractiveness of independence in other OECD countries that tend to converge toward the US-UK style model of corporate governance (Denis and McConnell, 2003). France is a good example. While the comparative literature used to describe France as a typical form a continental model of corporate governance (sometimes referred to as a 'stakeholder' model), a dramatic growth in stock market capitalization took place over the last 15 years, mostly because of the increasing presence of investment funds, both resident and non-resident. This increase in the power of institutional investors in the equity capital of French companies has been accompanied by important changes in securities law and, to a lesser extent, in corporate law. These changes have strongly enhanced minority shareholder protection (Lele and Siems, 2006). Unsurprisingly, in such an environment, independence also became the conventional wisdom, a decade after the USA or the UK. The AFEP-MEDEF Code, to which French listed companies should 'comply or explain', recommends that at least half of the directors be independent , as does the UK Corporate Governance Code. Interestingly, references to other director characteristics are made in both codes: in particular, the benefits of individual 'competences' (with no more precision), and of diversity at the board level (including gender) are stressed. This somehow echoes the empirical literature on corporate boards that increasingly investigates those issues (see e.g. Carter, D'Souza, Simkins and Simpson, 2010 or Anderson, Reeb, Upadhyay and Zhao, 2011). But independence is the only attribute for which a specific quantitative threshold is defined in both documents. By and large, while often criticized for being too simplistic or somewhat old-fashioned, independence still remains the ultimate criterion for evaluating board composition, whether for regulators or shareholder activists.

In this study, we examine the relationship between board independence and firm operating performance in French listed companies, paying particular attention to heterogeneity and endogeneity concerns. To our knowledge, this is the first paper so far to provide a systematic account on this issue for France. Contrary to the U.S., where 'supermajority boards' (i.e. with at least 80% of independent members) are the norm, there are important variations in the share of independent directors among companies listed at Euronext-Paris. Such variations help us estimate the relationship between independence and firm performance. Furthermore, we take advantage of an original database, with a time-series dimension that can be used to mitigate heterogeneity and dynamic endogeneity issues through Generalized Method of Moments (GMM) estimators. In addition, this database can be disaggregated at the individual (director) level. This design enables us to introduce firm fixed effects and individual fixed effects in (firm) performance equations, thereby controlling for (unobservable, time-invariant) heterogeneity at the firm and individual levels. Finally, we use a conservative, non-declarative definition of independence. This is important, as recent studies have shown that there tends to be a gap between what is disclosed by companies and true independence (Gregory-Smith, 2012; Crespi-Cladera and Pascual-Fuster, 2013). Declarative measures of independence, used in most papers, might therefore be noisy ones, encompassing a variety of positions vis à vis the firm and its

management. We use the measure of independence provided for by Proxinvest, the leading company in France for proxy voting advisory. Independence assessment is but one of its war horses.

Our first result is to document a robust negative relationship between firm accounting performance and the proportion of independent directors. This negative relationship suggests that there might be (unexpected) flaws of independence that could offset the likely benefits of reduced agency costs. Two explanations have been put forward, that point to the particular position that independent directors have vis-à-vis the firm and its management. First, independent board members may lack, almost by definition, firm-specific or industry-specific knowledge. Second, CEOs may be reluctant to share (firm-specific) information with independent directors, whose role is precisely to monitor them (Adams and Ferreira, 2007). For one reason or the other, independent directors may therefore suffer from an informational gap that impedes their ability to monitor and/or serve as a source of advice and counsel for corporate executives, with detrimental effect on overall firm performance. Consistent with this argument, we find that our result on independence is robust to controlling for individual heterogeneity. This second result suggests that the negative relationship that we observe is at least to some extent due to the position of the independent director (and not only the person). Taken together, our results show that in the French institutional and legal environment, the costs of independence outweighed its benefits over the last decade.

5. Shareholder Engagement

Researchers of the Chaire FDIR have designed an investment strategy based on engagement and dialogue with businesses. The idea is to invest in non-responsible and therefore undervalued companies, start improving their social responsibility, and resell part of the stakes at a premium to other socially responsible investors. The analysis shows under what conditions it is possible to successfully adopt such "Washing Machine" investment strategy.

Three conditions must be satisfied for this strategy to succeed. First, the investment fund must be able to acquire a significant influence on the target companies. Otherwise they would not be in a position to implement the changes envisioned. Second, only a fund with a long-term outlook can implement the strategy. Indeed, the fund must be able to credibly commit to remain involved in the business long enough for its corporate social responsibility to improve. And third, the fund itself must be able to provide guarantees of credibility with regard to responsible orientations. Otherwise, it will fail to convince the market of the reality of the commitments made by the company.

The washing machine strategy can be implemented solo by funds such as private equity or hedge funds, which can take control over the companies in which they invest. It can also be used by a group of funds such as mutual funds or pension funds if they have a sufficiently coordinated engagement policy (e.g., voting in the same direction at general meetings). In such cases, it is important to properly evaluate the risk of concerted action, which could be prejudicial to the success of the strategy.

Empirical studies reveal that investment strategies based on engagement around ESG issues are potentially profitable: research shows that equity and debt of responsible firms trade above those of non-responsible firms (see, for example, Bauer and Hann, 2010, and Chava, 2014). However, the overall attractiveness of the washing machine strategy will

ultimately depend on the ratio between the abnormal return obtained in financial markets and the cost of the resources deployed to identify and change the investment targets.

This research from the Chaire FDIR has found an echo in the practice of socially responsible investments. Indeed, a fund is currently being launched in New York by Tau Investment Management with the objective of buying into non-responsible businesses (garment factories in developing countries) and improving social and environmental corporate behaviors in an attempt to best prepare a future listing on financial markets. Only time will say whether or not this new investment venture is going to be successful but its investment philosophy embeds the ingredients for success that we identified for the “Washing Machine” investment strategy.

Finally, researchers of the Chaire FDIR offer some empirical guidance for the implementation of engagement strategies. This empirical guidance is based on the reaction of firms to changes in environmental regulations. Regulations can be viewed as affecting firms’ environmental policies just as engagement could. Results could thus be relevant to estimate the impact of a stringent request to improve environmental performance coming from shareholders.

Results are based on survey data on 4,200 production facilities from 7 OECD countries (Canada, France, Germany, Hungary, Japan, Norway, and the US). They show that a 1% increase in the probability to have a stringent environmental regulation increases by 0.04% the probability for a firm to make environmental R&D investments. Also, they find that a 1% increase in the probability for a firm to make environmental R&D investments increases by 0.49% the probability for a firm to be profitable. Interestingly, this result suggests that engaging corporations regarding environmental R&D could be beneficial for SRI funds. However, results indicate that the overall effect of stringent regulations on profitability is negative due to a large direct financial cost of compliance. The estimates suggest that a 1% increase in the probability for a firm to have a stringent environmental regulation decreases by -0.06% the probability of being profitable.

The lessons for SRI funds is that the cost of engagement (for the funds themselves but also for the companies being engaged) should be i) taken into account before deciding whether an engagement campaign is desirable, and ii) monitored closely once a campaign has started. The evidence offered by the researcher of the Chaire FDIR indeed shows that compliance costs can exceed the financial benefits derived from enhanced environmental performance.

On the scientific contributions of

Jean Tirole

to understanding responsible finance

This section presents the contributions of Jean Tirole, recipient of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2014, to the field of corporate social responsibility and sustainable finance. Among his numerous academic contributions, Jean Tirole, founder of the Toulouse School of Economics, has produced two major articles in this field with his co-author Roland Bénabou from Princeton University. Highlighting these contributions is useful because the Economic Sciences Prize Committee of the Royal Swedish Academy of Sciences only alludes to them in its presentation of the work of Jean Tirole: these contributions are too recent. Obviously, the present paper only reflects my own understanding of his thinking and does not reflect all the subtleties and richness of his contributions.

Jean Tirole's contributions enable to better understand the articulation between individual and corporate social responsibility. A first article was the object of the inaugural conference of the Research Center on Sustainable Finance and Responsible Investments (Chaire FDIR, « Finance Durable et Investissement Responsable ») in 2007.[1] A second article shows how competition for talents induces a bonus culture that might be detrimental for society as a whole.[2] This contribution was the topic of Jean Tirole's keynote address at the PRI-CDC Academic Network Conference 2013, a conference for which the Chaire FDIR animated the scientific activities.

Both of these contributions have numerous and important implications for the practice of responsible finance. These implications speak to the structure and strategies of responsible investment funds, to the governance of socially responsible firms, and to the design of their responsible shareholders' engagement policies. These implications are also discussed in this paper.

Individual and Corporate Social Responsibility

The first contribution is formulated in an article entitled "Individual and Corporate Social Responsibility". Roland Bénabou and Jean Tirole identify various economic reasons why an extended notion of corporate social responsibility might be relevant.

To understand their ideas, it is useful to start with the narrow version of corporate social responsibility as best represented by the title of a *New York Times Magazine* article by Milton Friedman in 1970: "The Social Responsibility of Business is to Increase its Profits." In a more precise way, businesses should try and maximize the present value of profits, present and future. This assertion is valid in a setting in which markets and governments work

[1] Bénabou R. and J. Tirole, "Individual and Corporate Social Responsibility", *Economica*, Volume 77, Issue 305, pages 1–19, January 2010.

[2] Bénabou R. and J. Tirole, "The Bonus Culture: Competitive Pay, Screening, and Multitasking", forthcoming *Journal of Political Economy*.

perfectly. In this setting, laws restrict business behavior in a way that is consistent with a country's political will, and businesses, by maximizing their current value, offer their shareholders the best opportunity to obtain from markets whatever goods and services they wish, including supporting the causes that suits them related for example to environmental and social issues. In this logic, markets (for CO2 emission permits for example) or polluter-pays taxes are assumed to adequately reward the positive impacts and punish the negative impacts firms exert on society. As a consequence, firms can maximize profit, as when doing so they internalize the social costs and benefits of their acts.

Roland Bénabou and Jean Tirole present two economic arguments that suggest this view of corporate social responsibility might be too narrow.

Delegated philanthropy

A first motivation for an extended notion of corporate social responsibility (CSR) is named "delegated philanthropy." It refers to the case in which there are market and regulatory failures, due to transaction costs, capture by lobbies, or jurisdiction territoriality issues.[3] For example, in the case of environmental damages, there are missing markets for CO2 emissions because some governments have decided not to support their creation. It is impossible to force them to open and adequately regulate these environmental markets because of their sovereign status. Emblematic examples are the absence of a CO2 emissions market in the US and the very low price of permits in the European Union.

In this case, individuals might want to engage into pro-social behavior (out of pure altruism, material incentives, or image-concern) when the firms they work at, invest in or buy products from are actually generating externalities on their environment: firms will not produce enough of good externalities (e.g., employee training and safety), because they are not rewarded enough, and will produce too much of bad externalities (e.g., pollution), because they are not punished enough. It is then not the case that shareholders would like to see firms always maximize profits if firms can have an impact on the overall level of externalities. Businesses social responsibility is then to choose the appropriate mix of profits and externality production (pollution mitigation, training and safety policies…) to reflect the will of stakeholders. Delegated philanthropy in the end maximizes shareholder value: Starbucks passes through the extra cost of fair trade coffee to consumers, who are willing to pay more for their cappuccino.

Second, another reason for an extended notion of CSR has to do with intertemporal (long-term) profit maximization, and the potential disconnect between short-term and long-term/sustainable profits. This disconnect might be due to poorly designed managerial incentive schemes that are too tilted towards short-term performance. But it can also be an inherent feature of appropriate incentive contracts for risk averse or impatient managers. Moreover, shareholder meetings and boards of directors make tenure renewal decisions on a regular basis, which induces managers to focus on short-term performance that is most likely to affect their career outlooks.

This notion of CSR is motivated by the fact that short-term profit maximization often creates negative externalities on stakeholders: loss of franchise value leading to worker layoffs, accumulation of off-balance-sheet liabilities or the taking of environmental gambles leading to bankruptcies, etc. This second notion of CSR is also consistent with shareholder value, but in the economist's traditional sense of intertemporal profit maximization.

[3] These economic and legal frictions have important implications, discussed below, for the design of the engagement policy of socially responsible investors.

Finally, the article discusses the informational requirements for responsible behavior to actually promote the interests of society, and not just being well-meaning.

Win-win approach: Curbing the Bonus Culture

A second article by Roland Bénabou and Jean Tirole, entitled "The Bonus Culture: Competitive Pay, Screening, and Multitasking", identifies the economic conditions that may trigger or worsen a conflict between short- and long-run performances. A conflict may arise when business managers have to perform different types of activities in order to generate corporate profits: some activities translate into short-term profits and are easily measurable while others translate into long-term profits but are only imperfectly observed. In this case, shareholders emphasize more short-term performance because it enables to provide stronger managerial incentives.

If competition to attract talented managers is not fierce, shareholders are cautious not to give too high short-term bonuses because they realize that these might induce managers to focus too much on short-term oriented activities (such as presenting attractive financial ratios) at the expenses of long-term oriented ones (such as accident prevention, honoring implicit contracts with employees, product safety, pollution mitigation and investing to increase energy savings). However, when there is intense competition to attract the best employees, firms rely more on short-term bonuses because these are more attractive to the best employees and thus enable to separate between good and bad managers. While each firm by assumption design its managerial compensation contract so as maximize its own profit, the resulting equilibrium involves schemes that are too short-termists for all firms. Bonuses are too prevalent.

One can draw numerous implications from the analyses of Jean Tirole in terms of socially responsible investments, corporate governance and engagement policies.

Implications for socially responsible investments

Corporate social responsibility calls for long-term shareholders. Such long-term horizon gives incentives and credibility for shareholders to choose responsible business strategies, corporate governance and managerial compensation contracts. Socially responsible investors would thus benefit from displaying low portfolio turnover and exerting engagement. Moreover, to the extent that socially responsible investors want funds to ensure that firms are doing good on their behalf, responsible funds should clearly indicate what are the main externalities they are focusing on. This is naturally the case for example in pension funds that are administered by employee representatives or in thematic funds that invest in renewable energies. Finally, depending on the psychological motivations that drive demand for responsible investments, funds might have an interest to down play their potential financial advantages (in an attempt to not blur inferences about investors' true altruistic motivation) and to increase their salience (in order to boost the image-concern driver of investors' demand).

Implications for corporate governance

In the win-win logic, corporate governance should reflect a firm's multiple objectives. Corporate responsibility officers should be present at high levels in the organizations and in the board of directors in order to communicate information and provide incentives based on long-term performance. To do so adequately, a formal system of measurement of extra-financial performance should be put in place. In addition to objectivizing firms' performance

in terms of externalities, such a formal system of corporate responsibility measurement and governance may also be useful to prevent managerial entrenchment, as analyzed by Giovanni Cespa and Giacinta Cestone.[4] It would indeed provide firms with the commitment to protect stakeholders even when responsibility-oriented executives are replaced.

Implications for shareholder engagement

In terms of shareholder engagement, socially responsible investors' policies should reflect the market and regulatory failures that are at the root of firms' externalities. For example, socially responsible funds should be more demanding when firms have a cost-effective and direct impact on externalities, and firms are active in countries that do not respect the norms issued by international political bodies. Moreover, policies coordinated across various funds to engage a large number of companies are called for in order to curb externalities at the level of the whole economy. This is for example particularly important for issues, such as CO2 emissions reductions and salary caps, that involve a risk of free riding by firms to try and increase their competitiveness with respect to their pairs.

[4] Cespa G. and G. Cestone, "Corporate Social Responsibility and Managerial Entrenchment", *Journal of Economics & Management Strategy*, Volume 16, Issue 3, pages 741–771, Fall 2007.

Main research projects' scorecard 2010-2014

Themes	Projects	Advancement
Motivation for SRI	The recommendation of SRI funds: *Pouget (with Heimann)* Individual Investors' motivation to invest in SRI: *Pouget (with Bonnefon and Heimann)*	2 working papers, 4 workshop and meetings with sponsors, presentations at conferences, 1 publication
SRI bond markets	SRI and performance of bond funds - Do extra-financial ratings affect sovereign borrowing cost?: *Crifo and Oueghlissi (with Diaye)* Sovereign bond spreads and extra-financial information - An empirical analysis of emerging markets: *Pouget (with Berg and Margaretic)* Green sovereign debt and sustainable development: *Ambec (with d'Albis)*	2 working papers, 3 workshops and meetings with sponsors, presentations at conferences
Governance	Board independence and operating performance: *Challe, Crifo and Roudaut (with Cavaco and Reberioux)* Board composition and gender diversity: *Crifo and Roudaut* Ownership concentration and CSR: Crifo *(with Diaye and Pekovic)* Bonus culture - Competitive Pay, Screening, and Multitasking: *Tirole (with Benabou)* Governance and performance of small- and mid-cap companies: *Jaballah and Pouget* Corporate Governance and Risk: *Rossetto*	7 working papers, workshops with sponsors, presentations at conferences, 3 publication
Engagement	The washing machine - Asset prices and corporate behavior with socially responsible investors: *Gollier and Pouget*	3 working papers, 2 workshops with sponsors, presentations at

	Engagement at general assembly meetings: *Andronic and Pouget (with Bauer and Viehs)* Shareholder engagement and dialogue: a case study: *Crifo and Mottis (with Olmedo)*	conferences
CSR, performance and SMEs	CSR and responsible governance structures: *Crifo and Roudaut (with Cavaco and Reberioux)* CSR and performance in SMEs: *Crifo (with Diaye and Pekovic)* CSR and private equity: *Crifo, Teyssier and Forget* CSR, innovation and performance: *Ponssard, Giraud-Heraud and Sinclair Desgagné*	4 working papers, 2 workshops with sponsors, presentation in conferences, 1 publication

Research proposals

The research conducted within the Chaire FDIR reflects both the academic interest of researchers and the practical interest of the professional partners. In order to find research projects at the intersection of these two streams of interest, it is useful to open a dialogue between researchers and partners. These research proposals are a first step in this direction: researchers have identified some interesting academic issues that fit with the broad topics of interests of partners as indicated on December 7th, 2012 and in the February 2010 document. These proposals can be used as a basis of discussion to find the new lines of scientific inquiries of the Chaire FDIR for the years to come.

Executive compensation and contracts

1. *Managerial Turnover and Long-term Investments* by Alexander Guembel and Stéphane Villeneuve

This projects plans to study how managerial turnover decisions and the choice of investment horizon interact across firms. It is well known that managerial turnover may optimally result from an agency problem (e.g., Spear and Wang, 2005) or a matching problem (e.g., Allgood and Farrell, 2003): firing an executive director after a bad performance enables to provide stronger ex-ante incentives to exert effort and to find a more suitable manager. It is also understood that turnover may induce managerial short-termism in the sense that managers choose less profitable projects if they have a higher probability of success in the near future (v.Thadden, 1995). What is not well understood is if and how one firm's decision to terminate a manager interacts with that taken by other firms. Understanding this question is important, because mitigating negative spillovers across firms provide a fundamental rationale for engagement by universal asset owners.

The project will attempt to link turnover and investment horizon choices across firms. The idea is to show that the central channel for cross-firm spillovers is due to the fact that one firm's firing decision affects the pool of managers available for employment at other firms. This in turn affects other firms' incentives to fire their own manager. This may lead to multiple equilibria. In one equilibrium, there would be high managerial turnover and managers would choose short-term investment projects. In the other, there is low turnover and managers choose the long-term investment project. Firms might thus face a coordination problem in choosing the employment contracts offered to
Managers. A universal asset owner, by affecting the behavior of the various firms in its portfolio, could alleviate this coordination problem.

Corporate governance and engagement

2. *Institutional Investors as Active Owner* by Sébastien Pouget

The objective of this project is to empirically study why and how institutional investors, asset owners and managers, vote during shareholder meetings. Separation between ownership and control is one of the fundamental characteristics of modern companies (Berle and Means, 1932). This separation opens the room for potential conflicts of interests between investors and corporate executives (Jensen and Meckling, 1976): managers may not always favor the strategies that are best for investors.

To mitigate the negative effects of these conflicts, investors can induce executives to follow their guidance by engaging companies, i.e., discussing with executive managers and board members, filing shareholder proposals and obviously voting during shareholder general meetings.

A priori, managers know best what is the right course of business for firms. But companies may generate externalities on society, and investors may care more about these externalities than managers. Two basic arguments then warrant investors to be active in engagement. The first argument rests on the universal owner logic (Mattison, Trevitt and Van Ast, 2011). Large institutional investors own a significant share in virtually all listed companies and have a long horizon. The situation is very different for corporate executives who, for the sake of incentives, in general own concentrated stakes in their companies. These different holding profiles generate conflicts of interests: executives are not going to internalize the effects that their companies have on the payoffs and value of other companies. For example, they may not take into account the negative economic impact that the polluting activities of their firm have on other companies. On the other hand, institutional investors that own very diversified portfolios would like the firm to take into account these negative effects to avoid deteriorating the overall value of their portfolios.

A second argument that calls for institutional investors to be active in engagement is related to the delegated philanthropy logic (Benabou and Tirole, 2010). Institutional investors such as pension funds, sovereign funds and mutual funds invest on behalf of clients who may have preferences regarding externalities that differ from the ones of executive managers. As a result, investors might want to promote their values and preferences towards executives so that they choose the appropriate course of action. One can for example think that the level of global risk induced by a firm (related to climate change, nuclear activities…) might not be valued in the same manner by managers and by the investors who represent clients. Investors may thus want to communicate corporate executives what is their preferred level of precaution. This can only be achieved via engagement.

This project plans to collect data on voting policies of various institutional investors in order to study how their engagement/voting policy is implemented in practice. Recent empirical evidence suggests that universal owners do have an impact on the firms in their portfolios (Dimson, Karakas, and Li, 2014, Azar, Schmalz, and Tecu, 2014, Kempf, Manconi, and Spalt, 2014, and He and Huang, 2014). However, the precise mechanism through which they exercise their influence has not yet been empirically identified. Our idea is thus to test whether institutional investors are more actively engaging firm in areas that are subject to externalities, and to test whether various investors have different preferences over these issues.

3. *Ownership structure and corporate risk taking* by Silvia Rossetto

Shareholders might have different preferences in terms of corporate risk taking. A shareholder with a large stake might be poorly diversified and thus willing to take only small risks. On the other hand, well-diversified shareholders might be willing to accept more risks. Mid-sized blockholders may thus emerge to mitigate the conflict of interests between diversified and large shareholders. This analysis offers a novel explanation for the puzzling observation that many firms have multiple blockholders.

This project proposes an empirical analysis of this issue. It proposes to study the link between the presence of blockholders and share price volatility. The idea is to use data on US equity markets to test whether ownership concentration negatively affects share price volatility. The objective is to build a better understanding of the determinants of corporate risk taking.

4. *Corporate Governance and Shareholders Heterogeneity* by Milo Bianchi

A fundamental literature dating back at least to Berle and Means (1932) has studied how managers should be chosen and remunerated so as to act in shareholders' best interest. But how should one define shareholders' interest? Corporations are often owned by a large number of investors, who may have very different tastes and beliefs, and so it may not be clear whom the manager should represent. A classic response is to define a "corporate objective function" as the result of "a complex process in which the conflicting objectives of individuals are brought into equilibrium" (Jensen and Meckling, 1976).

A large part of the subsequent literature has studied agency problems from the perspective of a representative shareholder, abstracting from the underlying "equilibrium process." This project takes a different approach. We wish to understand explicitly shareholders' heterogeneity and how an equilibrium may emerge when shareholders can trade financial assets in response to the firm's decisions. We study at the same time how shareholders may reach an agreement and how that agreement can be implemented by delegating the decision to a manager. Another interesting issue could be to study the importance of board members' committees (compensation, risk management, nomination…) for the governance of corporations.

The objective of this project is to shed some light on the impact of shareholders' heterogeneity on corporate governance and managerial compensation in settings in which disagreement among shareholders is large, notably in the evaluation of firms' long-term projects.

5. Corporate governance and diversity in the board room by Patricia Crifo and Gwenael Roudaut

Two projects are proposed here. A first project focuses on diversity inside boards. In the literature analyzing the links between board composition and firm performance, gender diversity in fact appears as an important criteria of board quality. Nevertheless, women are still world-widely underrepresented inside the boardroom. Recently, the French regulator has required that more women have to be appointed as directors (the final target is at least 40% of directors of each gender in 2017 -20% in 2014-), leading to an external market constraint on the endogenous board composition.

The main objective of this research project is to evaluate the impact of the new French regulation about the representation of women inside the boardroom at the director and firm levels using an exhaustive database on director and firm characteristics and outputs. By using this quasi-natural experiment, we aim to complement the literature on gender glass ceiling, director labor market and corporate governance quality in general.

In particular, this project will examine two crucial issues of the gender diversity inside the boardroom: the selection of female directors and the impact on board decisions.

Regarding the selection of new female directors in comparison with their male counterparts (reference group), two hypotheses may drive the selection and will be tested: first, the supply shortage of female leading to a concentration of directorship in the hand of a small pool of female directors and an internationalization of the supply, and second an adverse selection by the CEO in order to reduce the corporate governance quality leading to a loss of expertise and competences (glass ceiling effect).

Regarding board decisions, the increasing number of female directors may change the way the board is taking decisions, especially board size and committees, the director attendance and the workload.

A second project proposes to examine how to define a 'responsible governance' strategy. This issue will be analyzed by proposing a theoretical model to analyze the trade-off between the monitoring and the information sharing between board and CEO. In fact, independence is not the only criteria to assess the efficiency of the board to monitor and advise the CEO, expertise also matters. Our goal here will be to propose a theoretical examination of the interplay between both qualities in the board-CEO interactions, thereby contributing to define what an efficient governance strategy might be. From an empirical perspective, this project will use the AFG alert database to examine how negative governance alerts in the French context might reveal governance risks and how this is integrated by firms and investors.

ESG Long-term risk evaluation

6. *The evaluation of social risks* by Nicolas Treich

Should a large risk and a collection of small risks with the same expected number of casualties be evaluated in the same manner? As an answer to this question, it is often advanced that, for a given number of expected fatalities, big accidents are worse. This catastrophe aversion preference is included in the practice of some governmental agencies (Bedford 2013), although the public does not seem to display such a preference (Jones-Lee and Loomes 1995).

This question is relevant for the problem of evaluating climate change, or nuclear risks for instance, for which it seems that the possibility of a big catastrophe is a concern for the population and policy makers, although the induced individual risk may be lower than more familiar risks like transport accident or indoor pollution.

However, standard cost-benefit analysis is indifferent with respect to the catastrophic nature of risks (for a given number of expected fatalities). This is because only ex ante individual risk exposure matters for a person's willingness to pay. In other words, the correlation of this person's risk with other people risks usually does not matter for cost-benefit analysis in particular, and ex ante economic evaluation tools in general. However, broader frameworks, including nonseparable social welfare functions may account for a

preference with respect to catastrophic risks (Fleurbaey 2010, Adler, Hammitt and Treich 2014). This project will provide the conceptual and quantitative foundations for valuing social risks.

7. *Socially Responsible Finance* by Christian Gollier

Christian Gollier is preparing a book on socially responsible finance. The starting point is that financial markets are heavily criticized for their short-termism and for the usurious risk premium they impose. These critiques raise concerns about whether the invisible hand is able to allocate scarce capital efficiently in our decentralized economies. Associated to this problem crucial for our long-term growth prospects, he will address to the following set of normative questions:

• Do we invest enough for the future? Or: Are interest rates too large?
• Given the potentially high social benefits of investing in risky projects, are we enough risk-prone in our investment strategies? Or: Are risk premia too small? Should we care about potential macro catastrophes?
• How should public investment projects be evaluated?
• Why should we value immediate benefits more than distant ones?

Values arise from moral principles (diminishing marginal benefit, prioritarism, temporal impartiality). In this book, he will build a bridge between welfare economics and finance theory. Rather than trying to explain observed asset prices, he will derive what these prices should be in order to drive capital to socially desirable investments, i.e., investments that raise (intergenerational) social welfare. Of course, this approach will lead to a consumption-based asset pricing theory. He will then confront the normative recommendations derived from this normative approach to observed market prices over the last century.

8. *Sovereign credit ratings and interest rates* by Patricia Crifo and Rim Oueghlissi

The use of a large number of variables (quantitative and qualitative) as determinants of sovereign credit ratings reflects somehow the ambiguity surrounding the criteria underlying sovereign ratings. The objective of this project is to help better understand variables used in the determination of sovereign credit ratings. Our analysis builds on the previous literature by exploring the use of environmental, social and governance (ESG) factors as explanatory variables. The main question raised (and hypothesis tested) here draws from the above mentioned literature as follows: how much of an impact do ESG indicators have on sovereign credit ratings and interest rates?

Related to this, our principal challenge is how to quantify government ESG performance. The ESG performance of governments is difficult to assess for at least two reasons. According to many observers, it is often hard to know whether the government should be evaluated as a geographical entity (indicators based on its ESG factors, i.e. forest resources, access to water or CO_2 emissions), as a demographic entity (indicators based on results that depend on the public authority's resources and therefore the nation's wealth and development, e.g. illiteracy rate, life expectancy) or as a political institution (this raises the question of how policy is judged based on level of development). In addition, there is no clear definition of the methodology and the value applied to assess the ESG performance of governments. The reality is that rating agencies and investment managers use a wide array

of data from different official and recognized sources -for example, as noted by Novethic, 2007, OEKOM uses about 150 indicators for 6 evaluations; HSBC AM uses 47 indicators; AXA AM uses 14 indicators-.

In that regard, in order to offer to the users of ESG analysis a more standardized method to, we will initially implement a Principal Component Analysis (PCA) to identify the number of criteria to be incorporated in ESG performance. This will also enable us to construct intermediate ESG indexes (including governance index, social index, population and labor status index, land and biodiversity index and environmental index) as well as a global ESG index. Then, we will examine the impact of ESG global index on the price of sovereign risk as well as the joint implementation of the five intermediate ESG indexes measured by the individual score (including governance quality score, social quality score, population and labor status score, land and biodiversity score and environmental pressure score) and interaction terms of the respective ESG indicators. The price of sovereign risk will be tested by using sovereign credit ratings from the two U.S. leading agencies, Standard and Poors, the oldest provider of sovereign ratings since 1961, and Moodys, providing sovereign ratings since 1974. The population of ratings used will be for the period from December 1996 to December 2010. Our analysis will be carried out across 35 advanced economies (AEs) and emerging market economies (EMEs).

9. Ownership structure, CSR and firm performance by Patricia Crifo

In the CSR-financial performance literature, many scholars still consider that much research needs to be conducted before this relationship can be fully understood (see e.g. Delmas et al., 2011; Griffin and Mahon, 1997; Rowley and Berman, 2000; Surroca et al., 2010).

From this perspective, a first project will examine how different combinations of Corporate Social Responsibility (CSR) dimensions affect corporate economic performance with data on CSR performance, that is based on quantitative metrics of CSR related management practices rather than extra-financial evaluation through scores or ratings. As emphasized by Chatterji et al. (2009), extra-financial ratings are rarely evaluated and have been criticized for their own lack of transparency. In this project, the quantitative measures of CSR related management practices that are used offer a novel approach by relying on actual practices implemented by the firms, rather than evaluations (scores or ratings) based on past and/or expected future CSR behaviors. These CSR related practices are measured via the COI survey (from INSEE) , a large scale database including 10,293 French firms in 2006.

The goal of this research is to analyze how different combinations of CSR dimensions affect firm performance measured by corporate profits. In particular we investigate the quality-quantity trade-off in the design of responsible ESG strategies. Results show that an aggregate measure of CSR, which counts quantitatively the number of practices adopted in terms of environmental, human resources, and customers & suppliers practices, affects positively and significantly firm performance. But on the other hand, the profitability of CSR investments seems to rely on a specific qualitative mix of different CSR dimensions. For instance combining responsible green and customer & supplier strategies improve firm performance more than combining responsible social and customer & supplier strategies. Hence the relationship between CSR and firm profitability is very complex.

A second project will focus more explicitly on governance factors. Several researchers suggest that differences in corporate governance have an impact on firm business performance (e.g. Gompers et al., 2003). One essential assumption about corporate governance is that the shareholders' power concentration and their different preferences with regard to social activities play an important role in determining a firm's CSR activities. By power concentration, we refer to shareholders with a blocking minority. However, studies investigating the link between owneship concentration and CSR are quite limited and yield conflicting conclusions, the concentration of power being shown to be both positively and negatively associated with CSR activities (e.g. Ullmann, 1985; Oh et al., 2011; Jo and Harjoto, 2012) . This project therefore aims to examine the influence of ownership concentration on corporate social responsibility

In particular, we will propose an empirical analysis on Vigeo CSR data, over a nine years period. The panel regression analysis will analyze how power concentration impacts CSR ratings, and whether it increases or decreases a firm's probability to disclose social responsibility information which is negatively reflected on a firm's CSR activities. We might expect a negative relationship between ownership concentration and CSR performance suggesting that the only way CSR and shareholder primacy might be reconciled is through strategic CSR, where the interests of other constituencies might be of direct interest for shareholders, thereby shedding a new light on how corporate governance helps understanding the research on CSR-financial performance link.

Publications and working papers

Researchers of the Chaire FDIR have written some of these articles with researchers from other institutions both in France and abroad.

Ambec S. and L. Ehlers. 2014. Regulation via the Polluter-Pays Principle, Economics Journal forthcoming

Ambec S. and Y. Kervinio. 2014. Cooperative decision-making for the provision of a locally undesirable facility, TSE working paper

André T. 2014. Corporate Social Responsibility boosts value creation at the Base of the Pyramid. Cahier n° 2014-11. Department of Economics, Ecole Polytechnique

André T. and Ponssard J-P., 2014. Managing Base of the Pyramid strategies as a business opportunity. A Longitudinal field study. Working Paper.

Andries M. 2014. Social Responsibility and Asset Prices: Is There a Relation? *Working paper*.

Arrow, K., M. Cropper, C. Gollier, B. Groom, G. Heal, R. Newell, W. Nordhaus, R. Pindyck, W. Pizer, P. Portney, T. Sterner, R. Tol, and M. Weitzman 2014. Should governments use a declining discount rate in project analysis?, Review of Environmental Economics and Policy, 8, 145-163.

Attanasi G., C. Gollier, A. Montesano, and N. Pace 2014. Eliciting ambiguity aversion in unknown and in compound lotteries: A smooth ambiguity model experimental study, Theory and Decision, forthcoming.

Baumstark L., and C. Gollier 2014. The relevance and the limits of the Arrow-Lind Theorem, Journal of Natural Resources Policy Research, forthcoming.

Benabou R. and J. Tirole. 2014. Bonus Culture: Competitive Pay, Screening, and Multitasking, Journal of Political Economy, forthcoming.

Biais B., C. Bisière and S. Pouget. 2014. Equilibrium discovery and preopening mechanisms in an experimental market, Management Science 60, No. 3.

Cavaco S. and P. Crifo. 2014. CSR and Financial Performance: Complementarity between Environmental, Social and Business Behaviours. 2014. Applied Economics, 47(26): 3323-3338.

Cavaco S., P. Crifo, A. Réberioux, and G. Roudaut. 2014. Independent directors: less informed, but better selected? New evidence from a two-way director-firm fixed effect model. 2014. Cahier de recherche Ecole Polytechnique 2014-29 et Cahier de recherche CIRANO 2014s-39.

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Cherbonnier, F., and C. Gollier. 2014. Decreasing aversion under ambiguity, Working Paper.

Courbage C., N. Treich, and B. Rey. 2014. Prevention and precaution, The Handbook of Insurance Economics, George Dionne (Editor).

Crifo P. and V. Forget. 2014. The economics of corporate social responsibility: A firm-level perspective survey. Journal of Economic Surveys. DOI: 10.1111/joes.12055.

Crifo P. and V. Forget. 2014. ESG, stratégies d'entreprise et performance financière. in ISR et Finance Durable, N. Mottis ed., Ellipse : Paris, Avril.

Crifo P., V. Forget and S. Teyssier. The Price of Environmental, Social and Governance Practices Disclosure: An experiment with professional private equity investors. Journal of Corporate Finance. Forthcoming.

Crifo P. and V. Forget. 2014. La responsabilité sociale et environnementale des entreprises: moteur de la transition énergétique? 2014. Avec V. Forget. Revue d'économie industrielle. Forthcoming.

Crifo P . and B. Sinclair-Desgagné. 2014. The economics of corporate environmental responsibility. 2014. Avec, International Review of Environmental and Resource Economics. 7: 1-19.

Crifo P., MA Diaye and R OueghlissI. 2014. Measuring the effect of government ESG performance on sovereign borrowing cost; Cahier de Recherche Ecole Polytechnique 2014-16 et Cahier de recherche CIRANO 2014s-37.

Crifo P., Diaye MA. and Pekovic S. 2014. CSR related management practices and Firm Performance: An Empirical Analysis of the Quantity-Quality Trade-off on French Data. Cahier de recherché CIRANO 2014s-34.

Crifo P., MA Diaye and R Oueghlissi. 2014 Measuring the effect of government ESG performance on sovereign borrowing cost. Chroniques de l'ISR n°4, EDRAM,

Crifo P., E. Escrig and N. Mottis. 2014 . Shareholder engagement and investors relationship. Work in progress

Croson R. and N. Treich. 2014. Behavioral environmental economics: Promises and challenges, Environmental and Resource Economics.

Desquilbet M., and Poret S. 2014. How do GM/non GM coexistence regulations affect markets and welfare? European Journal of Law and Economics, vol. 37, pp. 51-82.

Dhillon A. and S. Rossetto. 2014. Ownership structure, Voting, and Risk, Review of Financial Studies, Forthcoming.

Forget V. 2014. Doing well and doing good: a multi-dimensional puzzle. Working Paper.

Forget V. 2014. Green Signaling in Experimental Private Equity Negotiations. Working Paper, 2014.

Forget V. and F. Massut. 2014. "Historique et fondements de l'intégration des enjeux ESG" et "Modus operandi et perspectives d'évolution des enjeux ESG", dans "Tout savoir sur le capital investissement", G. Mougenot ed., Gualino Eds, City & York: Paris.

Giergingler J. and C. Gollier. 2014. Socially efficient discounting under ambiguity aversion, Working Paper.

Godard O. 2015. « Le principe de précaution et le risque chimique », in J.-P. Llored (dir.), La chimie, cette inconnue. Paris, Hermann (à paraître), (25 p.).

Godard O. 2015. "La fin du développement durable", in R. Barré, T. Lavoux, V. Piveteau (dir.), Environnement et développement durable : entre sciences, politique et prospective (Hommage à Jacques Theys). Paris, Quae, (Coll. 'In-disciplines'), (à paraître), (6p.).

Godard O. 2015. "Les infortunes de la fiscalité écologique", Alternatives économiques, 'Les Impôts', Hors-Série, (à paraître), (6 p.).

Godard O. 2014. "Chapitre 4 - Instruments économiques, justification et normes de justice : le cas de la politique climatique", in C. Halpern, P. Lascoumes et P. Le Galès (dir.), L'instrumentation de l'action publique. Controverses, résistances, effets. Paris, Presses de Sciences-Po, p. 143-159

Godard. 2014. La politique climatique entre choix nationaux et scénarios mondiaux – Implications des positionnements cognitifs et éthiques. Palaiseau, Département d'économie de l'École polytechnique, Cahier 2014-28, janvier.

Gollier C. 2014. Discounting and growth, American Economic Review Papers and Proceedings 104 (5), 534-537.

Gollier C. 2014. Optimal insurance design of ambiguous risks, Economic Theory *57* (3), 555-576.

Gollier C. 2014. Discounting, inequality and economic convergence, Journal of Environmental Economics and Management, forthcoming.

Gollier C. 2014. Evaluation of long-dated investments under uncertain growth trend, volatility and catastrophes, Working Paper.

Gollier C. 2014. A theory of rational short-termism with uncertain betas, Working Paper.

Gollier C. and S. Pouget. 2014. The Washing Machine: Asset Prices and Corporate Behavior with Socially Responsible Investors, Working Paper.

Pouget S. 2014. On the Financial Performance of Socially Responsible Investments, Bankers, Markets & Investors, 128, January-February, p. 31-35

Poret S. 2014. Corporate-NGO partnerships in CSR activities: why and how?" Ecole Polytechnique Cahier de recherche n°2014-21.

Roudaut G. 2014. The Relationships between Managers, Shareholders and Stakeholders: Why do Boards Care about CSR? Working Paper.

Communication of the Chaire FDIR achievements

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

1. Vulgarization of research

A new issue of the Cahiers de l'Institut Louis Bachelier focused on the contributions of the Chaire FDIR is in preparation for 2015.
Members of the Chaire FDIR participated in the Novella Festival in Toulouse.

2. Communication to academic researchers

The researchers of the Chaire 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 Chaire FDIR.

Examples of academic conferences

- ASSA Conference on Discounting and Growth, Philadelphia, January
- Conference "Extreme events and uncertainty in insurance and finance", Paris, January
- Environmental and Sustainability Management Accounting Network, Rotterdam, May
- Financial Econometrics Conference , Toulouse School of Economics, May
- The 25th International Association for Business and Society conference, Sydney, June
- International Economic Association Annual Congress on Long-term investment valuation, Dead Sea, June
- World Congress of Environmental and Resources Economists, Istanbul, June
- CICIRM conference 2014 on Short-termism, Shenzhen, July
- Keynote lecture, 16th Annual BIOECON Conference, King's College Cambridge, September
- PRI conference on Engagement, Montreal, September

Examples of workshops and seminars

- Paris Environmental and Energy Economics Seminar, February
- de Finetti Risk Seminar, Department of Decision Sciences of Università Bocconi, Milan, on Evaluation of long-term investments, February
- European Centre for Corporate Control Studies Workshop on Governance, March
- Fondazione Eni Enrico Mattei seminar on Evaluation of long-term investments, Milan, March
- Seminar at Ecole de Management de Lyon on Engagement, March
- Paris Environmental and Energy Economics Seminar, Paris 1, March
- Seminar at ESSEC on Engagement, April
- The Sustainable Economic Development seminar, Ecole Polytechnique, May
- French Finance Association meeting on Engagement, May
- The 2014 CSR Research Seminar & Doctoral Summer School, University of Louvain and Audencia, Nantes, June
- The 10th Corporate Governance workshop, IABS, Sydney, June
- Seminar, Economics department, University of California at Berkeley, on Evaluation of long-term investments, November
- Seminar, Economics Department, Stanford University, on Evaluation of long-term investments, November

3. Communication to finance practitioners

In 2014, the Chaire FDIR has organized various events during which researchers have presented the implications of their results for CSR and SRI. In particular, 4 workshops have been organized at the AFG or at the headquarters of sponsors.

Workshops for the sponsors

- *Workshop « Small and mid-cap », December 15th, 2014*

. Jamil Jaballah and Sébastien Pouget, IDEI-Toulouse School of Economics: "Facteurs ESG et performance des entreprises small-mid cap en France".
. Marianne Andries, IDEI-Toulouse School of Economics: "Risque et rendement boursiers des entreprises small-mid cap aux Etats-Unis".

- *Workshop « Governance », December 9th, 2014*

. Nicolas Mottis, Elena Escrig and Patricia Crifo (Ecole Polytechnique), "Investors-companies dialogue and ESG integration".
. Jean-Pierre Ponssard and Thomas André (Ecole Polytechnique): "Managing BOP as a business opportunity".

- *Conference Luc Renneboog « Socially Responsible Firms and the foundations of corporate social responsibility», October 2nd, 2014*

- *Workshop « Shareholder engagement», July 7th, 2014*

. HUYNH Quôc Thai (Université de Poitiers, CEREGE), «L'influence de l'activisme des actionnaires minoritaires sur la gouvernance des entreprises françaises cotées »
. SERRET Vanessa (Université de Bretagne Sud, Institut de Recherche sur les Entreprises et les Administrations), « Activisme des actionnaires et responsabilité sociale des entreprises au Canada : Analyse des résolutions soumises par les actionnaires entre 2000 et 2013»

- *Workshop « engagement», June 23rd, 2014*

. Sébastien Pouget, IDEI-Toulouse School of Economics, « Engagement: Investment Profits from Improving Corporate Behavior »
. James Gifford, Tau Investment Management and Harvard University, «From PRI to Tau Investment Management: Examples of Engagement »

The presentations made during these workshops are available on the Chaire FDIR website at www.idei.fr/fdir.

Interactions between researchers and sponsors

During the year 2014, researchers of the Chaire FDIR have participated in meetings with the Chair's sponsors. These meetings enable to discuss more specifically about the implications of research for the sponsors and its adequacy with sponsors' needs. The following internal seminars have taken place:

Seminaire HSBC AM November 18th :
Crifo, Cavaco, Challe, Roudaut, Reberioux . 2014 Board composition and firm performance: indepence vs expertise.

Seminaire Amundi June 17th :
Pouget S. 2014. Investors motivations for SRI.

Seminaire Ecofi Investissements, April 10th :
Berg F., P. Margaretic, and S. Pouget. 2014. ESG factors and sovereign bond spreads in emerging markets.

Seminaire HSBC AM, April 9th :
Berg F., P. Margaretic, and S. Pouget. 2014. ESG factors and sovereign bond spreads in emerging markets.

Seminaire Amundi February 27th :
Berg F., P. Margaretic, and S. Pouget. 2014. ESG factors and sovereign bond spreads in emerging markets.
Crifo, P., MA Diaye et R Oueghlissi. 2014 Measuring the effect of government ESG performance on sovereign borrowing cost.

5. Communication to the general public

- Crifo P., Laurent E. 2014. Making the link between social justice and the environment: are environmental and social inequalities cumulative? OECD Green growth and sustainable development Forum, November.
- Pouget S., Incentives for Long-term Investments, Matinale de l'EIF, October.
- Crifo, P., MA Diaye et R. Oueghlissi. 2014 Measuring the effect of government ESG performance on sovereign borrowing cost. VIGEO Second academic conference, October.
- Pouget S., On the performance of SRI, EIFR matinale de la recherche, September.
- Crifo P. Transition énergétique et emploi, BFM TV, April.

Education and training related to the Chaire FDIR

The Chaire 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 masters in Economics and Finance at the Ecole Polytechnique, at the Toulouse School of Economics, and at the Institut d'Administration des Entreprises (IAE) of the University of Toulouse and other education centers.

Moreover, seven PhD students are currently working on the topics of interest of the Chaire FDIR.

1. Courses

- Economic growth and sustainability, Cours ECO565 Ecole Polytechnique, PA Ecoscience, avec Bernard Sinclair Desgagné & Gwenael Roudaut (32h)
- Stratégies Développement Durable des Entreprises - Master2 Economie du Dév Durable, de l'environnement et de l'energie, AgroParistech, Univ Paris Ouest & Ecole Polytechnique (21h)
- Responsabilité Sociale et Environnementale - Master2 DDET, Univ Paris Ouest (21h)
- Entreprise et Société - Master2 IES, Univ Paris Ouest (24h)
- La responsabilité sociale des entreprises, mastère ALYSEE, AgroParisTech (6h)
- Valorisation de la performance extrafinancière des entreprises, spécialité économie et gestion d'entreprises, 3ème année du cursus ingénieur d'AgroParisTech (6h)
- Sustainable performance, ESSEC (12h)
- Master in Finance, IAE (University of Toulouse): Asset Management (12h)
- Master in Finance, IAE (University of Toulouse): SRI (12h)
- Master Financial Markets and Intermediaries, Toulouse School of Economics: Economics of risk and insurance: taking into account the long-term impacts of investments (27h)
- Master in Environmental and Natural Resources Economics, Toulouse School of Economics: Environmental Economics (36 h)
- Master in Environmental and Natural Resources Economics, Toulouse School of Economics: Green Business Strategies and Socially Responsible Investments (36 h)
- Master in Environmental and Natural Resources Economics, Toulouse School of Economics: Finance and sustainable development (36 h)

2. PhD Students

PhD students of the Chair FDIR in 2014 included:

- Thomas André : Evaluation économique des stratégies Bottom of the Pyramid, PhD Cifre with Schneider Electric, started in 2011 (J.-P. Ponssard advisor).

- Liviu Andronic: Extra-financial information and financial forecasts, started in September 2010 (S. Pouget advisor)

- Loïc Berger: Essays on the Economics of Risk and Uncertainty, started September 2012 (C. Gollier advisor)

- Jamil Jaballah: L'impact des agences de notation sur les cours boursiers des entreprises, PhD defense on December 5, 2014 (C. Casamatta advisor)

- Yann Kervinio: Fairness in natural resources management, started in September 2011 (S. Ambec advisor)

- Rim Oueghlissi: Environmental, Social and Governance factors in sovereign bond markets, started in september 2012 (P. Crifo and M. A. Diaye advisors)

- Gwenael Roudaut : En termes de gouvernance, quels sont les déterminants des performances durables ?, started in 2012 (P. Crifo advisor)

Visibility of the chair

This section offers some examples of items that show the visibility of the Chaire FDIR.

- Member of the Chaire FDIR received the Best Paper Award of EUROPLACE INSTITUTE OF FINANCE in April 2014
- Members of the Chaire FDIR acted members of the jury for the 2014 FIR-PRI research awards. July-September 2014
- Member of the Chaire FDIR was awarded the Best PhD award from the FIR-PRI in September 2014
- Member of the Chaire FDIR was made Chevalier de l'Ordre National du Mérite September 2014.
- Member of the Chaire FDIR was awarded the Best PhD award from the Maison Sciences de l'Homme et de la Société in November 2014
- Member of the Chaire FDIR was expert in 2014 for the Joint Research Center of European Commission and of Swedish Foundation MISTRA
- Members of the Chaire FDIR acts as Member of Economic council for sustainable development, CSR platform, Foundation for Energy knowledge