



**Chaire Finance Durable  
et Investissement Responsable**

## Report for year 2010

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## Agenda for the meeting of the Orientation Committee

March 9, 2011

1. Presentation of the annual report
2. Perspectives (research projects)
3. New design of the website
4. Conference 2011
5. Miscellaneous



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## WORK GROUP 1:

### Financial markets, investment strategies and responsible finance

#### *Marchés financiers, stratégies d'investissement et finance responsable*

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## 1. Executive summary

### 1.1. General Research Objectives

The objective of this work group is to study the interaction between financial markets and corporate social responsibility. Firms' socially responsible strategies are characterized by two basic characteristics: i) these strategies are bound to control the externalities created by firms on their environment, and ii) these strategies are often viewed as having long-term effects. These characteristics raise a number of interesting questions. Do financial markets value these externalities? How to discount the far future? Do financial markets imperfections impede the valorisation of corporate social responsibility? Are long-term information incorporated in asset prices? What is the role of SRI funds in the investment policy of firms? How should SRI funds evaluate the overall (financial and extra-financial) performance of assets? These issues are analyzed by the work group 1 using theoretical, experimental and empirical methodologies.

### 1.2. Research Team

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### 1.3. Research collaborations

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## **2. Workshops with the sponsors**

### 2.1. May 25, 2010

- Joseph Gawer, Natixis AM, "Gouvernance d'entreprise: une étude d'événements sur le marché d'actions européennes"
- Christian Gollier, IDEI, "Les enjeux économiques du changement climatique".

### 2.2. October 22, 2010

- Nicolas Treich, IDEI, "Evaluation économique de l'environnement: Faut-il utiliser le consentement à payer ou le consentement à recevoir?"
- Stefan Ambec, IDEI, "Développement durable en laboratoire"
- Marco Heimann, IDEI, "Restaurer la confiance des investisseurs: une expérience sur l'effet des politiques ISR des fonds d'investissement"

All presentations are available on the "Chaire FDIR" website at the address:

[http://www.idei.fr/chairefdir/recherche\\_gt1.php](http://www.idei.fr/chairefdir/recherche_gt1.php)

### 3. Research summary

The research of the work group on “Financial markets, investment strategies and responsible finance” is related to three basic questions that are relevant to socially responsible investments (SRI). These three basic questions are transversal and are in line with the Chair’s objectives as outlined in a February 2010 document on research priorities.<sup>1</sup> First, what is the nature of the demand for SRI funds? This question is related to themes n°2, n°3, and n°8 of the research priorities document. It aims at better understanding the added value of SRI investment products from the clients’ perspective: this entails understanding the psychology of responsible investing, the actual impact of SRI funds, and the appropriate governance of SRI funds. Second, what type of strategies do SRI funds use and how do they impact financial asset prices and corporate behavior? This question speaks to themes n°1, n°4, and n°5 in the research priorities document. It will be useful to better structure SRI portfolios and identify attractive responsible investment opportunities. Third, how can one value the social responsibility of an investment, be it a stock, a corporate bond or a sovereign bond? This question is in line with themes n°1, n°3, and n°7 in the research priorities document. It is related to the benefit-cost approach and is crucial both for objectivizing the activity of SRI funds and for proposing socially responsible asset allocation procedures.

#### 3.1. *Nature of the demand for SRI funds*

The demand for socially responsible funds arises from two types of investors: institutions, such as pension funds or sovereign funds, and individual investors. These different investors may have very different underlying motivations. Institutions’ rationale for investing in SRI may derive from political issues, reputation concerns, or the fear of pecuniary externalities within firms in well-diversified long-horizon portfolios. Individual investors may be inclined to invest in SRI for psychological reasons related to altruism or to self-image concerns.

##### a) *On the institutional demand for SRI funds*

Institutional investors usually have a long-term horizon and invest in a large portion of the assets available in financial markets. According to Benabou and Tirole (2010), investing in firms with sound Corporate Social Responsibility (CSR) policies can alleviate issues related to the existence of limits to governance and managers’ temporal horizons. As argued below, these investments in CSR can turn out to be beneficial, not only for society but also for investors themselves. As a large literature in finance has emphasized, firms often suffer from a short-term bias. This may be due to poorly structured managerial incentives, but such biases can also result from well-designed schemes. First, monetary incentives often put more weight on short-term than on long-term performance. Although the recent crisis

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<sup>1</sup> The themes highlighted in the February 2010 document on research priorities are summarized as follows. N°1: CSR and extra-financial performance. N°2: Demand for SRI and social issues. N°3: How to induce firms to reduce externalities (Approach Benefit-Cost, Discounting)? N°4: What are the relevant ESG indicators? N°5: Relationship investors-firms and engagement. N°6: SRI, fixed income, and sovereign debt. N°7: BOP, emerging countries, and long-term growth activities. N°8: On the governance and the SRI policies of institutional investors.

has brought more widespread recognition of the hazards that short-term-oriented compensation schemes create for corporations and society, some dependence on current or recent firm performance is inevitable. Second, decisions by boards and shareholders about whether to keep current management, change it or alter the scope of its activities are also necessarily based in part on recent observation (even if some of the long-term impact of managers' actions may filter through long-term indicators such as the stock price). Thus career concerns also generate some short-term biases. In practice, short-termism often implies both an intertemporal loss of profit and an externality on stakeholders. That is, managers take decisions that increase short-term profit, but reduce shareholder value and hurt workers or other constituencies. For example, a firm may renege on an implicit contract with its labor or suppliers so as to reduce costs, thereby damaging goodwill making it more difficult to attract motivated workers in the future, or to induce suppliers to make relationship-specific investments. Alternatively, a firm could economize on safety or pollution control; this also increases short-run profits, but creates contingent liabilities down the road, risk of future lawsuits, consumer boycotts and environmental clean-up costs. To the extent that SRI funds push forward the need to implement CSR policies, these funds can contribute to overcome the short term bias in firm's decisions. This suggests that socially responsible investors should position themselves as long-term investors who monitor management and exert voice to correct short-termism.

For SRI funds to be able to promote long term objectives, Casamatta and Pouget (2010) argue that a proper incentive structure needs to be offered to the fund managers. As in the case of firm managers, fund managers compensation is linked to short-term as well as long-term portfolio performance. A widespread view in the financial industry is that relying on short term performance makes it harder to implement a long term strategy. For instance, a Socially Responsible Investment fund manager reports "The big difficulty is that a lot of the reputational issues and environmental issues play out over a very long period of time [...] and if the market isn't looking at it you can sit there for a very long time on your high horse saying 'this company is a disaster, it shouldn't be trusted 'and you can lose your investors an awful lot of money..." (Guyatt (2006)). In a similar vein, to convince investors that it will generate long term value, Brevan Howard Asset Management, one of Europe's largest hedge-fund groups, has started paying its traders' annual bonuses over several years, adjusting the size of the bonus according to the fund's performance. Proper compensation schemes in SRI funds needs to strike the appropriate balance between short-term compensation, necessary for the manager to meet his or her needs, and long-term compensation, necessary for the manager to embrace a socially responsible perspective.

A growing body of literature shows that stock prices do not fully reflect environmental, social, governance and other intangible assets such as R&D expenditures. For example, Derwall, Günster, Bauer and Koedijk (2010) find that companies that are more eco-efficient earn higher average returns. Eco-efficiency is measured by the Innovest Strategic Value Advisors' corporate eco-efficiency score. The average return differential is robust when controlling for various risk factors and investment styles. Edmans (2011) reports that firms included in the list of "100 Best Companies to Work For in America" earn positive abnormal returns for a period of time as long as four years after inclusion. Other studies suggest that positive abnormal long run returns are triggered by high research and development expenditures (Lev and Sougiannis (1996)), advertising expenditures (Chan, Lakonishok, and Sougiannis (2001)), patent citations (Deng, Lev, and Narin (1999)), software development costs (Aboody and Lev (1998)), and corporate governance quality indexes

(Gompers, Ishii, Metrick (2003)). These empirical results are often interpreted as evidence of market inefficiencies due to the intangible nature of the information under study. Casamatta and Pouget (2010) offer an alternative hypothesis based on the long-term nature of the information under study (the operational items cited above are more likely to improve long-run than short-term financial performance). They argue that the slow incorporation of information is a result of stock market short-termism due to short-term compensation. Short-term compensation is inevitable unless fund managers are patient and share the long-term prosocial inclination of the fund. To be performing well and fulfill their long-term fiduciary duty, SRI funds would thus be well inspired to recruit managers with strong prosocial orientations.

*b) On the individual demand for SRI funds*

From an individual investor point of view, investing in SRI funds falls in the domain of prosocial behavior. Benabou and Tirole (2010) sheds some light on the complex mix of interdependent motivations that underlies prosocial behavior and can thus be helpful to better understand the demand for SRI funds. First, investing in SRI funds may be driven by genuine, intrinsic altruism: to varying degrees, we all aspire to do good and help. Second, material incentives may also come into play: we are more likely to give to charities if contributions are tax-deductible. In the same vein, 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. Recent 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 conduct defines what kind of person we are, in the eyes of others and, no less importantly, in our own eyes. Anonymous gifts are widely considered to be most admirable, and yet they typically represent a small portion of the total number of donation. The implied conclusion that buying social prestige is part of the incentive to engage in prosocial behavior is confirmed by several experiments. For example, in the context of a blood donation in Italy, bronze, silver and gold 'medals' awarded for how often people donated blood only had a significant effect when the results were published in newspapers and the medals awarded publicly (Lacetera and Macis, 2010). These findings suggest that SRI funds could increase the demand for their products by leveraging on social-image concerns of their investors.

Recent experiments demonstrate that self-image concerns are also important motivators for prosocial behavior: we act prosocially in part to reassure ourselves that we are good people. Dana et al. (2006), for example, show that many people who would voluntarily share \$10 with an anonymous other in a dictator game prefer to just take \$9 for themselves and not face that choice. In a related vein, Hamman et al. (2009) show that many subjects who would otherwise behave generously in a dictator game will, given the opportunity, delegate the sharing decision to a third party who has acquired a reputation for being biased in favor of delegating principals. Put differently, economic agents are eager to delegate the 'dirty work' that they would not want to do themselves; somehow, not directly choosing the selfish action seems to exonerate them from what would be the logical damage to self-esteem. All these experiments point to the idea that self-signals play an important

role. Accordingly, one would expect the cost to self-esteem incurred from selfish actions to be magnified when these become more salient or memorable. Indeed, Mazar et al. (2008) find that subjects who can cheat (for money) on a task without any risk of detection, cheat less when they are first made to read the Ten Commandments or their university's honor code. Such reminders of moral precepts should, according to the standard economic model, be irrelevant. In fact, by making transgression of these precepts more salient, they reduce the ambiguity on which self-deception relies, inducing more honest behavior. This discussion points to a potential role of socially responsible investment, and other 'good citizenship' modes of consumption and saving. When self-views are involved, we are very good at deception, inattention and rationalization. One virtue of SRI products and their widespread diffusion is that they provide frequent reminders of things that we prefer not to think about, such as poverty, injustice, or the environmental impacts. In turn, these reminders may increase the demand for SRI funds.

There are at three potential elements on the 'dark side' of exploiting social- and self-image motives to spur SRI. First, the efficacy of publicizing people's good and bad deeds is, in a sense, self-limiting. As publicity is scaled up, people discount the meaning of prosocial acts, attributing their motivation more to image-seeking and less to altruism. This form of 'over-justification effect' implies a partial crowding out of the incentive provided by publicity (see Benabou and Tirole (2006) for a formal analysis). The implication is that the more 'advertised' socially responsible investments (SRIs) are, the more they will be discounted. Second, another cost relates to individuals' choice of signals. Giving is heavily distorted toward the more visible or memorable targets: Americans, for instance, donate substantial amounts to Harvard, Yale, Princeton and other well-known alma maters, but far less to primary and secondary schools. Similarly, giving to concert halls and museums has much greater 'glamour' and networking value than giving to the poor. A similar point applies to green investment by households: as Ariely et al. (2009) note, buying a hybrid car or installing solar panels buys more social prestige than insulating one's house or buying an energy-efficient furnace. While the latter investments are in fact more ecologically virtuous, they are also invisible to others, and after a while even to oneself. This pleads in favor of making socially responsible investments more salient in order to enhance their visibility and availability in investors' mind. Third, the quest for social prestige or the enhancement of self-image is, in itself, a zero-sum game, in the parlance of sociologists, a positional good. The buyer of a hybrid car feels and looks better, but makes his neighbors (both buyers and non-buyers of hybrid cars) feel and look worse, a 'reputation stealing' externality. In the limit, when everyone invests in socially responsible investments, no one gets credit for it.

The framework developed in Benabou and Tirole (2010) may 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" (see Hebb, Hachigian, Allen (2010)).

Aside from altruism, self-esteem, and social image, individual investors' demand for SRI funds is likely to be influenced by trust. Heimann, Bonnefon, Mullet, and Pouget (2010) argue that adopting SRI criteria in their investment policies has a positive impact on investors' trust towards a fund.

In recent surveys, people were asked what measures a business could take in order to restore its trustworthiness. Amongst the top answers were: "treating employees well",

'having transparent and honest business practices', 'communicating frequently and honestly' and 'making progress on environmental initiatives'. In comparison answers that topped the ranking a few years earlier ('increasing profitability and performance', 'increasing shareholder value' or 'protecting profit margins') referred to financial aspects (Edelman (2010)). Experimental studies arrive to identical conclusions: empirical data clearly supports a link between perceived morality and trustworthiness. Bews and Rossouw (2002) have demonstrated that managers can improve trust by adopting a set of ethical interventions, procedural transparency, trust training, adequate communication or improved employee care. Experimental results reported by Heimann et al. (2010) indicate that the perceived trustworthiness of an investment fund depends on the values promoted by the fund. It is not enough for a fund to label itself as socially responsible in order to benefit from investors' trust. The fund has to explicit its basic socially responsible policies and investors' trust will increase with the degree of similarity between the values of the fund and those of investors. In other words, the more investors share the values promoted by a fund, the higher their level of trust towards the fund. To the extent that different investors have different values, this result calls for the creation of specialized funds that can cater to different investment segments.

### 3.2. SRI funds' investment strategies and impact on corporate behavior

One important question that SRI funds have to address is related to the type of strategy they should implement. A corollary issue regards the real impact of SRI investors. Two major SRI strategies, best-in-class and engagement, have been studied by Gollier and Pouget (2010). A best-in-class strategy potentially invests in all the available market segments and industries but over-weights the companies or the assets with the best CSR practices. An engagement strategy is similar to an indexing strategy in which funds dialogue with firms (through personal communications with executives, proxy votes, or nomination of board members) in order to enhance their practices on various environmental, social, and governance issues. Gollier and Pouget (2010) examine the impact of SRI on firms CSR policies and on the pricing of their financial assets. They also study the consequences of the socially responsible orientation of a fund for its financial performance. One argument in favor of the

#### a) *Best-in-class strategies*

By altering their portfolio allocation towards responsible assets (voting with their feet), best-in-class SRI funds can decrease the equilibrium cost of capital of responsible firms, thereby inducing them to behave more responsibly. Implications for various CSR issues can be derived. Consider, for example, the climate change issue. In the Stern Review (2007), the damage generated by the emission of greenhouse gases in the business-as-usual scenario is estimated to be equivalent to an immediate and permanent loss of the world GDP by an amount comprised between 5% and 20%. At the same time, Stern estimates that most of these consequences could be eliminated by an immediate and permanent sacrifice of 1% of the world GDP, invested in alternative/new technologies to reduce emissions. Thus, for the application of climate change, we can estimate the ratio immediate cost to future benefit as being somewhere between 5% and 20%. Gollier and Pouget (2010) analysis suggests that social efficiency could be obtained if the proportion of SRI investors is larger than this ratio.

Traditional investors can counterbalance the strategy of SRI funds, and might rebalance their portfolios in favor of “vice assets” because of their relative increase in expected return. Overall, it is thus not clear whether best-in-class strategies can affect firms’ cost of capital. However, Gollier and Pouget (2010) show that, at equilibrium, best-in-class SRI funds investment policy does induce more responsible assets to have a higher market capitalization. The potential impact of best-in-class strategies can be assessed by looking at the extent evidence regarding the impact of negative screening types of SRI strategies. A lot of SRI funds exclude several industries from their portfolios (alcohol, tobacco, gaming). Hong and Kacperczyk (2009) show that stocks in these industries experience abnormal returns of 2 to 3% a year (in a four-factor setting). This suggests that exclusions have an economically large impact on firms’ cost of capital. These estimates probably constitute an upper limit for the influence of best-in-class strategies. Indeed, best-in-class SRI funds using different positive screening devices, their asset allocation decisions are likely to display a lower level of coordination.

#### *b) Engagement strategies*

To better understand the potential impact of SRI funds on corporate behavior, it is interesting to study investors’ engagement strategy and impact. As discussed in Hebb, Hachigian, Allen (2010), SRI investors’ engagement consists in discussing with executives, proposing resolutions and voting at shareholder meetings. Gollier and Pouget (2010) analyze the impact of shareholders’ engagement on firms’ value. They show that, when a CSR resolution is adopted, firms will experience a positive stock price reaction if the CSR policy adopted is not too costly, and if the potential improvement in CSR and the strength of the consensus around the particular CSR issue at stake are high enough. This shows that, in some circumstances, there is a corporate social responsibility (CSR) premium associated with the fact that a company has a higher level of CSR (see Günster, Bauer, Derwall, and Koedijk (2010) for empirical evidence). The fact that market capitalization may increase or decrease after CSR policies’ adoption shed some light on the empirical literature that finds mixed results regarding the influence of CSR on firms’ value (see, for example, Wagner (2001), Orlitzky, Schmidt, and Rynes (2003), and Margolis, Elfenbein, and Walsh (2007)). CSR policies are more likely to be adopted when the number of SR funds and the potential CSR improvement are high enough, and when SRI funds’ risk aversion and undiversifiable risk are low enough. This is because socially responsible investors hold a sizable fraction of firms’ capital that enables them to influence firms’ decisions through dialogue or vote at shareholders’ meetings. However, when SRI funds do not hold a significant portion of firms’ shares, CSR policies are not adopted. This raises the possibility of a large socially responsible raider’s intervention. This raider can buy and hold non-responsible firms’ shares in an attempt to build a majority in favor of the CSR policy. If he is not too risk averse, the raider succeeds in acquiring a controlling block. The CSR policy is then adopted. This can be associated with a positive abnormal return for the socially responsible raider if he is able to sell back part of the socially responsible firm and to pocket in the CSR premium. A pure financial raider cannot successfully implement such a strategy. Indeed, such a raider would like to announce that he will vote in favor of the CSR policy in order to pocket in the CSR premium. But, since this announce is not credible if he is a pure financial player, SRI funds are not ready to pay a premium when buying firm’s share. The raider thus does not display abnormal returns.

Overall, this analysis suggests that there are two ways SRI investors can display a positive abnormal performance. On the one hand, if positive financial results of CSR policies materialize in the long-run, SRI funds that are tilted towards responsible assets enjoy higher returns than classical investors. On the other hand, an SRI private equity fund can also generate positive abnormal returns in the short-run. This requires: i) investing in non-responsible firms, ii) acquiring enough shares to be able to influence corporate policies, iii) being sufficiently inclined towards social responsibility so that commitments to engage for CSR policies (that are costly in the short-run) are credible. These three ingredients are consistent with anecdotal evidence from the field. The acquisition of TXU, a large Texas utility company, by two private equity firms, KKR and TPG, was made possible thanks to the promise not to launch new coal plants that would have dramatically increased the firm's CO2 emissions. This promise was made credible thanks to the endorsement of two environment protection institutes, Environmental Defense Fund and Natural Resources Defense Council, that were closely associated with the deal. The endorsement by the two institutes can be interpreted as a way for KKR and TPG to credibly commit to favor CSR. One problem with the type of strategy described here is that it requires investing in non-responsible companies before making them more responsible. This includes a reputational risk that some responsible investors, such as large pension funds, are not always ready to take. Nevertheless, this analysis suggests that doing well by doing good is not only reserved to firms but is also amenable to SRI funds.

A study performed by Lanoie, Laurent-Lucchetti, Johnstone and Ambec (2010) offers results that could prove useful to design engagement strategy. This paper does not look at shareholders' engagement per se (for which there is little data available at this point) but instead focuses on the impact of the stringency of environmental regulations. In a sense, 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. Lanoie et al. (2010) use survey data on 4200 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, Lanoie et al. (2010) 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 Lanoie et al. (2010) indeed shows that compliance costs can exceed the financial benefits derived from enhanced environmental performance.

### 3.3. Valuing socially responsible firms



Socially responsible investments heavily depend on financial as well as extra-financial analysis. The quantitative tools for financial analysis have been developed in the last 50 years or so. A growing literature is now focusing on creating the quantitative tools for extra-financial analysis. In particular, this literature enriches the cost-benefit approach by considering alternative preferences and new interactions between the various economic, social and environmental consequences of firms' and governments' policies. We discuss below to recent contributions that study the impact of ambiguity aversion and of correlated economic and environmental damages. These studies should ultimately prove useful to guide SRI analysts in their effort to merge financial and extra-financial information.

a) The value of life-threatening externalities

It is sometimes difficult to assess with precision the risks to health and life that we face. For instance, there is often conflicting information about the likelihood of dying from new environmental or technological risks. Recall the debates about the risks related to the mad cow disease or to the avian flu: Due to the scientific uncertainty over the channels of transmission of these diseases to human beings, it was difficult to predict the number of fatalities. Some experts predicted a few fatalities while other experts predicted several thousands of fatalities. A second example relates to climate change, which is likely to increase worldwide mortality due to heat stress, malnutrition and vector-borne diseases. The World Health Organization estimates that just a 1 degree Celsius increase in global temperature could lead to at least 300,000 annual deaths from climate change (Stern et al. (2007), p. 75, part II). Yet, the exact increase in global temperature is highly uncertain, and so are the predictions about the number of deaths induced by climate change. This issue is important as worldwide mortality costs may account for more than half of the aggregate monetary-equivalent global warming damages estimate (IPPC (1995), p. 198). How do people react to the uncertainty over the probability of dying from a specific risk? Do people behave as if they average the probabilities given by different experts (or different scenarios)? Or do they tend to place excessive weight on the most pessimistic one? The former is consistent with the standard expected utility approach, while the latter may be consistent with an approach that allows for an ambiguity aversion effect. Answering these questions is crucial to offer an objective valuation of the value of life-threatening externalities.

Since the seminal paper of Ellsberg (1961), experimental work has consistently shown that subjects are not indifferent to ambiguity over probabilities. The development of theories of ambiguity and of ambiguity attitude is more recent. Some influential contributions include, for example, Klibanoff et al. (2005) and Maccheroni et al. (2006). These theories have been mainly applied to financial risks so far, for example, to explain the equity premium puzzle. It thus appears interesting to study the influence of ambiguity aversion in the context of mortality risk. There exist a few empirical analyses on ambiguity aversion when ambiguity concerns risks to life and health. An example of such an analysis is presented in Viscusi et al. (1991). In this analysis, survey participants were presented the possibility to live in two areas, A and B, in which there is a risk of nerve disease due to environmental pollution. In the Area A, risks are ambiguous: the risk of disease per million residents could be either 150 cases or 200 cases. A second treatment increased the risk of disease per million residents to either 110 cases or 240 cases (so that the mean risk remained 175 cases). In each treatment, participants were asked what non-ambiguous risk in

the Area B they would view as equivalent to the ambiguous risk posed in the Area A. Interestingly, survey participants did not simply average baseline risks across the two studies. In treatment 1, mean response was 178; in treatment 2, mean response was 191. Hence, this survey study seems to indicate that participants disliked ambiguity, and disliked greater ambiguity. These results raise the question of the effect of ambiguity aversion on individuals' monetary-equivalent values in face of a change in ambiguous risks. Suppose that a project is expected to reduce the risk in Area A; for example by reducing the risk by a certain number of statistical cases in each scenario described by the two studies. What is the individual willingness to pay for this risk-reduction program? And to which extent does the presence of ambiguity aversion affect this willingness to pay?

Using the theory developed by Klibanoff et al. (2005), Treich (2010) shows that the existence of ambiguity over baseline mortality risks increases the value of a statistical life when the decision maker is averse to ambiguity. Existing estimations of the value of statistical life in developed countries range from \$1 to \$10 million. Treich (2010) supports the view that, when using these estimates to assess the future value of project with life-threatening externalities, an extra-financial analyst should favor the higher part of the interval. This result holds so long as the decision maker's marginal utility of wealth is larger when he is alive than when he is dead, a standard and reasonable assumption in mortality risk models. The intuition for the result is that the ambiguity aversion effect operates as the "dead anyway" effect. Namely, the effect of ambiguity aversion on the value of statistical life is similar to that of a perceived increase in the baseline mortality risk within the expected utility model.

#### b) The value of environmental externalities

What is the value today of a project that has positive financial and ecological consequences? This is a central question for extra-financial analysts and is relevant for a wide set of environmental contexts, as global warming, nuclear wastes, or biodiversity. Its answer depends upon our expectations about the quality of the environment and about the level of economic development that future generations will face when the project returns (both financial and ecological) will materialize. For example, it is intuitive that the value of the project should be high if the extra-financial analyst believes that the environment will be much deteriorated in the future or/and if the economy will be ruined. The problem is made complex because of the considerable uncertainties that one faces with respect to both the ecological and the economic evolutions of our societies. There are two possible methods to evaluate the present monetary value of a sure future environmental impact. The classical one consists in first measuring the future monetary value of the impact, and second discounting this monetary equivalent impact to the present. This involves an economic discount rate, to discount monetary impacts. The second approach would consist in first discounting the future environmental impact to transform it into an immediate equivalent environmental impact, and second measuring the monetary value of this immediate impact. This involves an ecological discount rate, to discount environmental impacts. Of course, these two methods are strictly equivalent. As shown by Hoel and Sterner (2007) in the case of certainty, the two discount rates differ if the monetary value of environmental assets evolves over time.

The classical method is not well adapted to the case of uncertainty. Indeed, the value of environmental assets in the future depends upon their relative scarcity, which is

unknown. This is a problem because the economic discount rate is useful to discount sure future monetary benefits. Because the monetary value of environmental impacts is uncertain, one needs to compute its certainty equivalent. This requires the use of a stochastic discount factor, which determines at the same time the risk premium and the economic discount rate. Standard pricing formulas exist that can be borrowed from the theory of finance, but they are seldom used in cost-benefit analyses of environmental projects. Gollier (2010) follows the alternative methods based on the ecological discount rate. The ecological discount factor associated to date  $t$  is the immediate sure environmental impact that has the same impact on welfare as a unit environmental impact at date  $t$ . The (shadow) price of an immediate environmental impact can then be used to value environmental projects. This alternative method is simpler because one does not need to compute certainty equivalent future values. As an example, Gollier (2010) applies the model to the issue of biodiversity. Using data about the link between biodiversity and economic development, he indicates that projects consequences on biodiversity should be discounted at a rate of 1.5%, whereas projects' financial returns should be discounted at 3.2%. Consider for example the case of an analyst whose objective is to assess the value today of a project that generates in 30 years a positive economic cash-flow worth \$1,000 and a negative ecological cash-flow of \$600. Because the ecological discount rate is much lower than the economic discount rate, the present value of the project is actually close to zero (from a social point of view)!

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## 6. Events

### 6.1. Conference on Firms, Environment, and Natural Resources, Toulouse on June 14-16, 2010

This conference focuses on the functionings and the regulation of markets for polluting products, natural resources, and environmental services. Articles presented lie at the intersection of two fields of economics: environmental economics and industrial organization. Several problems are analyzed:

- Information transmission and communication between regulatory agencies on one side, and polluting industries or natural resource exploiters, on the other side;
- The role of governments in organizing markets for polluting permits and in shaping the fiscal policy to protect the environment;
- The commitment of governments to foster emissions' reductions and research and development
- The emergence of an environmentally oriented industry;
- The impediments to international cooperation in favor of the environment.

The entire program is available at:

[http://idei.fr/doc/conf/ere/programme\\_modified%20and%20last%20version.pdf](http://idei.fr/doc/conf/ere/programme_modified%20and%20last%20version.pdf).

### 6.2. International Conference on Infrastructure Economics and Development, Toulouse, France, January 14-15, 2010.

Infrastructure—understood to include water supply and sanitation, roads and transport, energy and telecommunications—has major implications for a variety of development outcomes, both at the household level (health, education and social mobility), at the firm level (productivity, industrial development) and at the global level (climate change). Investment in infrastructure is therefore high on the agenda of politicians and development practitioners that endow it with many virtues. For example, for three decades it has represented on average 40 percent of World Bank lending.

It is fair to say that the knowledge accumulated on many topics of infrastructure economics still lags behind their policy relevance. There are many important topics on the research agenda. What are the best methodologies to evaluate, especially at the microeconomic level, the impact of various infrastructure investments on development outcomes? How do infrastructure investments shape outcomes at the household level? Is it efficient to implement social redistribution through infrastructure policies and, if so, how do they rank compared to social policies? How does infrastructure development, and its interactions with other policies and constraints, affect the performance of firms? Another important area of research includes governance and regulation issues in infrastructure sectors, as well as the increasingly complex relationship between infrastructure (regulation) and climate change mitigation and adaptation policies. Finally, given the current situation of international financial markets, a topic of great concern is how the financial crisis and its impact on major institutions will affect funding for infrastructure.

The entire program is available at <http://www.idei.fr/doc/conf/icied/program.pdf>.

## 7. Research perspectives

One of the main research topic of the GT1 is to better understand the demand for socially responsible investment products. Along these lines, a project by Marco Heimann and Sebastien Pouget aims at understanding how socially responsible funds can enhance investors' trust in their products.

Other research projects include an attempt by Stefan Ambec to better evaluate the socially responsible character of sovereign debt, and a book by Christian Gollier on the economics of sustainable development.

### 7.1. Confiance et Investissement Socialement Responsable (Marco Heimann et Sébastien Pouget (IDEI, Toulouse School of Economics))

Ce projet est rattaché au thème prioritaire n°2 sur la demande pour les fonds ISR, identifié dans le document de Février 2010, et étudie la question de savoir si l'Investissement Socialement Responsable peut contribuer à restaurer la confiance des épargnants envers les institutions financières et les produits d'épargne. Suite à la crise de 2008, les scores de confiance de ces institutions ont atteint des niveaux historiquement bas. Ce déficit de confiance freine le développement des institutions financières et peut donc avoir des conséquences néfastes pour la croissance économique. Associant des chercheurs en économie et en psychologie, ce projet vise à comprendre si l'ISR peut contribuer à rétablir un lien de confiance entre épargnants et institutions financières, et si oui, comment. Ce projet peut donc avoir des retombées aussi bien en termes de création/conception des fonds ISR qu'en termes de communication sur ses produits et services.

Des travaux préliminaires ont été réalisés en utilisant un modèle de la confiance largement reconnu dans le monde scientifique. Ces travaux ont permis d'identifier le degré de similarité entre les valeurs d'un fond d'investissement et celles de l'investisseur potentiel comme déterminant de la confiance de l'investisseur. Utilisant les techniques de la psychologie expérimentale, trois expériences ont été conduites avec, comme participants, des étudiants, des francophones recrutés sur internet et des américains. Leur tâche principale consistait à exprimer leur plus ou moins grande confiance envers des fonds d'investissement. Un algorithme spécifique était utilisé pour faire en sorte que les fonds correspondent (ou non) au profil des valeurs de chaque participant.

Les premiers résultats empiriques soulignent le rôle central qu'occupe la similarité des valeurs pour la formation initiale de la confiance dans un fonds d'investissement. Plus précisément, il semble que qualifier un fonds de « socialement responsable » ou d'« éthique » n'est pas suffisant pour augmenter la confiance mais que les valeurs doivent être explicitées et similaires aux valeurs de l'investisseur. Par ailleurs, une bonne performance augmente significativement la confiance. Cependant les fonds moins performants sont susceptibles de conserver un bon niveau de confiance en communiquant sur les bonnes valeurs. Enfin, les fonds plus rentables risquent de voir leur niveau de confiance écorné s'ils communiquent sur des valeurs opposées à celles des participants.

## 7.2. ISR et obligataire, émetteurs souverains (sujet constituant le thème prioritaire n°6 dans le document de Février 2010)

Les titres obligataires (d'entreprises et d'Etats) forment une part significative des actifs financiers disponibles sur les marchés de capitaux. Compte tenu du niveau croissant des dettes publiques, il devient de plus en plus important pour un investisseur responsable de travailler sur les critères ESG d'analyse des Etats, émergents et, surtout, développés. L'étude de ce type de titres sous l'angle de l'ISR apparaît donc importante. Les questions qui se posent sont par exemple liées à l'impact sur la performance financière des portefeuilles de titres d'Etats de la prise en compte plus ou moins grande des facteurs ESG. En outre, la responsabilité sociale de l'entreprise étant souvent considérée comme une pratique de gestion visant à réduire les risques, on peut se demander si l'impact d'une gestion ISR ne sera pas plus visible sur la partie obligataire des portefeuilles. Ainsi, de meilleures relations avec les employés (une des dimensions de la responsabilité sociale) ont été associées à un moindre risque de défaut et à un moindre coût de la dette. Il serait intéressant de s'interroger sur le lien entre évaluation du capital et de la dette dans le cadre d'une gestion ISR.

Une première approche de ce sujet est entreprise par Stefan Ambec (en collaboration avec Hippolyte d'Albis) dans un projet intitulé « Green debt and intergenerational equity ». Ce projet vise à proposer des outils qui pourraient permettre d'évaluer le caractère durable de la dette souveraine d'un pays. Il propose de fonder l'analyse sur la prise en compte de plusieurs aspects de la dette souveraine : son équité intergénérationnelle et sa relation avec l'extraction de ressources naturelles et le financement de l'innovation. En effet, la dette souveraine ainsi que l'extraction de ressources naturelles tendent à augmenter le bien-être des générations présentes alors que le financement de l'innovation tend à augmenter le bien-être des générations futures. Ce projet s'intéresse à la question difficile du caractère socialement responsable de la dette souveraine. Les résultats de ce projet pourraient s'avérer utiles pour éclairer les décisions d'allocation d'actifs des portefeuilles de dettes souveraines.

Les chercheurs du GT1 ont exprimé leur intérêt pour ce sujet et souhaiteraient le traiter, au démarrage du projet, en étroite collaboration avec les professionnels afin de bien cerner la problématique et les méthodes aujourd'hui utilisés par les sociétés de gestion et les prestataires dans ce domaine.

## 7.3. The economics of discounting and sustainable development (Christian Gollier)

Many books have described how civilisations rise, flower and then fall. Underlying this observed dynamic are a myriad of individual and collective investment decisions affecting the accumulation of capital, the level of education, the preservation of the environment, infrastructure quality, legal systems, and the protection of property rights. This vast literature from Adam Smith's *Wealth of Nations* through Gregory Clark's *Farewell to Alms* to Jared Diamond's *Collapse* is retrospective and positive, examining the link between past actions and the actual collective destiny. In contrast, this book takes a prospective and normative view, analysing the problem of investment project selection. Which projects should be implemented to maximize intergenerational welfare? The solution to this problem heavily relies on our understanding and beliefs about the dynamics of civilizations.

Life is full of investment decisions, trading off current sacrifices for a better future. This book examines the economic tools which are used to evaluate actions that entail costs and benefits that are scattered through time. These tools are useful to optimize the impacts of our investments both at the individual and collective levels. It presents the fundamental quantitative tools to evaluate the social responsibility of projects and companies.

## 8. Teaching activities related to the « Chaire FDIR »

This section gives a description of the courses taught at the University of Toulouse or at other places during the 2009-2010 academic year related to the domain of the Chair.

### - Courses

- Master Economie de l'environnement ERNEA, Université de Toulouse: Economie de l'environnement (27 h), S. Ambec.
- Master in Finance, University of Toulouse: Asset Management and SRI (12h), S. Pouget.
- Master of International Management, University of Toulouse: International finance and Corporate Social Responsibility (15h), S. Pouget.
- Diplôme Universitaire Audit Social et Audit de la Responsabilité Sociale des Entreprises, Chambre des Salariés du Luxembourg: Investissement Socialement Responsable, S. Pouget (slides disponibles à l'adresse: <http://www.enseignement.polytechnique.fr/economie/chairefdir/pdfs/pougetcours.pdf>).
- Master MIF/actuariat, University of Toulouse: Economics of risk and insurance, taking into account the long-term impacts of investments (27h), C. Gollier and N. Treich.
- Master ERNEA, University of Toulouse: Economics of sustainable development (15h), C. Gollier.
- Formation à la Commission Européenne (ECHA, Paris): Analyse Coût-Bénéfice et mesure des externalités, N. Treich.
- Master of Public Affairs (Sciences Po Paris): Analyse Coût Bénéfice et mesure des externalités, N. Treich.

### - Ph.D and Master Thesis

- Johannes Gierlinger: Prise en compte de l'incertitude dans l'évaluation des investissements de long-terme
- Johannes Emmerling: Social responsibility and social inequalities
- Hailin Sun: Risk sharing and matching
- Vassili Vergopoulos: Comportement face aux incertitudes, rationalité et consistance dynamique
- Liviu Andronic: Is social information on employee relationship reflected in financial forecasts?
- Marco Heimann: Trust and socially responsible investments



## WORK GROUP 2:

### Stratégie des entreprises, relations avec les parties prenantes et finance durable

#### *Firms' strategies, relationship with stakeholders and sustainable finance*

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## **GT 2 : Stratégie des entreprises, relations avec les parties prenantes et finance durable**

*Firms' strategies, relationship with stakeholders and sustainable finance*

### **1. Executive summary**

The objective of the work group 2 is to analyze the following dimensions of CSR:

- The relationship between the strategy of the firm (long term investment projects, core business versus diversification, mergers and acquisitions, innovation policy,...) and its financial structure, *i.e.* the increased impact of financial investors and hedge funds;
- The relative impact of “responsible investment” in firms’ strategies, the diffusion of such ideas among shareholders, their impact on investor relations and their roles in portfolio analysis (through scorecards such as those associated with the Global Report Initiative);
- The implementation of firms’ strategies through organizational design, management control and compensation policies.

#### **1.1 Research Team and Invited Scientists 2010**

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François Perrot  
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**1.2 Main research achievements in 2010**

The green or sustainable economy receives a considerable attention nowadays despite a rather blurred outline. The reality itself is twofold: regulation, imposing environmental constraints on growth; and new markets, with the creation of new opportunities of profits and investment. The term 'green growth' clearly suggests that the constraint transforms itself into an opportunity. Yet, at the macro-economic level, the search for international cooperation on climate policies proves a complex and hard task.

Sustainable finance and responsible investment clearly have a key role to play in these evolutions. Yet, SRI funds still represent less than 10% of the assets under management in major OECD countries. In France however, this small proportion hides a much larger trend: the progressive and massive integration of SRI criteria into the mainstream. At the end of 2009, this new phenomenon, known as SRI Mainstreaming, concerned 90% of conventional funds in terms of assets, compared to 61% at the end of 2008 and 3% at the end of 2007 (Novethic, 2010).

Over the past three years, the acceleration of the SRI Mainstreaming phenomenon has been considerable; and today, the tenants of SRI face a new challenge: to demonstrate the differences between SRI and conventional funds, while maintaining good financial performance. This task is all the more difficult since SRI performance has not yet been defined.

These debates raise some important issues at the core of the work group's research program on CSR:

- How do firms and investors benefit from socially responsible (CSR) strategies?
- How to measure SRI performance? What is extra-financial performance ? What are the relevant ESG indicators ?
- What is the value of information on CSR strategies, especially from an investor's perspective?
- How do firms actually minimize risks at the sectoral level?

The main achievements of the research work group may be summarized by focusing on three main dimensions:

- The first dimension examines the links between CSR and extra-financial performance.

The research programs analyze how extra-financial information and CSR strategies are evaluated by firms and investors, in particular in terms of intangible assets such as governance quality (boards and compensations) and human capital.

Moreover, risk-sharing and assets bubbles are also examined as they play a key role in the efficiency and stability on financial markets, and thereby in their degree of sustainability.

Finally, the evolution of SRI market and its institutional logics are investigated in relationship with the recent SRI Mainstreaming phenomenon and the development of SRI labels.

- The second dimension accounts for the specificity of sectoral risks, in the agro-food sector in particular, as well as the management of global risks, especially associated with climate change, GMO or biodiversity.

The works examine the impact of norms on vertical relations of the food industry and on the evolution of consumers' demand for labeled goods. In particular, experimental economics methods are developed to evaluate the willingness to pay for goods possessing labels on safety. Moreover, the difficulty of having raw materials based on GMO and non-GMO sources are investigated, and.

Finally, the management of climate change risks is analyzed by focusing on the links between environmental constraints and financial performance, given the interplay of both the sectoral and the firm-level strategic determinants.

- The third dimension focuses on strategies targeted towards emerging markets and poverty (Bottom of the pyramid – BoP).

Can firms and investors develop profitable businesses and investments by targeting emerging markets and poverty (the BOP segments)? This research program analyzes firms' strategies and their determinants in addressing the BOP, in particular by examining the role of learning and innovation central to cross-sector alliances between firms and social actors (NGOs, social entrepreneurs) when developing BOP strategies. A special focus on housing is also considered.

A book edited by Patricia Crifo and Jean-Pierre Ponssard has also been published. It collects sixteen contributions of the research team and provides a comprehensive overview of the achievements.



### 1.3 Scorecard and perspectives for future research

#### English Summary

The research perspectives of the work group 2 have been established in relationship with the chair's priorities and objectives (for more details see section 2)

1. CSR and extra-financial performance: defining and measuring extra-financial performance

Several directions of research to analyze the links between CSR and extra-financial performance have been initiated and will be developed in future research.

A first project questions *Under which conditions a responsible firm enjoys superior performance (Crifo and Cavaco, Forget)*.

The Porter hypothesis according to which socially responsible firms would have a comparative and competitive advantage has received a considerable attention in the literature but no consensus has been reached in the empirical literature. One way to enrich this debate is to analyze the trade-offs firms would be facing in their CSR decisions. CSR is in fact a multi-dimensional investment and all ESG dimensions (environment, social, governance) do not affect performance similarly. It is therefore important to evaluate which dimensions appear as concomitant or alternative (i.e. complements or substitutes) inputs of firms' performance for investors.

This project has led to several publications and working papers, in particular within a PhD in progress.

A second project is dedicated to the *Definition and measurement of intangible assets (Challe, Cavaco, Crifo and Reberioux)*. Undeniably at the root of actual and future growth, intangible assets yet raise important evaluation problems in the short term – they mainly appear as expenses whereas they are essential to the preservation of firms' competitive advantage in the long run. In particular, human capital strategies play a crucial role in the evaluation of extra-financial performance. It is therefore important to identify and quantify such strategies in the measurement of extra-financial performance.

This project is currently in its starting phase. Its objective is to evaluate empirically extra-financial performance by focusing on firms' intangible assets (Research and Development, work relations, governance, etc.) as inputs of economic performance. The database is currently under construction.

A third project focuses on *The extra-financial performance of SMEs* (small and medium size enterprises) (Forget). SMEs represent most of the manufacturing industry (more than 95%) and have a different approaches of CSR, in particular compared to big capitalizations. The research on SME's CSR strategies is however very limited, not to say inexistent, mainly because of lack of available data. Should shareholders promote CSR strategies and how should CSR be measured in such types of firms? It would be important to propose an analysis of extra-financial indicators for SMEs useful for institutional investors and private equity funds. This project is part of a PhD thesis in progress.

## 2. The demand for socially responsible investment and its relations with societal stakes

The demand for socially responsible investments is investigated by focusing on three main directions of research.

The first one analyzes *The role of labels for the efficiency of the SRI retail market in France (Hobeika)*. One striking feature of the French SRI market is that parallel to its very dynamic evolution over the past decade, the share of individual investors (retail market) has been declining to less than one third of the overall SRI market in 2009. Given the complexity of SRI supply and the difficulty for individuals to access information, labels might represent an interesting solution.

The objective of this project is to assess how SRI labels that have developed in France during the 2000s can contribute to reduce complexity and thereby improve efficiency on SRI markets. This work is in progress, and has led to an article within a PhD thesis in progress.

The second direction of research builds upon the global challenges of sustainability that the demand for SRI might address, in particular with respect to climate change and green growth strategies. International negotiations on climate are analyzed taking into account their recent developments, as well as their underlying strategic stakes. The consequences of climate policies is analyzed by focusing on *The firms' strategies for CO2 mitigation and climate change policies (Ponssard and Arjalies)*. Environmental regulation is in fact likely to affect firms' profitability depending on how deeply the firm changes its strategy and depending also on sectoral stakes. The opposition between risk management/conformity and strategic vision/opportunity are investigated within two different sectors, chemistry and building materials. At a more theoretical level, a properly designed sectoral approach is also shown to be the answer to two sets of constraints that hinder international agreement on climate change: a genuine concern for economic growth from developing countries and competitiveness issues from industrialized countries.

This research has led to one collective book and two articles (working papers).

Finally, the 2007-2010 financial crisis has rejuvenated the interest in systemic risk in the financial system, its dramatic spill over to the real economy and whether and how it should be addressed by public policies. This research examines *Asset bubbles and equilibrium risk shifting (Challe)*, by focusing in particular on the risk taking behaviour of financial intermediaries that have limited liabilities and may deliberately choose a level of risk in excess of the social optimum. In turn, the analysis highlights the role of rents in the financial sector for the formation of asset bubbles on the one hand, and explains the behavior of imprudent banks in an opaque financial system on the other hand.

This research has led to two working papers.

3. How does SRI management lead firms to reduce negative externalities? What is the value of extra financial information to investors? Are SRI criteria diffusing to conventional asset management?

An important issue that is raised here refers to the impact of SRI on firms and markets. In particular, do socially responsible investors have an impact on financial markets in general and socially responsible firms? Another issue relates to the mainstreaming of SRI criteria. From this perspective two main directions are proposed.

The first project examines *Why Investors would value information on firms' social performance (Prady)*. Responsible investors build their portfolios according to environmental, social and governance criteria that do not usually enter the valuation of a firm. To this end, they collect information about the social performance of the firm they intend to invest in. Mainstream investors are indifferent to the firms' social record. This research examines the conditions under which mainstream investors are willing to purchase information about the firms' social performance. Responsible investment can create a speculative opportunity on the capital market because firms are valued below (over) their book value when they have a poor (good) social record.

This project has been led to 2 articles within a PhD thesis (defended in late 2010).

The second project focuses on the impact of SRI on the asset management sector and the issue of SRI 'mainstreaming' (*Arjalies, Crifo, Mottis*), that is the integration of SRI criteria by the asset management sector. For Robeco, one of the most important asset manager worldwide, 20% of assets under management in the world will incorporate SRI criteria within the next decade. With this in mind, it is important to examine the value of SRI information for classical investors and the mechanisms of diffusion of SRI criteria on assets management practices. The diffusion of ESG criteria to various asset classes, for instance, government loans and obligations, can be analyzed in this context.

This project has led to three articles within a PhD thesis (defended in mid 2010) and two other articles.

4. What ESG indicators are relevant? Sectoral approaches (eg : agri-food sector)

Analyzing the relevant ESG indicators implies to take into account their sectoral dimension. From this perspective two main directions are proposed.

The first direction focuses on the agri-food sector and analyzes *The role and impact of norms and the evolution of consumers' demand for labelled goods in the food sector (Giraud-Heraud)*. The objective is to understand why firms promote collective standards, in particular on goods safety; and how firms' responsibility with respect to health and nutrition corresponds to a need for sectoral cooperation. The consumers' willingness to pay for labelled goods is also investigated, using experimental economics methods.

This research has led to several publications and working papers.

The second direction explores *The impact and efficiency of different regulatory frameworks for GMOs (Poret)*. In particular, economic theory can be useful to enlighten which arguments favour and which ones oppose labelling and coexistence regulations for GMOs and non-

GMOs, which type of regulation should be favoured, and how different regulations affect various interest groups.

This project has led to two working papers.

#### 5. Relations investors-firms, commitment, governance

The relations between investors and firms, in particular the commitment and impact of shareholders and investors on management are essential to SRI issues. From this perspective, governance is a key issue. From this perspective, two main research directions are privileged.

The first research project focuses on *The links between boards of directors and firm performance (Challe, Cavaco, Crifo and Reberioux)*. The recurrence of governance crises (financial scandals in 2001-2002, crisis in 2007-2008) has emphasized the role of boards of directors, and the importance of shareholders' engagements in the promotion of long run and good governance practices. This project aims at analyzing empirically with a unique and original database the role of boards' structure and quality in raising firm performance. The database is currently under construction, some preliminary results are expected by mid-2011.

The second direction of research analyzes *CEO compensation (Galichon)* and the debate on whether such compensations would be excessive in OECD countries.

This project has led to two articles.

#### 6. BOP environment, emerging countries, growth activities in the long run.

For Hart & Prahalad (2002), by selling their goods to poor households in developing countries – that is « Bottom of the Pyramid » (BOP) markets – multinational firms should make revenues while alleviating poverty. The BOP concept has become very popular both in academia and the corporate world, but still suffers from theoretical foundations and empirical validity. This research aims at addressing these limitations in particular by explaining the diversity of firms' projects with the BOP, highlighting the capacities necessary to succeed together with the learning and innovation challenges posed by such strategies.

This project has led to three articles within a PhD thesis to be defended by mid 2011.

#### 7. The governance of institutional investors and responsible investment

The green economy receives a considerable attention nowadays despite a rather blurred outline. The reality itself is twofold: regulation, imposing environmental constraints on growth; and new markets, with the creation of new opportunities of profits and investment. The term 'green growth' suggests a clear answer: the constraint transforms itself into an opportunity. In the long run, the objective of a sustainable economy is desirable to preserve the environment and justified economically with a higher growth compared to a laissez-faire scenario. Institutional investors will undeniably have a key role to play in this transition process. This project thus aims at examining *The role of institutional investors for sustainable growth (Hobeika)* with a focus on their governance structure in the financing of green growth strategies.

This project is at its starting phase, it will part of a PhD thesis.

## French Summary

Les perspectives de recherche du GT2 ont été élaborées en relation avec les priorités et objectifs de la chaire (voir la section 2 pour plus de détails)

### 1. RSE et performance extra-financière : définition et mesure de la performance extra-financière

Plusieurs directions de recherche permettent d'approfondir l'analyse des liens entre performance extra-financière et RSE.

Un premier projet s'intéresse aux conditions dans lesquelles une entreprise responsable peut gagner en performance (*Crifo and Cavaco, Forget*). L'hypothèse selon laquelle les entreprises responsables auraient un avantage comparatif et seraient plus performantes a donné lieu à une littérature abondante. Sur le plan empirique, si l'absence de pénalité financière associée à la RSE semble démontrée, aucun autre consensus net n'a encore été atteint. Plusieurs pistes de recherches peuvent contribuer à l'analyse de ce thème.

Une première piste de recherche concerne la prise en compte explicite des arbitrages auxquels les entreprises font face dans leurs décisions de RSE. La responsabilité sociale et environnementale est en effet multidimensionnelle et toutes ses dimensions ne concourent pas de la même manière à l'amélioration de la performance économique et financière. Il est donc important d'évaluer les dimensions de la RSE qui peuvent apparaître comme des facteurs conjoints ou alternatifs (c'est-à-dire complémentaires ou substituables) de la performance des entreprises du point de vue des investisseurs.

Une seconde direction de recherche concerne la définition et la mesure de la performance des actifs dits intangibles comme la R&D, les relations de travail, la gouvernance, etc. (*Crifo, Challe, Cavaco et Reberioux*). La transition d'une économie industrielle vers une économie où les actifs intangibles sont des moteurs de croissance est un constat largement partagé. Or ces actifs posent des problèmes aigus d'évaluation à court terme – ils apparaissent le plus souvent comme des charges – bien qu'ils soient pourtant à la base de la préservation d'une rente concurrentielle sur le long terme. De ce point de vue, les stratégies de valorisation du capital humain (conditions de travail, formation, relations sociales) représentent une dimension essentielle de l'évaluation de la performance extra-financière des entreprises. Dans cette optique, il apparaît important pour les décisions d'investissement d'identifier de manière aussi fine que possible et de quantifier l'importance des stratégies de valorisation du capital humain dans la mesure de la performance extra-financière.

Ce projet est dans sa phase initiale. Son objectif est d'évaluer empiriquement la performance extra-financière en se concentrant sur l'impact des actifs intangibles sur la performance économique. La base de données est actuellement en construction.

Une troisième direction de recherche concerne *la performance extra-financière des PME* (*Forget*). L'essentiel du tissu industriel est composé de PME (à plus de 95%), qui diffèrent

profondément des grands groupes dans leurs approches de la RSE. Or l'analyse des liens entre RSE et performance extra-financière s'est presque exclusivement fondée sur les grandes entreprises cotées en bourse. Par contraste, la recherche sur la RSE des PME s'est encore peu développé, faute notamment de données fiables disponibles sur ce sujet. Est-il profitable pour les actionnaires de promouvoir la RSE dans les PME, et comment mesurer la performance extra-financière de ce type d'entreprises ? Il convient donc d'étudier quels indicateurs extra-financiers seraient à retenir par les investisseurs institutionnels et les fonds de capital investissement. Ce projet s'inscrit dans le cadre d'une thèse de doctorat.

## 2. La demande d'investissement socialement responsable et ses relations avec les enjeux de société

La demande d'investissement socialement responsable sera étudiée en se concentrant sur trois directions de recherche.

La première concerne le rôle des labels dans l'efficacité du marché du détail de l'ISR en France (*Hobeika*). Une caractéristique frappante du marché ISR en France est que, parallèlement à son évolution très dynamique ces dix dernières années, la part des investisseurs individuels (le marché du détail) a connu un recul prononcé pour ne représenter plus qu'un tiers de du marché en 2009. Etant donné la complexité de l'offre ISR et les difficultés d'accès à l'information de la part des particuliers, les labels pourraient représenter une solution prometteuse à cette limite. L'objectif de ce projet est d'évaluer la manière dont les labels ISR qui se développent en France depuis les années 2000 peuvent contribuer à réduire cette complexité et ainsi améliorer l'efficacité du marché ISR. Ce travail en cours a donné lieu à un article, qui formera le chapitre d'une thèse en cours d'élaboration.

La seconde direction de recherche concerne les défis globaux de soutenabilité auxquels l'ISR peut répondre, notamment en ce qui concerne le changement climatique et les stratégies de croissance verte. Les négociations internationales sur le climat sont analysées en tenant compte de leurs développements récents ainsi que leurs enjeux stratégiques.

Les conséquences des politiques climatiques sont notamment étudiées par le biais des *stratégies des entreprises destinées à s'adapter aux politiques climatiques* (Ponssard et Arjalies de La Lande). En particulier, il est probable que la réglementation environnementale influence la profitabilité des entreprises selon la manière dont celles-ci font évoluer leurs stratégies et selon le secteur auquel elles appartiennent. L'opposition entre stratégies de gestion du risque/conformité versus vision stratégique/opportunité peut-elle se décliner selon les secteurs et peut-elle permettre de sélectionner les entreprises les plus performantes dans leur secteur, de manière à construire des portefeuilles d'investissement équilibrés ? Par ailleurs, la réglementation environnementale affecte la rentabilité des firmes plus généralement selon la manière dont elles modifient leur stratégies pour s'adapter. L'hypothèse de Porter considère qu'une réglementation environnementale plus contraignante aura un impact positif sur la performance et la rentabilité des firmes. En matière de réduction des émissions de CO<sub>2</sub>, on observe que les firmes ont tendance à suivre

deux étapes : une étape de prise de conscience du risque, dans laquelle l'objectif est de réduire les émissions sur les activités manufacturières, et une étape de recherche d'opportunités dans laquelle la stratégie peut être reformulée au niveau managérial pour renforcer l'avantage concurrentiel de la firme sur le marché. Dès lors, comment se traduisent ces deux étapes en pratique et quelles sont les conditions de transition de l'une à l'autre ?

Enfin, la crise de 2007-2008 a renouvelé l'intérêt des économistes pour le risque systémique dans le secteur financier, la manière dont celui-ci est susceptible de se répercuter sur l'ensemble de l'économie réelle, et les politiques publiques susceptibles de le limiter. Cette troisième direction de recherche examine notamment l'émergence des bulles financières et leur lien avec le transfert des risques (*Challe*), en se concentrant notamment sur le comportement de prise de risque excessive des intermédiaires financiers. Cette recherche s'intéresse également à l'importance des rentes dans le secteur financiers et la manière dont elles interagissent avec les bulles financières.

3. Dans quelle mesure la gestion ISR incite-t-elle les entreprises à réduire les externalités négatives ? Quelle valeur l'information extra-financière a-t-elle du point de vue des investisseurs ? Les critères ISR se diffusent-ils dans la gestion d'actif conventionnelle ?

Une question fondamentale posée par ce thème concerne l'impact de l'ISR sur les entreprises et les marchés. Notamment, l'existence d'investisseurs socialement responsables a-t-elle des conséquences au-delà du marché ISR et des entreprises engagées dans la RSE ? Deux pistes de recherche sont explorées dans cette perspective.

Le premier projet examine dans quelle mesure *les investisseurs valorisent l'information portant sur les performances sociales de l'entreprise (Prady)*. Les investisseurs responsables construisent leurs portefeuilles selon des critères environnementaux, sociaux et de gouvernance qui en général n'entrent pas dans l'évaluation d'une entreprise. A cette fin, ils recueillent de l'information sur les performances sociales de l'entreprise dans laquelle ils projettent d'investir. Par contraste, les investisseurs mainstream sont indifférents aux performances sociales de la firme. Cette recherche examine les conditions dans lesquelles les investisseurs mainstream souhaitent acheter de l'information sur la performance sociale des entreprises. L'investissement responsable crée une opportunité spéculative sur les marchés de capitaux car les entreprises sont évaluées en deçà (au-delà) de la valeur comptable lorsque leur performance sociale est faible (forte). Ce projet a donné lieu à deux chapitres d'une thèse soutenue fin 2010.

Le second projet se concentre sur l'impact de l'ISR sur le secteur de la gestion d'actifs et sur la question du *mainstreaming (Arjalies, Crifo, Mottis)*, c'est-à-dire l'intégration de critères ISR dans ce secteur. Selon Robeco, l'un des gestionnaires d'actifs les plus importants dans le monde, 20% des actifs gérés incorporeront des critères ISR au cours de la prochaine décennie. Il est donc essentiel d'examiner la valeur de l'information ISR pour les investisseurs classiques et les mécanismes de diffusion des critères ISR dans les pratiques de gestion d'actifs. La diffusion des critères ESG à plusieurs classes d'actifs, comme par exemple

les prêts et obligations d'Etat, peuvent être analysées dans ce contexte. Ce projet a donné lieu à trois articles intégrés à une thèse de doctorat (soutenue mi-2010), ainsi qu'à deux autres actifs.

#### 4. Quels sont les indicateurs ESG pertinents ? Approches sectorielles (secteur agro-alimentaire, par exemple)

Analyser les indicateurs ESG pertinents requiert de prendre en compte leur dimension sectorielle. De ce point de vue, deux orientations de recherche sont proposées

La première s'intéresse au secteur agro-alimentaire et analyse *le rôle et l'impact des normes et l'évolution de la demande des consommateurs pour les biens labélisés dans le secteur alimentaire (Giraud-Heraud)*. L'objectif de cette recherche est de comprendre pourquoi les entreprises tendent à promouvoir des standards collectifs, notamment sur la sécurité alimentaire, et comment la responsabilité des entreprises relativement à la santé et la nutrition correspond à un besoin de coopération sectorielle. L'acceptation par les consommateurs d'un coût supplémentaire associés aux bien labélisés est également étudiée par le biais de l'économie expérimentale. Cette recherche a donné lieu à plusieurs publications et documents de travail.

La seconde orientation de recherche explore *l'impact et l'efficacité des différents cadres réglementaires sur les OGM (Poret)*. La théorie économique peut notamment aider à éclairer quels arguments soutiennent, ou au contraire contestent, la coexistence de la labellisation et de la réglementation sur les OGM, quel type de réglementation devrait être mise en avant, et de quelle manière les différentes réglementations affectent tel ou tel groupe d'intérêt. Ce projet a donné lieu à deux documents de travail.

#### 5. Relations investisseurs-entreprises, engagement, gouvernance

Les relations entre investisseurs et entreprises, et en particulier l'engagement et l'impact des actionnaires et des investisseurs sur le management sont essentiels dans la problématique de l'ISR, et tout particulièrement de son versant gouvernance des entreprises. Dans cette perspective, deux principales directions de recherches sont proposées.

La première s'intéresse aux *relations entre les conseils d'administration et la performance des entreprises (Cavaco, Challe, Crifo et Reberioux)*. La récurrence des crises de gouvernance (scandales financiers dans les années 2001-2002, crise financière de 2007-2008) souligne le rôle des conseils d'administration et l'importance de l'engagement des actionnaires dans la promotion de pratiques de gouvernance tournées vers le long terme. Ce projet vise à analyser empiriquement, à l'aide d'une base de donnée originale et unique, l'importance de la structure et de la qualité des conseils d'administration pour la performance des entreprises. La base de donnée est encore en construction, et on attend des résultats préliminaires mi-2011.



La seconde direction de recherche concerne les rémunérations des PDG (Galichon), et notamment la question de savoir si celles-ci sont excessives dans les pays de l'OCDE. Ce projet a donné lieu à deux articles.

#### 6. Environnement BOP, pays émergents et activité de croissance à long terme

Dans leur article séminal « Fortune at the Bottom of the Pyramid », Hart & Prahalad (2002) défendent l'idée qu'en vendant leurs produits aux populations pauvres des pays du Sud – qu'ils qualifient de « Bottom of the Pyramid » (BOP), les entreprises multinationales peuvent trouver dans cette activité un revenu conséquent tout en contribuant à sortir ces populations de leur pauvreté. Comment promouvoir le développement économique prendre en compte les risques à opérer sur des marchés incertains ou mal connus ? Plusieurs dimensions peuvent être mobilisées pour examiner ces questions. Cette recherche a pour objet, en partant du constat que les marchés BOP restent encore à développer, qu'il est nécessaire comprendre *comment les entreprises parviennent à construire ces marchés, en interaction notamment avec les gouvernements, les ONG et les autres parties prenantes* (Perrot). Ce projet a donné lieu à trois articles, qui feront partie d'une thèse de doctorat soutenue mi-2011.

#### 7. gouvernance des investisseurs institutionnels et l'investissement socialement responsable

En dépit de ses contours un peu flous, l'économie verte reçoit beaucoup d'attention aujourd'hui. La réalité est elle-même double : d'un côté, la réglementation impose des contraintes environnementales sur la croissance ; de l'autre, l'économie verte est créatrice d'opportunités nouvelles d'investissement et de profit. Le terme de « croissance verte » lui-même suggère que la contrainte se transforme en opportunité. A long terme, l'objectif d'une économie soutenable est non seulement souhaitable pour sa capacité à préserver l'environnement, mais aussi légitime d'un point de vue économique et conduisant à une croissance plus élevée. Les investisseurs institutionnels auront très certainement un rôle clé dans ce processus de transition. Ce projet vise donc à évaluer le rôle des investisseurs institutionnels dans la soutenabilité de la croissance (Hobeika), en se concentrant notamment sur leur structure de gouvernance lorsque le financement de stratégies de croissance verte est en jeu. Ce projet est en phase initiale et sera intégré à une thèse de doctorat.

## 2. Detailed report on the activities of the work group 2

### 2.1 Research report for year 2010

The main achievements of the research work group 2 on each sub-theme are the following.

a) The links between CSR and extra-financial performance.

- *The first project questions under which conditions a responsible firm enjoys superior performance*

In the paper “The CSR-Firm Performance Missing Link: Complementarity Between Environmental, Social and Business Behavior Criteria?”, Sandra Cavaco and Patricia Crifo analyze the relationship between corporate social responsibility (CSR) and firm performance by proposing a theoretical model and by testing empirically its main predictions on a matched panel database for the biggest European listed firms over the 2002-2007 period. Our dataset gathers two sources of information: environmental, social and governance (ESG) ratings from the Vigeo database, and economic and financial performance data from the Orbis database. Using the System GMM estimator for dynamic panel data model, we test the complementarity and substitutability, that is the super- and sub- modularity between various corporate social responsibility practices, along with its impact on firm performance. We do observe that a complementarity premium on specific CSR dimensions (human resources and business behavior towards customers and suppliers) exists but also that some practices are relative substitutes (environment and business behaviors).

In the paper “Doing Good and Doing Well: a Multi-Dimensional Puzzle”, Vanina Forget considers that Corporate social responsibility (CSR) is a multidimensional construct whose collinear components, including for instance environmental policies or respect of Human Rights, are related in complex ways to firm financial performance. Which CSR dimensions matter for a firm to do well and do good? To disentangle this multidimensional puzzle, this paper acknowledges and deals with model uncertainty. Model selection based on information criteria and subsequent multimodel inference are discussed and used to identify which CSR dimensions matter and provide estimates despite multicollinearity issues. The database used matches the economic performance of 461 large European firms over the 1998-2007 period with their extra-financial rating provided by the agency Vigeo along six CSR dimensions. Main results are that the positive link observed in this sample between Global CSR and financial performance appears driven by good business behavior towards customers and suppliers. Two other CSR dimensions also particularly matter to explain and predict firm financial performance, so in uneven ways: positively for proactive human resources management and negatively for corporate environment policy.

- *A second project is dedicated to the Definition and measurement of intangible assets*

This work in progress by Edouard Challe, Patricia Crifo, Sandra Cavaco and Antoine Rebérioux aims at analyzing how human capital strategies impact extra-financial performance. The objective is to evaluate empirically extra-financial performance by focusing on firms’

intangible assets (Research and Development, work relations, governance, etc.) as inputs of economic performance. The database is currently under construction.

- *A third project focuses on private equity and SMEs*

SMEs represent most of the manufacturing industry (more than 95%) and have a different approaches of CSR, in particular compared to big capitalizations. The research on SME's CSR strategies is however very limited, not to say inexistent, mainly because of lack of available data. Should shareholders promote CSR strategies and how should CSR be measured in such types of firms? This research conducted by Vanina Forget will propose an analysis of extra-financial indicators for SMEs useful for institutional investors and private equity funds. Agro-industrial case studies will be undertaken to identify drivers of success in this specific sector, core in the French balance of trade.

In the paper "Responsible Investors in French Private Equity", Vanina Forget establishes how CSR diffuses among Private Equity General Partners. Do Environment, Social and Governance issues impact all PE funds management companies in the same way, whatever their size, fund providers, management, activity and specialization? Can CSR be used to improve fund-raising, deal flow, risk management or portfolio performance? A unique dataset on 115 PE funds management companies, representative of the French industry, is built based on information released by the companies and specialized media. This dataset is completed by a survey on their integration of CSR and ESG stakes. From both sources of information, three types of CSR strategy are identified: (i) Managing green or social funds is more likely among venture capital and Growth LBO companies, particularly those either managing funds provided by individuals or by large groups, or those hold by State funds, large industrial groups, banks or insurance companies. (ii) Formalized ESG issue management (dedicated post, ESG Chart) based on the UN PRI essentially occurs in large LBO transmission funds. Companies managing pension funds assets are less likely to adopt such an approach, whereas having bank, insurance or industrial groups as shareholders increases the probability of implementing it. (iii) A "core business" approach is finally observed; with non-formalized ESG management that mostly focus on increased Governance scrutiny, non-profit associations partnerships, and deal refusal on ESG grounds. This last approach appears less common in venture capital funds that answered the survey. Finally, the ESG integration is globally believed to matter mainly first to improve the company's reputation and image, and second to improve portfolios thanks to improved risk management rather than better target selection.

From a theoretical perspective, in the paper "Corporate Social Responsibility in Private Equity Negotiations", Vanina Forget and Jim Engle Warnick propose a model of negotiated equity financing with CSR signaling. Managers of firms with investment opportunities have an informational advantage over potential investors. Negotiation is allowed by letting firm managers set the price of the issue. They can also purchase a costly CSR policy, formally similar to a high-quality advertisement. Investors either accept or reject the offer made by firm managers, similarly to an ultimatum game. They experimentally test: (1) which equilibrium predicted by the model without signaling is experimentally selected (test of Giammarino and Lewis's (1988) model); (2) which equilibrium predicted by the model is experimentally selected in the presence of standard signaling (advertising); (3) if negotiation results deviate when advertisement is replaced by a CSR signal, namely carbon offset. They expect four types of results beyond model testing: (1) Do firm managers consider CSR as an

investment to signal their high-quality to investors? (2) Does investing in CSR lowers the cost of capital for firm managers? (3) Do PE investors have preferences for “responsible” firms over standard ones? and (4) How does CSR signaling change their beliefs on firm’s quality?

b) The demand for socially responsible investment and its relations with societal stakes

Three main project are developed.

- *The first one focuses on the French SRI market.*

In the paper “Efficacité du marché retail des produits financiers ISR: quel rôle pour les labels?” , Samer Hobeika analyzes the development of SRI labels on the French market. In fact, although the SRI market has been growing fast for the last ten years, the proportion of SRI assets on global assets remains limited, and this growth is driven by institutional investors, leaving retail clients with a mere 31% of SRI assets.

Given the complexity of SRI retail market, labeling initiatives from Novethic, CIES etc. are assessed depending on several criteria: the credibility of labelling organism, the label conception, the nature of control and sanctions and the communication and transparency policy. The analysis shows that no labelling initiative is perfect.

- *The second project builds upon the global challenges of sustainability that the demand for SRI might address, in particular with respect to climate change and green growth strategies.*

In the paper “A sectoral approach balancing global efficiency and equity”, Jean-Pierre Ponsard and Guy Meunier explore the idea that a properly designed sectoral approach could be the answer to two sets of constraints that hinder international agreement on climate change: a genuine concern for economic growth from developing countries and competitiveness issues from industrialized countries. Their sectoral approach builds on three premises: (i) cap and trade systems in industrialized countries and intensity targets in developing countries, (ii) sectors subject to international trade abide to the rules of the countries in which they trade, (iii) a fraction of the revenues from permits in industrialized countries goes to improve efficiency targets in domestic production in the developing countries. They design an economic model that features the interactions in three sectors (more or less exposed to international trade) and two countries (industrialized and developing). Two scenarios are constructed: Sectoral Approach, which refers to our proposal, and Global Cap, which implements a uniform CO<sub>2</sub> price. They compare the two scenarios in terms of total welfare and equity. It is shown that Sectoral Approach ranks high in terms of equity for a minor welfare loss. It also eliminates competitiveness and leakage issues.

In the paper “Approches stratégiques des émissions CO<sub>2</sub> : figures libres ou figures imposées? Les cas de l’industrie cimentière et de l’industrie chimique”, Jean-Pierre Ponsard, Diane

Laure Arjaliès and Cécile Goubet propose a strategic model that is aimed at examining the link between environmental constraints and financial performance whilst explicitly incorporating the strategic dimension of the firm (Arjaliès and Ponsard 2010). The objective of the article is to test the relevance of this construct in a broader framework, and more specifically at the level of an entire sector. The two sectors that the study focuses on for are the cement and chemical industries, which are amongst the largest emitters of CO<sub>2</sub>. The paper explores the views and objectives that are put forth by the firms, as well as the results obtained in the past. This analysis establishes the importance of sectoral factors in firms' strategies.

In the book *Economie du Climat : des pistes pour l'après Kyoto* (forthcoming in early 2011 at Editions de l'Ecole Polytechnique), Olivier Godard and Jean-Pierre Ponsard offer an economic decision framework for international negotiations that explicitly incorporates their strategic aspects and recent history. Based on a critical assessment of twenty years of initiatives and negotiations that have ultimately led to a major bifurcation in the way the issue is tackled, the book attempts to explore new directions for the future and notably two of them: the adjustment to borders as a complement to poorly coordinated national or regional climate policies; and the negotiation of international sectoral agreements.

- *The third project focuses on systemic risk in the financial system, its spill over to the real economy and whether and how it should be addressed by public policies.*

In the paper "Marchés efficients ou marchés efficaces?" Alfred Galichon and Philippe Tibi assess the relevance of the Efficient Markets Hypothesis in the context of the current crisis. The hypothesis claims that asset prices reflect all relevant available information and that their movements cannot be predicted. The recent crisis has established the limitations of this theory. Whilst the market remains "effective", one should investigate the various forms of capitalism that are consistent with it, in a debate that is not only economic but also political.

In the paper "Produce or Speculate? Asset Bubbles, Occupational Choice and Efficiency", Pierre Cahuc and Edouard Challe study the macroeconomic effects of rational asset bubbles in an overlapping-generations economy where asset trading requires specialized intermediaries and where agents freely choose between working in the production or in the financial sector. Frictions in the market for deposits create rents in the financial sector that affect workers' choice of occupation. When rents are large, the private gains associated with trading asset bubbles may lead too many workers to become speculators, thereby causing rational bubbles to lose their efficiency properties. Moreover, if speculation can be carried out by skilled labor only, then asset bubbles displace skilled workers away from the productive sector and raise income and consumption inequalities.

In the paper "Equilibrium Risk Shifting and Interest Rate in an Opaque Financial System", Edouard Challe, Mojon, B. and Ragot, X. builds upon the fact that the 2007-2010 financial crisis has rejuvenated the interest in systemic risk in the financial system and its dramatic spill over to the real economy. This paper contributes to this debate with an analysis of the risk taking behavior of financial intermediaries that have limited liabilities and may deliberately choose a level of risk in excess of the social optimum. Their financial system is

"opaque" in the sense that outside providers of funds cannot easily distinguish high- and low-capital intermediaries. In consequence, poorly-capitalised intermediaries may be tempted to hold correlated asset portfolios and gamble for resurrection in the face of worsening economic conditions. They derive the equilibrium number of such imprudent banks and its dependence on the (endogenous) interest rate prevailing in the economy.

c) How does SRI management lead firms to reduce negative externalities? What is the value of extra financial information to investors? Are SRI criteria diffusing to conventional asset management?

An important issue that is raised here refers to the impact of SRI on firms and markets. In particular, do socially responsible investors have an impact on financial markets in general and socially responsible firms? Another issue relates to the mainstreaming of SRI criteria. From this perspective two main directions are proposed.

- *The first project examines why investors would value information on firms' social performance.*

In her paper "The Value to Investors of Information about the Firms' Social Performance" Delphine Prady considers that responsible investors build their portfolios according to environmental, social and governance criteria that do not usually enter the valuation of a firm. To this end, they collect information about the social performance of the firm they intend to invest in. Mainstream investors are indifferent to the firms' social record. This research examines the conditions under which mainstream investors are willing to purchase information about the firms' social performance. Responsible investment can create a speculative opportunity on the capital market because firms are valued below (over) their book value when they have a poor (good) social record.

- *The second project focuses on the impact of SRI on the asset management sector and the issue of SRI 'mainstreaming'*

In the article "Socially Responsible Investment in France: From Niche Market to Mainstream", Patricia Crifo and Nicolas Mottis analyze how the actual and expected future activities of French Socially Responsible Investment (SRI) analysts may reveal a convergence process between SRI decisions and traditional financial investment decisions, that is a form of 'mainstreaming' of SRI processes, by asking the SRI analysts themselves how their work has evolved and how they perceive their positioning in the asset management sector. They present the results of a field survey on the composition and activities of French SRI analysts' teams of large institutional investors and asset managers in France in 2009. They show that the convergence towards the mainstream financial analysts seems to be clearly engaged. The themes worked on are becoming more and more important for the asset management sector, they are more and more frequently consulted, and their recommendations have a growing impact on the decision making processes. However, the SRI domain is still emerging and remains very fragmented leading to a wide heterogeneity of practices and positioning in the respective organizations. This is interpreted as a clear sign of a transition phase.

In her PhD thesis “Institutional Change in the Making. The Case of Socially Responsible Investment”, Diane-Laure Arjaliès explores the mechanisms of institutional change in practice. The institutional change under study relates to the progressive penetration of Socially Responsible Investment (SRI) criteria into conventional investment funds, a phenomenon which appeared during the 2000s, known as SRI Mainstreaming. The dissertation aims to explain why SRI Mainstreaming has expanded into France and to identify its impacts on the practices of the French asset management sector. It mobilizes a three-year (2006-2009) longitudinal case study of a French asset management company, conducted as an SRI analyst. Research methods rely on the pragmatist concept of inquiry and combine participative observation, semi-structured interviews and documentary evidence. The dissertation comprises three articles that should be considered together. They explore 1) the origins of the SRI Mainstreaming phenomenon, 2) how asset management companies have transformed their practices in response to SRI Mainstreaming and 3) why practices have been transformed in a different way in fixed-income investment, compared to equity investment, respectively.

d) What ESG indicators are relevant? Sectoral approaches (eg : agri-food sector)

Two main directions are proposed.

- *The first direction focuses on the agri-food sector and analyzes The role and impact of norms and the evolution of consumers' demand for labelled goods in the food sector*

In the paper “Does taste beat food safety? evidence from the "Pera Rocha" case in Portugal”, Combris, P. ; Seabra Pinto, A. ; Fragata, A. and Giraud-Heraud, E. consider that nowadays, fresh fruits such as pears are differentiated by cultivars, origins, and appearances, as well as by companies' production and processing methods. We may now observe many denominations of origin, retailers,' and private labels in order to signal the differentiation to the consumers, who are often willing to pay large price premiums for products with specific attributes. In this article, we used an experimental auction to assess how information on quality attributes affects consumers' willingness to pay for different types of pears. The main results show that information on the products' characteristics related to food safety instantly influences consumers' willingness to pay. However, it appears that in the end, sensory intrinsic attributes related to taste beat the guarantee of food safety in driving the buying behaviour.

In the paper “Agrifood safety standards, market power and consumer misperceptions” Giraud-Héraud, E. ; Grazia, C. and Hammoudi, A. analyze how the public regulation of food safety influences a firm's strategic behaviour in a food chain. In this context, they provide an original theoretical framework to show how, regardless of the level of standard, food safety regulation may have unexpected harmful effects. Namely, the level of compliance costs alone cannot explain the producer exclusion due to a high level of standard. They highlight how upstream producers' involvement in the market also depends on the strategic interest

of the downstream firm to remunerate their compliance process. Finally, they show how the actual level of risk does not necessarily decrease when the standard is reinforced.

- *The second direction explores the impact and efficiency of different regulatory frameworks for GMOs*

In the paper “Labelling and coexistence regulation of GMOs and non-GMOs: an economic perspective”, Desquilbet M. and Poret S. examine how economic theory can enlighten which arguments favour and which ones oppose labelling and coexistence regulations for GMOs and non-GMOs, which type of regulation should be favoured, and how different regulations affect various interest groups. To this aim, we survey consumers’ opinions and choices about GMOs in feed and food through the vast body of economic literature on this topic. We analyze the relevance of a GM/non-GM public labelling policy as well as the effects of this policy’s implementation, focusing mainly on the mandatory versus voluntary characteristics of labelling. We describe the nature of externality costs of coexistence for non-GMO as well as GMO producers, in the absence of any coexistence regulation. We detail the economic arguments for coupling an ex ante safety regulation with an ex post liability regulation at the farm level in order to regulate coexistence.

In the paper “How do GMO/non GMO coexistence regulations affect markets and welfare?” Desquilbet M. and Poret S. present a theoretical economic model assessing the effect of the level of mandatory coexistence regulations on market and welfare outcome. All farmers have the same productivity increase from GMO adoption but they are heterogeneous in the production cost. They also differ with respect to the type of seed they use by the costs of implementing ex ante regulation (if they grow GMOs) or to their probability of having their harvest downgraded (if they produce non-GMOs). Unit profits are linear and crop choices are endogenous. We model a classical vertical differentiation model on the consumer side. We study several forms of regulation: no regulation, only a regulatory maximum threshold for the adventitious presence of GMOs in the non-GMO production, ex ante regulation in addition, and ex ante regulation with ex post liability.

#### e) Relations investors-firms, commitment, governance

The relations between investors and firms, in particular the engagement and impact of shareholders and investors on management are essential to SRI issues. From this perspective, governance is a key issue. From this perspective, two main research directions are privileged.

- *The first research project focuses on The links between boards of directors and firm performance.*

Edouard Challe, Sandra Cavaco, Patricia Crifo and Antoine Reberioux builds upon the idea that the recurrence of governance crises (financial scandals in 2001-2002, crisis in 2007-2008) has emphasized the role of boards of directors, and the importance of shareholders’



engagements in the promotion of long run and good governance practices. This project aims at analyzing empirically with a unique and original database the role of boards' structure and quality in raising firm performance. The database is currently under construction, some preliminary results are expected by mid-2011.

- *The second direction of research analyzes CEO compensation.*

The legitimacy of the high compensations enjoyed by top managers and asset traders has rarely been subject to so much controversy. High pays are notably blamed for being largely responsible for rising income inequalities, whilst providing those who benefit from them incentives that are biased and possibly opposite to the interests of the firms' stakeholders (employees, shareholders, creditors). The purpose of this work is to put into perspective the theoretical arguments that may justify, or challenge, the economic and social benefits of such high compensations.

f) BOP environment, emerging countries, growth activities in the long run.

In the article "Corporate Strategies and the construction of markets at the Base of the Pyramid, Francois Perrot considers that early articles relating to the 'Base of the Pyramid' (BOP) concept have asserted that multinational corporations (MNCs) can make a 'fortune' by doing business with underprivileged populations and lifting them out of poverty. In contrast to initial literature, this article contends that most markets at the BOP do not yet exist but need to be built. The rationale for firms' involvement at the BOP goes beyond short-term business opportunities and has more to do with the preparation of MNCs for the upcoming economic landscape in emerging countries, as well as the new imperatives regarding corporate social responsibility. Building on three case studies, this article identifies two broad types of corporate strategies: defensive strategies that aim to capture existing markets ('BOP1.0') more 'pro-poor', stakeholder-oriented strategies that seek to create new markets at the BOP and develop firms' capabilities ('BOP2.0'). The article then discusses the issue of the costs of building new markets at the BOP and the consequences on the business models and the involvement of financial partners in the venture.

In the article "Relational Capacity for Social Innovation: A new perspective on learning and innovation in cross-sector partnerships" Murphy M., Perrot F. and Rivera-Santos M. consider that the concept of absorptive capacity has been used extensively in the alliance literature to explain dynamics of inter-partner learning. While this literature focuses on business-to-business alliances with objectives of business innovation, it does not address learning in cross-sector alliances with aims of social innovation. This study explores whether the concept of absorptive capacity, as modeled by Todorova and Durisin (2007), can be directly transposed to cross-sector alliances. The results of the analysis suggest that, due to important differences between alliance partners and goals in cross-sector alliances, as well as the aims of business innovation relative to social innovation, models of absorptive capacity only imperfectly reflect the learning and innovation dynamics characteristic of cross-sector alliances, due to two important factors: differences in alliance partners and goals and differences in type of innovation. This article introduces the concept of Relational Capacity for Social Innovation, a model better suited to the analysis of learning and

innovation in the context of cross-sector alliances, especially those operating at the base of the economic pyramid.

In the paper “Multinational Corporations at the Base of the Pyramid: The Role of the Parent-Subsidiary Link in Developing Ambidexterity” Perrot F. highlights that the literature on the base of the pyramid (BOP) stresses the merits for multinational corporations (MNCs) to engage in innovative programs exploring local solutions in order to succeed in serving the needs of low income consumers. However such very local responses diverge from the sources of MNCs’ competitive advantage based on economies of scale and global replication. Through the analysis of two BOP pilot programs developed with Lafarge, one of the leading players in the building materials industry, the chapter addresses the issue of developing programs which are enough local to solve BOP issues while also enough global to leverage MNCs’ core competences. The analysis of the two cases shows the limitations of corporate BOP strategies focused either on the exploitation of existing capabilities or the only exploration of new ones. The need for more ambidextrous approaches which better balance exploration capabilities (small pilots, local partners...) and exploitation approaches (traditional partners, existing knowledge...) is highlighted. While neglected in the BOP literature, the link between the subsidiary and its parent company plays a significant role to achieve such ambidexterity. Three particular factors emerge as crucial: the existence of top management support, assistance in the financing, and the adaptation of incentives.

#### g) The governance of institutional investors and responsible investment

The green economy receives a considerable attention nowadays despite a rather blurred outline. The reality itself is twofold: regulation, imposing environmental constraints on growth; and new markets, with the creation of new opportunities of profits and investment. The term ‘green growth’ suggests a clear answer: the constraint transforms itself into an opportunity. In the long run, the objective of a sustainable economy is desirable to preserve the environment and justified economically with a higher growth compared to a laissez-faire scenario. Institutional investors will undeniably have a key role to play in this transition process. This project undertaken by Samer Hobeika within his PhD thesis thus aims at examining the role of institutional investors for sustainable growth with a focus on their governance structure in the financing of green growth strategies.

## 2.2 Publications and presentations in conferences

1. Book published: **Corporate Social Responsibility: from compliance to opportunity?**, Crifo Patricia & Jean-Pierre Ponsard eds. May 2010. Editions de l'Ecole Polytechnique.

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### 3. Articles and working papers

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Chapitre 3 : "La justice climatique internationale en question"

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### 3. Presentations in conferences, seminars etc.

Challe, E.

"Produce or Speculate? Asset Bubbles, Occupational Choice and Efficiency"

- Philadelphia Fed "Labor Markets after the Great Recession" Conference (Philadelphia, December 2010)
- Econometric Society World Congress (Shanghai, August 2010)
- Midwest Macro Meetings (Lansing, March 2010)
- Paris Summer Macro-Finance Workshop (Paris, July 2010)

"Equilibrium Risk Shifting and Interest Rate in an Opaque Financial System"

- European Economic Association Annual Meeting (Glasgow, August 2010 - invited session)
- Séminaire Banque de France, Juillet 2010



Crifo, P.

“The CSR-performance missing link : complementarity between environmental, social and business behaviors criteria?”

- Coinvest conference on Intangible Investments, Innovation and Growth . Lisbonne 2010
- International workshop on Corporate social responsibility and firm performance, CIRANO Montréal Novembre 2010
- Séminaire Centre d'études de l'emploi, 2010

“La RSE : levier de croissance verte ?”

- Conférence des journées de l'AEDD « Recherche et prospective en Développement durable », Séance plénière sur « Les enjeux des critères extra-financiers dans la gouvernance », Novembre 2010
- Conférence pour la cérémonie des entreprises signataires des charte d'engagement territorial, séance plénière sur l'économie verte, Nanterre Novembre 2010
- Assemblée générale FDSEA, séance plénière sur l'économie verte, Novembre 2010
- Conférence « L'économie verte » PUF Bloomberg, 12 octobre 2010
- Conférence pour le bicentenaire du Barreau de Paris, Unesco Paris 25&26 juin 2010
- MBA Pôle Léonard de Vinci, 4 Juin 2010
- Troisièmes rencontres parlementaires sur la RSE, Paris, 3 Juin 2010
- Conférences CDC-Ecole Polytechnique « CSR : from compliance to opportunity », 1er Juin 2010
- Interview La Chaîne Parlementaire 19 Mai 2010

Galichon, A.

- Dec 13, 2010, 2nd meeting of the French Econometrics Society, Paris
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- Sept 1, 2010, Conference OKASE, Toulouse School of Economics.
- Aug 19, 2010, Econometric Society World Congress, Shanghai.
- Jan, 4, 2010, North American Winter meeting of the Econometric Society, Atlanta
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Forget, V:

- “A survey of the Literature on CSR and Financial Performance”, 5<sup>ème</sup> Forum National des Fondations et des Associations, 28 octobre 2010, « Responsabilité Sociale des Entreprises & Performance Economique et Financière »

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- On the effectiveness of private food standards”, The Economics of Food, Food Choice and Health », 1st JointEAAE/AEA Seminar, Freising, Germany, September 15-17, 2010.
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- Séminaire R. Guesnerie, Collège de France, 28 janvier 2010
- Journée de lancement de l'Institut de l'innovation et de l'entrepreneuriat social, Essec, intervenant à la table ronde « coopérations stratégiques entre entrepreneurs sociaux et grandes entreprises », 1 février, 2010.
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Perrot, F.

- “Three Essays on the Base of the Pyramid” , Ph.D. Seminar, European Academy of Business in Society, St Petersburg, Russia, September 2010
- “The role of the parent-subsidiary link in BOP ventures”, BOP Learning Lab Network, Barcelona, Spain, 25-26 November 2010
- “Approches Base de la Pyramide et croissance responsable dans les pays émergent”, Collège des directeurs du développement durable, Juin 2010

Poret, S.

“Mainstreaming Fair Trade: A Discussion Through the Lipton Tea Case”

- Seminar Food Farm & Firm , TSE-INRA - Toulouse (2010)
- Seminar Corporate Social Responsibility, Ecole Polytechnique - Palaiseau (2010).

“How do GM/non GM coexistence regulations affect markets and welfare?”

- 2<sup>nd</sup> X-INRA workshop on “GMOs : The freedom of choice principle for consumers and farmers and its implications on the value chain” – Paris (November 2010).
- European Association for Research in Industrial Economics (EARIE) – Istanbul, Turquie (2010)
- 8th INRA-IDEI Conference on Industrial Organization and the Food Processing Industry – Toulouse (2010)

### 3. Workshops

#### 3.1 Thematic workshops of the work group 2

##### a) Les hautes rémunérations sont-elles légitimes ? 02/11/2010

*Organized within the regular meetings of the work group 2.  
Paris, November 2<sup>nd</sup>, 2010.*

La légitimité des hautes rémunérations, tant au niveau du top management des grandes entreprises que du trading sur produits financiers, a rarement été aussi contestée. Ces rémunérations seraient notamment responsables de l'accroissement des inégalités de salaire, tout en fournissant à ceux qui en bénéficient des incitations biaisées voire contraires aux intérêts des entreprises et de ses parties prenantes (salariés, actionnaires, crédateurs). L'objectif de ce groupe de travail est de mettre en perspective les arguments théoriques susceptibles de soutenir, ou au contraire de contester, l'utilité économique et sociale de ces hautes rémunérations.

##### **Programme**

9H30H-10H15 Alfred Galichon (Ecole Polytechnique) « Rémunération des dirigeants, appariement et frictions : l'allocation des talents est elle efficace? »

10H15-11H00 Edouard Challe (Ecole Polytechnique) « La rémunération du secteur financier reflète-t-elle son utilité économique? »

11H00-11H45 Philippe Tibi (UBS & Ecole Polytechnique)

11H45-12H30 Discussion générale

**b) La responsabilité sociale et environnementale des entreprises: Un levier pour une croissance soutenable, 01/06/2010**

*Organized by*

*Ecole Polytechnique, Chair FDIR (meetings of the work group2) & Chair BE*

*Institut Caisse des Dépôts pour la Recherche*

*Paris, June 1<sup>st</sup>, 2010*

Venue: Caisse des Dépôts 56 rue de Lille Paris 7ème

Within the regular meetings of the work group 2, this conference was organized to launch the publication of the collective book "Corporate Social Responsibility-From Compliance to Opportunity?".

This book presents a large overview of the research program on Corporate Social Responsibility initiated in 2007 by the Department of Economics of the Ecole Polytechnique. This program benefited from the support of the Department's two chairs: Chair for Business Economics and Chair for Sustainable Finance and Responsible Investment.

This joint support provided an exceptional opportunity to unite the business and financial communities on issues of increasing importance to the society at large

During the year 2009, workshops were organized to exchange on the ongoing research projects.

Participants involved were: institutional investors, pension funds, asset managers, rating agencies (Innovest, Vigeo...), public administrations, business companies (Danone, DuPont, Edf, Gdf-Suez, Kraft Food, Lafarge, Unilever...) and academics.

This book contains sixteen contributions organized in four parts:

- Governance and Financial Regulation: The Lessons from the Crisis
- Corporate Social Responsibility and Financial Performance: Where Do We Stand?
- Firms and Sectoral Risks: Climate Change, Health and Nutrition
- Firms and the Communities: The Limits of Financial Performance

### 3.2. Research workshops at Ecole Polytechnique

#### a) Sustainability & Impact challenges at the Base of the Pyramid, 08/02/2011

*Organized by*

*Ecole Polytechnique, Chair for Business Economics & Chair FDIR*

*ESSEC Business School, Institut de l'Innovation et de l'Entrepreneuriat Social*

*HEC Paris, Chaire Entreprise et Pauvreté*

*8 February, 2011*

Venue : Macif, 17-21 Place Etienne Pernet , Paris 15<sup>e</sup> (M<sup>o</sup> Félix Faure)

#### **Presentation**

Ten years ago Coimbatore Krishnarao Prahalad and Stuart Hart coined the term 'Base of the Pyramid' (BOP) which conveys the idea that companies can develop a profitable business by targeting the four billion people living with a few dollars a day in emerging countries.

The idea received significant attention both in academia and business.

Research has started to tackle the many evaluation issues associated with BOP strategies. This workshop will concentrate on two issues:

- Are BOP strategies compatible with sustainable development? How is environmental and social sustainability embedded within BOP business models?
- How are BOP ventures on poverty reduction evaluated by NGOs, and international institutions? What benefit may actual BOP strategies take from these evaluations?

A keynote presentation will be done by Stuart Hart (Cornell University), one of the founders of the BOP concept. It will be followed by presentations of contributions of Chairs and Institute in each of the inviting institutions working on the BOP topic.

The workshop is also open to outside contributions.

Audience: approximately 100 academics and professionals interested in Base of the Pyramid/ Social Business, CSR, and emerging countries.

#### **Contact :**

François Perrot, (Ecole Polytechnique) : [francois.perrot@polytechnique.edu](mailto:francois.perrot@polytechnique.edu)

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Fabienne Riom (ESSEC) : [riom@essec.edu](mailto:riom@essec.edu)

#### **Organizing committee:**

Frédéric Dalsace (HEC), Jean-Pierre Ponsard (Ecole Polytechnique), Thierry Sibieude (ESSEC)

<b>Programme</b>	
<b>8:30 – 9:00</b>	<b>Registration</b>
<b>9:00 – 9:15</b>	<b><u>Introduction:</u></b> <ul style="list-style-type: none"> <li>• <b>Jean-Pierre Ponsard</b>, Professor, Ecole Polytechnique</li> <li>• <b>G�rard Andreck</b>, Pr�sident, Groupe MACIF</li> </ul>
<b>9:15 – 10:30</b>	<b><u>Keynote:</u> Stuart Hart, Cornell University</b> followed by Q&A
<b>10:30 – 10:45</b>	<b><i>Coffee Break</i></b>
<b>10:45 – 13:00</b>	<b><u>Session 1: Embedding sustainability in BOP business models</u></b> <ul style="list-style-type: none"> <li>• On the Delivery of Pro-Poor Innovations: managerial Lessons from Sanitation Activists in India, <b>Shyama Ramani</b>, United Nations University</li> <li>• Challenges in marketing Socially Useful goods to the poor, <b>Bernard Garette</b>, HEC</li> <li>• Multinationals at the BOP: how does the parent-subsidiary link shape success?, <b>Fran�ois Perrot</b>, Ecole Polytechnique &amp; Lafarge</li> <li>• Cocreation with local communities for water access in rural Bangladesh, <b>Thierry Sibieude</b>, ESSEC</li> <li>• Interaction with <b>Stuart Hart</b>, followed by Q&amp;A</li> </ul>
<b>13:00 – 14:30</b>	<b><i>Lunch</i></b>
<b>14:30 – 16:30</b>	<b><u>Session 2: Measuring the impact of BOP programs: how to combine academic rigor and managerial relevance?</u></b> <ul style="list-style-type: none"> <li>• Measure of impact of Social Business in France : a first report, <b>Fr�d�ric Dalsace</b>, HEC</li> <li>• Measuring Impact framework, <b>Matthew Lynch</b>, WBCSD</li> <li>• Knowledge and evaluation for transition towards sustainability, <b>Rodolphe Vidal</b>, ESSEC - UVSQ</li> <li>• Translating research into action: the use of randomized evaluation, <b>H�l�ne Giacobino</b>, Poverty Action Lab, PSE</li> <li>• Interaction with <b>Stuart Hart</b>, followed by Q&amp;A</li> </ul>
<b>16:30 – 16:45</b>	<b><i>Break</i></b>
<b>16:45 – 17:45</b>	<b><u>Roundtable: New frontiers in research at the Base of the Pyramid</u></b> Speakers from some companies (10 minutes each) Chaired by Jean-Pierre Ponsard, Ecole Polytechnique
<b>17:45 – 18:00</b>	<b><u>Conclusion</u></b>

**b) GMOs : The freedom of choice principle for consumers and farmers and its implications on the value chain 17/11/10**

*Second Ecole Polytechnique-INRA workshop.*

Date: 17<sup>th</sup> November 2010

Location in Paris: INRA, 147 rue de l'Université, 75007 Paris

Ever since they have been commercialized, genetically modified organisms (GMOs) have been controversial. They have been supported by many for their benefits in terms of sanitary security and environmental protection and their potential future enhanced agronomic or nutritional characteristics. But they have been opposed by many other people on ethical and socio-economic grounds or because of potential health and environmental risks.

How public authorities have regulated GMOs as a compromise between these two opposed groups has been influenced by the precautionary principle and by the political shaping of the controversy. Public opinions and involvement of various interest groups have been very different across countries and, as a consequence, current GMO regulations vary greatly across countries. Notably, in the United States (US), GMO/non-GMO labelling is voluntary and coexistence between GMOs and non-GMOs is not regulated. On the opposite, the European Union (EU) has adopted mandatory labelling and traceability of GMOs and has defined a framework to regulate the coexistence of GM and non-GM crops in fields.

**The EU freedom of choice principle**

European Commission (EC) recommendation 2003/556 institutes freedom of choice for farmers and consumers between GMOs and non-GMOs as a fundamental principle. It allows Member States to impose mandatory regulations on farmers growing GM crops in order to limit gene flows from their fields to neighbouring non-GM fields. In addition, since civil law is generally in the responsibility of the Member States, these latter may also adopt specific provisions for liability in cases of GMO admixture, and develop compensation schemes, such as insurance systems or compensation funds. In addition, EU regulations specify that in all food and feed, any ingredient directly produced from GMOs must be labelled. This is the case even if this GMO is undetectable in the final product. Taking into account that adventitious, or technically unavoidable, presence of GMOs cannot be entirely avoided, the EU has defined a 0.9% threshold as the maximum percentage of GM material that may be contained in food and feed without the need to be specifically labelled as containing GMOs. Other labels, such as 'GMO-free' and 'non-GMO fed', are in discussion in some EU Member States. As a consequence, the consumers' attitude towards GMOs, the determinants of GM content on food valuation, and on the willingness to pay (WTP) for non-GM food products has been an active area of research..

**By bringing together academics and professionals the workshop will provide an outstanding opportunity to stimulate future research activities.**

**Organizing committee:** Eric Giraud-Héraud (INRA & Ecole Polytechnique), Michael Keller (DuPont), Jean-Pierre Ponssard (Ecole Polytechnique), Sylvaine Poret (INRA & Ecole Polytechnique), Louis-Georges Soler (INRA), Michel Trommetter (INRA & Ecole Polytechnique).

**PROGRAM****08:30** Introduction

- **Jean-Pierre Ponsard** (Professeur à l'Ecole Polytechnique, Département d'Economie et coordinateur de la *Chair for Business Economics*)
- **Hervé Guyomard** (Directeur Scientifique en charge de l'Agriculture INRA)

**09:00 - 09:30 Antoine Messéan** (Directeur de Recherche INRA), « Contexte de la coexistence entre OGM et non-OGM ».

**Matinée : Production, régulation**  
**Quels sont les fondements de la liberté de choix ?**

Président de session : **Michel Trommetter** (Directeur de Recherche INRA-GAEL)

**9:30–10:00 Marie-Angèle Hermitte** (Directeur de Recherche CNRS & EHESS) « Pluralisme technologique : confiance et responsabilité ».

**10:00–10:30 Sylvaine Poret** (Chargée de Recherche INRA-ALISS & Ecole Polytechnique, Département d'Economie), « How do GM/non GM coexistence regulations in fields affect markets and welfare? ».

**10:30–10:45** Pause café

**10:45–11:15 Ana Paula Carvalho** (Ministère de l'Agriculture et du Développement Rural, Portugal, Chefe de Divisão de Sementes, Variedades e Recursos Genéticos), « La coexistence entre cultures OGM et non OGM au Portugal : retour d'expérience ».

**11:15–11:45 Maddy Cambolive** (Advisor Regulatory Affairs DuPont-Pioneer), « Quelles perspectives de marché pour l'innovation variétale? ».

**11:45–12:45** Table ronde

- **Louis-Georges Soler** (Directeur de Recherche INRA-ALISS)
- **Rémi Haquin** (Président du comité céréales de FranceAgriMer et Président de la Commission Environnement d'ORAMA)
- **Elisa Vergine** (SRI analyst at Amundi, IDEAM)
- **Christine Noiville** (Présidente du comité économique, éthique et social du Haut Conseil aux Biotechnologies)

**12:45-14:30** Déjeuner sur place

**Après midi : Consommation**  
**Comment mettre en place cette liberté de choix ?**

Président de session : **Eric Giraud-Héraud** (Directeur de Recherche INRA-ALISS & Ecole Polytechnique, Département d'Economie)

**14:30–15:00 Louis Lévy-Garboua** (Professeur à l'Université de Paris 1 - Sorbonne), « Confiance des consommateurs pour la qualité des produits : enseignements de l'économie comportementale ».



**15:00–15:30 Bernard Ruffieux** (Professeur à l'Université de Grenoble, Directeur Unité INRA-GAEL), « Consumer's Aversion for GMO Food: Is it Real and Does it Survive a Yummy Apple? ».

**15 :30–16:00 Yves de la Fouchardière** (Directeur Général des fermiers de Loué), « Produits alimentaires de qualité certifiée et étiquetage de l'absence d'OGM : le cas des poulets de Loué ».

**16:00 – 16:15** Pause café

**16:15–17:15** Table ronde

- **Pierre Combris** (Directeur de Recherche INRA-ALISS)
- **Charles Pernin** (Chargé de mission alimentation de l'association CLCV)
- **Yves Goemans** (Legal counsel Europe, Solae Europe S.A.)

**17:15–17:30** Conclusion

**Olivier Godard** (Directeur de Recherche CNRS & Ecole Polytechnique)

### **c) International Workshop “CSR and firm performance”, 12/11/2010**

*Organized by*

*Ecole Polytechnique, Chair for Business Economics & Chair FDIR*

*CIRANO( Center for Interuniversity Research on the Analysis of Organizations), Montréal*

*November 12th, 2010*

*Venue: CIRANO, 2020, University Street, Suite 2500, Montréal*

This one-day workshop will bring together researchers in economics, management, business strategy and the law. The list of topics will include the following ones:

- In addition to the necessity of implementing profitable business practices, firms are facing increasing pressure from their stakeholders to be socially responsible; how do those two objectives interact? Is profit maximization compatible with corporate social responsibility? What are the links between CSR and financial performance?
- Which implications does CSR hold for management, business strategy and organizational design?
- What are the legal constraints on CSR strategies?
- Among the multiple facets of CSR, from environmental to social to governance factors, is there a combination of such factors most likely to lead to superior performance?

#### **General Program**

9:15 – 9:45 Participants registration, and brief introduction to the event

#### **9:45 – 11:45 CSR and financial performance**

Speakers

- Patricia Crifo (École polytechnique, Paris)
- Claude Francoeur (HEC Montréal)
- Alex Wood (Sustainable Prosperity, University of Ottawa)

#### **12:00 – 14:00 Lunch-buffet, keynote presentations and OPEN DISCUSSION**

Speakers

- Luis Perera (Partner, PriceWaterhouseCoopers, Chile): “The third generation agenda in CSR: the challenge of getting things done” - Presentation here
- Marcel Boyer (CIRANO): “Extended responsibility and CSR: Lessons from CERCLA”

**14:15 – 16:15 CSR and management/governance**

Speakers

- Marie-France Turcotte (UQAM)
- Judith Walls (John Molson School of Business, Concordia University)
- Jean-Pierre Ponsard (École polytechnique, Paris)

**16:30 – 18:00 CSR and business strategy**

Speakers

- Martin Coiteux (HEC Montréal)
- Bernard Sinclair-Desgagné (HEC Montréal, CIRANO and École polytechnique, Paris)

## 4. Newsletters : The Chairs' Update



Department of Economics

**The Chairs' Update**

June 2010 N°1

### Foreword

The Department of Economics hosts several chairs, each producing articles, books, conferences, seminars and workshops. The Chairs Update is intended to be a regular communication link between the Department and its sponsors, to be also diffused to the Ecole's community at large. Each issue will provide a focused review of an ongoing research program and discuss some of its major policy implications. The Chairs Update will also inform on future workshops and seminars.

*Francis Bloch,*  
Chairman of the Department of Economics

Please note that the views expressed in each issue are those of the authors and do not represent those of the Ecole Polytechnique.

### Copenhagen: A Major Bifurcation in International Coordination of Climate Policies

Since the 1992 Rio Summit, confirmed by the 1997 Kyoto Protocol, the search of international coordination focused on what had been called a "comprehensive approach". This was progressively assumed by most Western experts and governments to be the best way to follow, in spite of political difficulties due to North-South and Transatlantic differences in priorities, and the assessment of a fair burden-sharing. This regime has three components: quantitative targets of greenhouse gas (GHG) emissions assigned to countries, flexibility and cost-efficiency brought by a world carbon market, and financial and technological transfers from industrialized countries to less-developed ones, in order to address unequal responsibility and capacities regarding climate challenge. The Kyoto Protocol stood as a first step but in a limited geographical perimeter (industrialized countries) for a limited time horizon (2008-2012). This settled the premises of an international carbon market. For the future, the EU backed a spatial extension of the regime to emergent countries and the adoption of medium (2020) and long run targets (2050). In December 2007, the Bali meeting began to set a new agenda by focusing on issues such as registering national policy measures, financial transfers, technological cooperation, and economic incentives for controlling deforestation. Emergent countries renewed a strong opposition to any idea that they should commit to quantitative caps, and simultaneously asked industrialized countries to cut huge numbers (85%, 90%) of their own emissions by the year 2050. Hostage of two opposite rationales, the Copenhagen Conference was

about to conclude on a complete failure when a small number of big emitters (the USA, China, India, Brazil, South Africa...), not including the EU, prepared a parallel paper that became the 'Copenhagen Agreement', not formally endorsed by the Conference. This paper just asks parties to declare in their own terms what their own objectives will be. Parties should report on their implementation, but will not be placed under international scrutiny. No system of penalties is considered. The international market of carbon offsets is mentioned, but the focus is placed on a register of Nationally Appropriate Mitigation Actions (NAMAs). Specific provisions are taken regarding the financial resources to be gathered in favor of less developed countries and devoted to programs and actions aiming at fighting against deforestation. In March 2010, cumulated declared quantitative efforts were about 50% short of what they should have been in relation to the max 2°C target mentioned in the agreement. Copenhagen is a real turn for the way international coordination may be conceived for the next decade or more. With this loose approach, this is the end of both the comprehensive approach and its worldwide carbon market, and of any idea asking for similar effort by countries in similar positions. Mitigation actions will be heterogeneous, with no mechanism to ensure the overall cost-effectiveness of policies. Each country or region of the world will have to take its own responsibility without betting on the support of equivalent effort taken by others. Cooperation will be more limited to specific topics, whereas the crucial challenge will be to design national and regional climate policies with appropriate side measures avoiding unwanted trade and economic mismatch.

*Olivier Godard*

Stewart R.B. and J.B. Wiener (1992), "The Comprehensive Approach to Global Climate Policy: Issues of Design and Practicality", *Arizona Journal of International and Comparative Law*, 9(1), pp 83-114.

### "Industrial Competitiveness and Climate Policies"

This issue of the Chairs Update focuses on a series of recent contributions of the "Industrial Competitiveness and Climate Policies" project. Namely:

- What analysis can be made of the Copenhagen Summit?
- Which future role can be given to carbon border adjustments?
- Why and how to balance equity and efficiency issues?
- Why sectoral approaches may offer a step forward, both as a tool kit and as good "second best" solutions.

This research project is sponsored by the Chair for Business Economics and the Chair for Sustainable Development Ecole Polytechnique-EDF.

*Jean Pierre Ponsard,*  
Project coordinator



[http://softs.polytechnique.fr/departements/economie/the\\_chairs\\_update/2010\\_june/index.html](http://softs.polytechnique.fr/departements/economie/the_chairs_update/2010_june/index.html)

Department of Economics 

# The Chairs' Update

September 2010 N°2

**Conference on the book:  
"Corporate Social Responsibility:  
From Compliance  
to Opportunity?"**

(Ecole Polytechnique Editions, June 2010)

On June 1st, 2010, the Research Institute of the Caisse des Dépôts et Consignations (CDC) and the Ecole Polytechnique Department of Economics jointly organized a conference for the launching of the book edited by Patricia Crifo and Jean-Pierre Ponsard. This book summarizes the research done over the last three years with the sponsorship of the Chair for Business Economics and the Chair for Sustainable Finance and Responsible Investment. This book includes sixteen contributions written for a non technical audience (see page 4 for the detailed content).

The conference was opened by Blaise Desbordes (CDC) and a complete video of the conference is available on the website of the Department of Economics ([www.economie.polytechnique.edu](http://www.economie.polytechnique.edu)).

The first part of the conference, chaired by Isabelle Laudier (CDC), was devoted to three contributions of the book. Dominique Pihon's presentation of "Financial Regulation: Lessons from the Crisis" was commented by Anton Brender (Dexta Asset management). Patricia Crifo underlined the "Rise of SRI in France" followed by comments of Jean-Marie Péan (Macif Gestion). François Perrot presented "Firm and Poverty: Inputs and Limits of the BOP Approaches". Based on EDF's BOP examples in Africa, Christine Heuroux (EDF) provided insightful empirical evidence on this issue.



Dominique Pihon, Anton Brender, Isabelle Laudier, Patricia Crifo, Jean-Marie Péan, François Perrot, Christine Heuroux

The second part of the conference involved representatives from large firms considered as CSR leaders, Lafarge (Bertrand Collomb) and GDF-SUEZ (Jean-Pierre Hansen), a long term investor, Caisse des Dépôts (Didier Jancq) and Jean-Pierre Ponsard, for the academics. This round table was chaired by Anne-Catherine Husson-Traoré (Novethic). The round table concentrated on two issues. First, it reviewed the role of non financial indicators both for managing CSR internally in firms and for investing from the perspective of an asset management company. Second, a discussion engaged on the possible large scale initiatives that multinational companies could take as regards climate change. The relative failure of Copenhagen indeed calls for a revival of transnational and sectoral approaches.

Jean-Pierre Ponsard  
Conference Organizer



Dominique Pihon

## Corporate Social Responsibility

This issue of the Chairs Update focuses on a series of recent events and contributions of the "Corporate Social Responsibility" research program conducted at the Ecole Polytechnique. Initiated in 2007 by the Department of Economics, this program is supported by two Chairs: the Chair for Business Economics and the Chair for Sustainable Finance and Responsible Investment. This joint support provides an exceptional opportunity to bring together the business and financial communities on issues of increasing importance to the society at large.

Patricia Crifo  
Project Coordinator



[http://softs.polytechnique.fr/departements/economie/the\\_chairs\\_update/2010\\_september/index.html](http://softs.polytechnique.fr/departements/economie/the_chairs_update/2010_september/index.html)



Department of Economics

**The Chairs' Update**

December 2010 N°3

Vertical Relations is one of the research areas supported by the Chair for Business Economics. The dimensions of analysis include:

- The possible competitive distortion due to the buying power of large retailers.
- Vertical integration and market foreclosure
- The incentives to innovate and the welfare effects of innovation in vertical structures.

The program is now completed. It has been very successful in providing major academic results that will appear in top Industrial Economics Journals. It has also attracted several Ph.D. and Post-Doctoral outstanding fellows.

The program was first coordinated by Marie-Laure Allain, and then by Jérôme Pouyet.

This "Chairs' Update" issue summarizes several important contributions of the program:

- Jérôme Pouyet analyses how the risk of input foreclosure evolves when several integrated firms are active on the market;
- Anna Creti focuses on a recent regulatory measure introduced in the French electricity market to limit the risk of foreclosure by ensuring a fair access to the input (nuclear plant electricity) for retailers competing with the historical operator.
- And, Marie-Laure Allain and Claire Chambolle point out that the independent firms might be the ones who prefer buying from independent suppliers rather than from the vertically integrated firm because they fear the disclosure of strategic and sensitive information.

## New Insights on the Competitive Effects of Vertical Integration

Until the 1960s, the traditional vertical foreclosure theory was widely accepted by antitrust practitioners: vertical mergers were harmful to competition, for vertically integrated firms have incentives to raise their non-integrated downstream rivals' costs to soften competition. This view was challenged by the Chicago school authors in the 1970s on the ground that integrated firms cannot leverage market power from the upstream market (input market) to the downstream one (final product market).

The last twenty years have witnessed the development of formal analysis of the subject. A substantial part of the literature has built around a common framework, introduced by the seminal paper of Ordover, Saloner and Salop (1990). This rich framework explicitly accounts for (i) the endogenous incentives to merge, (ii) the possibility for an unintegrated competitor to counter a merger, (iii) competition on the input market. Within this setting, even though integrated firms have incentives to raise their non-integrated rivals' costs, this does not annihilate the competitive pressure on the input market; the literature has further enriched this setting to find conditions under which vertical integration may harm, or not, competition.

Jérôme Pouyet and his co-authors have further developed this common framework by considering more elaborate market structures. The starting point of their analysis is that various industries are characterized by the presence of several integrated firms competing on an input market to supply unintegrated downstream competitors. For instance, in the mobile telephony market, Mobile Virtual Network Operators do not have a spectrum license or a mobile network, and must purchase a wholesale mobile service from the Mobile Network Operators. These market structures may also emerge endogenously: following two consecutive vertical mergers, the digital maps market is now supplied by a duopoly of integrated firms.

Their main result shows that the competition between integrated firms on the upstream market to supply unintegrated downstream rivals may be less intense than expected. The intuition may be explained as follows: competition will develop on the upstream market if each integrated firm has an incentive to set its price under the price of its vertically integrated rival, say if vertically integrated firms "undercut" each others. An integrated firm faces the following trade-off when deciding whether to undercut. Undercutting yields additional upstream profits. However, it makes the integrated rival more aggressive on the downstream market, for a firm which supplies the upstream market tends to be a soft downstream competitor in order to protect its upstream revenues; this is the softening effect. When the latter effect is strong enough, the incentives to undercut vanish, and an integrated firm may not want to compete fiercely with its integrated rival on the upstream market. Several factors are shown to have an important impact on this tradeoff: product differentiation on the downstream market; cost differentials between integrated and unintegrated competitors, and the composition of the market structure. These factors affect, sometimes in a complex way, the trade-off between the softening effect and the upstream profits and, therefore, the competitive analysis of vertical mergers. Hence, vertical integration may harm welfare when the input market ends up being supplied by integrated firms only. The analysis also unveils that the assessment of the competitive effect of vertical integration must account for the characteristics of both the upstream and the downstream markets: single-market analyses of the vertically-related markets do not allow analyzing the integrated firms' incentives to supply or not the input market.

Jérôme Pouyet

Bourreau, M., J. Hamberg, J. Pouyet and N. Schutz, "Upstream competition between vertically integrated firms", Ecole Polytechnique, cahier de recherche 2009-54.

Hamberg, J., J. Pouyet and N. Schutz "Incompetitive vertical mergers waves", Ecole Polytechnique, cahier de recherche 2009-55.

Ordover, J.A., G. Saloner, and S.C. Salop (1990), "Equilibrium Vertical Foreclosure", *American Economic Review*, 81, 127-142.



[http://softs.polytechnique.fr/departements/economie/the\\_chairs\\_update/2010\\_december/](http://softs.polytechnique.fr/departements/economie/the_chairs_update/2010_december/)

## 5. Program of the Ecole Polytechnique CSR and Environment Seminar

Les séminaires ont lieu le vendredi matin à 10h30 , tous les 15 jours au département d'économie de l'Ecole polytechnique (bibliothèque RDC)

### Programme 2010-2011

Sept. 24th, 2010: Jean-Pierre Ponsard & Patricia Crifo  
"Environmental Regulation and Green Growth - from Corporate Strategy to Macro-Economic Analysis"

Oct. 8th, 2010: Pierre-Alain Jayet (INRA Economie Publique)  
"Biocarburants et GES, taxe et redistribution - exercice d'économie en équilibre général".

Oct. 22nd, 2010: François Perrot (PhD student Ecole Polytechnique / CIFRE Lafarge)  
"Relational Capacity for Social Innovation: A new perspective on learning and innovation in cross-sector collaborations", co written with Matt Murphy (Phd student, ESADE) et Miguel Rivera-Santos (Professor, Babson).

Nov. 19th, 2010: Sabrina Teyssier (INRA ALISS / Ecole Polytechnique)  
"Endogenous choice of ethical labelling in laboratory markets"

Dec. 10th, 2010: Gunther Capelle-Blancard (Paris I, CEPII)  
"The performance of Socially Responsible Investing: How relevant is it?"

Dec. 17th, 2010: Anna Creti Ecole Polytechnique / U. Paris Ouest  
« Nouvelle Organisation du Marché de l'Electricité: Implications for the French Retail »,with Jerome Pouyet (PSE and Ecole Polytechnique) & Maria Eugenia Sanin (U. Montpellier and Ecole Polytechnique)

Friday, 7 May 2010 : Olivier Godard  
Gènèse et avortement de la contribution carbone en France (2009 - 2010)

Friday, 23 April 2010, 14H - 15H30 : Diane-Laure Arjaliès de la Lande and Jean-Pierre Ponsard  
"A managerial perspective on the Porter Hypothesis - The Case of Co2 Emissions"

Friday, March 26th, 2010, 10H30 - 12H : Yuri Biondi  
PREG-CRG - Ecole Polytechnique  
"The governance of Intangibles: Rethinking Financial Reporting and the board of Directors"

Friday, March 12th, 2010: Michel Trommetter  
INRA Grenoble / Laboratoire d'Econométrie  
"Do broad patent deter research cooperation ?" in collaboration with Jean Philippe Tropéano

Friday, February 26th, 2010: Bastien Drut  
Centre Emile Bernheim, Research Institute in Management Sciences,  
Solvay Brussels School of Economics and Management, CIFRE  
"Social responsibility and mean-variance portfolio selection"- full paper

05 Jan. 10: Samuel Touboul and Samer Hobeika

Samuel Touboul: "Corporate Social Responsibility, Economic and Financial performance : The role of industry specificities and business models' competitiveness in making a link - A critical analysis of Goldman Sachs Sustain methodology."

Samer Hobeika : "SRI labels, codes and specifications; The role of stakeholder initiatives in the normalisation of socially responsible investment"

15 Jan. 10: Sylvaine Poret

"Mainstreaming fair trade: a discussion through the Lipton tea case"



## 6. Teaching and students' supervision at Ecole Polytechnique

### Post Doc 2010:

Diane-Laure Arjaliès de la Lande (Contrat Cifre Macif Gestion – Essec).  
Delphine Prady (University of Toulouse)

### PhD

The role of free allocations in cap and trade mechanisms: an economic analysis (J Ph Nicolai, PhD supervised by JP Ponsard)

Sectoral trading in electricity and the cost of climate policy (C Gavard PhD supervised by JP Ponsard)

Macro-sectoral impacts of climate change policies to reduce greenhouse gas emissions (CM Bono, under the supervision of E. Challe and JP Ponsard)

Novembre 2009 - : Vanina Forget «Les fonds de capital investissement : Un levier du développement durable de nos entreprises ? Application aux filières agro-industrielles», ENGREF. Dir: P. Crifo.

Sept. 2008- : Samer Hobeika « L'institutionnalisation de l'ISR en France». Thesis Director: J.P Ponsard and D. Plihon – Contrat Cifre with « la Caisse des Dépôts ».

Sept. 2007- Avril 2011: François Perrot « Stratégies BOP». Thesis Director: JP. Ponsard and P. Crifo. – Contrat Cifre with Lafarge. Pre-defense January 25<sup>th</sup>, 2011

### Masters and internships 2010

#### *Internships :*

Master EDDEE - A. Rigard-Cerison : Stagiaire Energie-Climat, Entreprises pour l'Environnement.  
Direction : P. Crifo

#### *PSC 2010-2011 : Projets scientifiques collectifs – Ecole Polytechnique*

P. de Drouin de Bouville, L. Fei, B. Pipat, T. Van der Cruisse de Waziers, G. Wen. : « Indices de notation de la RSE ». Direction : P. Crifo

Photovoltaïque. Direction JP. Ponsard.

**Teaching 2010**

Programme d'Approfondissement en Économie : « Business Strategy » (ECO 559), Masters "Quantitative Economics" and "Finance et Innovation Technologique", course of J.P Ponsard et S. Poret.

Master 2 EPP & EDDEE: Corporate Social Responsibility, cours d'approfondissement, P. Crifo et J.P Ponsard.

Master 2 EDDEE: Economie de la Qualité et du Développement Durable, E. Giraud-Héraud et L.G Soler.

Master Pro PFR Tradd (Fondation Renault) : Gouvernement d'Entreprise et Développement Durable, Cours de P. Crifo et H. Teulon.

**Program of the course « Corporate Social Responsibility ». Jean-Pierre Ponsard & Patricia Crifo (Master EDDEE 2009-2010)****Résumé:**

Les crises et scandales financiers ou environnementaux ont conduit les gouvernements à renforcer les réglementations et à exiger de fait des entreprises plus de transparence et de responsabilité sociale et environnementale (RSE). Les enjeux associés au changement climatique s'intègrent tout naturellement dans cette perspective : apparition de nouvelles réglementations (i.e. en matière d'émissions de gaz à effets de serre) et pression pour un comportement socialement responsable (i.e. responsabilité vis-à-vis des populations pauvres particulièrement affectées par le dérèglement climatique).

A l'heure actuelle, les entreprises font donc beaucoup d'effort pour être, ou au moins apparaître, comme responsables sur le plan environnemental et social. Ce phénomène se traduit notamment par un nombre toujours plus grand de rapports développement durable que les entreprises publient chaque année en France et dans le monde. Ces rapports font état de toute une série d'actions menées à ce titre. Une littérature académique importante s'est intéressée à ce sujet.

L'objectif de ce cours est d'analyser le lien entre la stratégie RSE de l'entreprise et sa performance économique. Y-a-t-il antinomie ou complémentarité ? On abordera cette question en analysant la dépendance de la stratégie RSE avec les facteurs externes (réglementation, contraintes sectorielles, pression des parties prenantes telles que les consommateurs, les ONG, les salariés mais aussi les actionnaires via l'investissement socialement responsable...) et les facteurs internes (sa gouvernance, son système de management...), et en quoi ces types de facteurs influent sur l'évaluation de la performance économique de la stratégie RSE.

**Programme:****• Séance 1 : mercredi 5 janvier 2011**

Thème : Introduction : la montée en puissance des enjeux de RSE dans les stratégies d'entreprises

**• Séance 2 : mercredi 12 janvier 2011**

Thème : Réglementation et risques sectoriels: Changement climatique, santé, nutrition

**• Séance 3 : mercredi 19 janvier 2011**

Thème : Communication, divulgation et rapports DD : de la réglementation à la réputation

**• Séance 4 : mercredi 26 janvier 2011**

Thème : L'implication des entreprises vis-à-vis des communautés: stratégies 'Bottom of the pyramid' et entrepreneuriat social

- **Séance 5 : mercredi 2 février 2011**

Thème : RSE et gouvernance: les relations actionnaires, managers et administrateurs

- **Séance 6 : mercredi 9 février 2011**

Thème : RSE et performance économique et financière : où en est la recherche ?

- **Séance 7 : mercredi 16 février 2011**

Thème : Les partenariats ONG-entreprises et le rôle de la société civile

**Program of the course « Éco-565. Sustainable development and environnement. Patricia Crifo (PA Ecoscience Ecole Polytechnique).**

**Programme:**

- Introduction à l'économie de l'environnement et du développement durable
- Ressources naturelles épuisables
- Ressources naturelles renouvelables
- Evaluation environnementale
- Outils organisationnels : Contrôle-incitations- divulgation
- Outils de marché, taxes, permis
- RSE, régulation et performance environnementale
- Réglementation, standard et normes
- Innovation , éco industries-précaution