

LES CAHIERS

# Louis Bachelier



Chaire Finance Durable  
et Investissement Responsable

WITH

VANINA FORGET  
PATRICIA CRIFO  
CHRISTIAN GOLLIER  
EDOUARD CHALLE

NICOLAS TREICH  
JEAN-PIERRE PONSSARD  
SÉBASTIEN POUGET



#10 May 2013

## “Promoting, sharing and disseminating financial research”

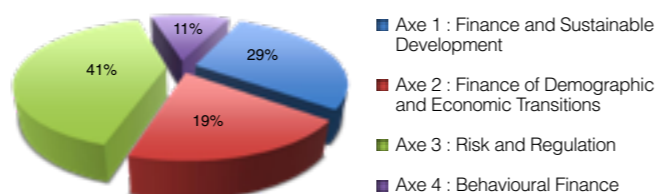
Created in September 2008, the Institut Louis Bachelier (ILB) is an internationally networked research centre with the mission of promoting, sharing and disseminating French financial research and teaching.

### The creation of scientific teams of excellence

The Institut Louis Bachelier is a unique organization that brings together, around industrial partnerships, the best research teams in economics and mathematics, as attested by the LABEX (Laboratoire d'Excellence) certification awarded to the ILB within the framework of its Finance and Sustainable Development project..

- Creation of research programmes directly linked to the financial industry : 30 Chairs and research initiatives have been created under the aegis of the Institut Europlace de Finance (EIF) and the Fondation du Risque (FDR) since 2007, involving more than 200 researchers.
- Management and organization of innovative R&D projects in collaboration with the Pôle Finance Innovation.
- Contribution to and support for the emergence of new training at undergraduate, masters and doctoral level in phase with the requirements of the Paris Stock Exchange.
- Cooperation with French, European, American and Asian universities and research centres.

Breakdown of 30 Chairs and research initiatives in terms of the four strategic axes of LABEX Finance and Sustainable Growth



### Enhancing the impact of research

The Institut Louis Bachelier disseminates the widest and most effective results from its research programs, particularly to French and European regulatory authorities.

- The quarterly review “Les Cahiers Louis Bachelier” presents research work from its Chairs and research initiatives in language accessible to a wide public.
- Publication of discussion papers aiming to clearly inform the public authorities and finance professionals on current topics.
- The “Recherche en Finance” portal in partnership with AGEFI.
- The financial research community network : www.louisbachelier.org

### Reflection and discussion at a European level

The Institut Louis Bachelier is a veritable crossroads for encounters and contacts with a view to encouraging interaction between the world of research and economic actors.

- Financial Risks International Forum : this annual event aims to present the best international research work and, by means of exchanges, discussions and round-tables, to address the concerns of economic actors.
- Thematic Semesters : organized in the form of lectures, seminars and courses, these thematic semesters aim to encourage exchanges between academics and professionals on shared problem areas.
- Chairs Day : held annually, this event aims to present and compare the work carried out in the context of the Chairs and research initiatives of the Institut Louis Bachelier.
- Scientific Mornings : occasions for reviewing the latest developments in financial research through the research projects supported by the Institut Europlace de Finance.

## INDEX

- 4 **Socially responsible investment : a new standard for private equity ?**  
SRI IS BECOMING A MAJOR ISSUE FOR PRIVATE EQUITY IN FRANCE  
By Vanina Forget and Patricia Crifo
- 6 **Pricing the future, a crucial choice for society**  
WHAT DISCOUNT RATE SHOULD BE USED TO PRICE INVESTMENTS PROFITABLE IN THE LONG TERM ?  
By Christian Gollier
- 8 **Boards of directors : the myth of independence**  
IS THE INDEPENDENCE OF DIRECTORS A GUARANTEE OF EFFICIENCY AND PERFORMANCE ?  
By Edouard Challe
- 10 **Why governments go too far in the use of the precautionary principle**  
DO ENVIRONMENTAL POLICIES IMPLEMENTED IN THE NAME OF THE PRECAUTIONARY PRINCIPLE CORRESPOND TO SOCIAL DEMAND ?  
By Nicolas Treich
- 12 **Socially responsible investment short of labelling**  
TO BE MORE ATTRACTIVE TO INDIVIDUAL INVESTORS THE SOCIALLY RESPONSIBLE INVESTMENT MARKET (SRI) NEEDS WELL ESTABLISHED LABELS  
By Jean-Pierre Ponsard
- 14 **An engagement strategy for socially responsible investment**  
HOW SRI CAN IMPROVE CORPORATE BEHAVIOUR WHILE BEING PROFITABLE  
By Sébastien Pouget

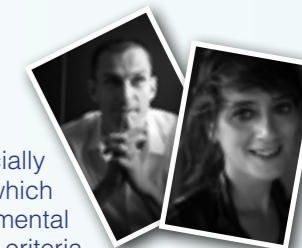
### FDIR CHAIR PARTNERS :



### RESEARCH FUNDATION :



## EDITO



In Europe today, socially responsible investment (SRI), which incorporates social, environmental and governance responsibility criteria into investment decisions, represents hundreds of billions of euros and is included in the practices of traditional actors such as pension funds. What is the role of SRI in the functioning of the economy? How can companies' environmental and social performance be measured? What governance structures induce corporations to take into account the impact of long term issues? The rapid development of SRI calls for objective and concrete answers.

Since its creation in 2007, the Chaire FDIR “Sustainable Finance and Responsible Investment” (Finance Durable et Investissement Responsable) has shed some light on these questions, some of which are highlighted in this issue of the Cahier. The measurement of the socially responsible character of a company is indeed central to our concerns. What economic value should be attributed to air quality or to the risk of a fatal accident? How can the well-being of future generations be integrated into investment decisions? The work of the Chaire FDIR provides tools that can help address such questions in a scientific manner through cost-benefit analysis by taking into account citizens' preferences as well as the uncertainty and ambiguity inherent when considering long term and human life issues.

SRI also raises the crucial question of the reality of the commitment of companies and investment funds to social responsibility. The temptation to engage in “greenwashing” and buy a reputation at low cost can discredit the real efforts made by certain funds and companies, efforts that give meaning to the labels and certification of non-financial performance.

Lastly, a major issue with regard to SRI is the understanding of its impact not only for investors, and their financial performance, but also on society as a whole. In addition to boycotting companies and thus increasing their cost of capital, investors can be more active in corporate governance by engaging in dialogue with senior management or voting at general meetings of shareholders. They also play a role with SMEs through the diffusion of extra-financial considerations in the capital investment sector.

Socially responsible investors are at the heart of capitalism and hold many levers for improving, where necessary, the behaviour of firms. The Chair's studies that you will find in this Cahier offer ways of understanding how to use these levers wisely.

**Patricia Crifo & Sébastien Pouget**  
Scientifics Managers of the FDIR Chair

**PUBLICATION OF INSTITUT LOUIS BACHELIER**  
Palais Brongniart  
28 place de la Bourse - 75002 PARIS  
Tel. 01 73 01 93 25  
www.institutlouisbachelier.org  
www.louisbachelier.org

**EDITORIAL DIRECTOR**  
Jean-Michel Beacco

**CHIEF EDITOR**  
Isaure du Fretoy  
Yvan Best

**PROJECT MANAGERS**  
Cyril Armange  
Loïc Herpin

**CONTACT**  
cyril.armange@institutlouisbachelier.org  
loic.herpin@institutlouisbachelier.org

**CORRESPONDENT OF THE “FINANCE DURABLE ET INVESTISSEMENT RESPONSABLE” CHAIR**  
Carlos Pardo

**CONTRIBUTOR**  
• “Finance Durable et Investissement Responsable” (FDIR) Chair

**GRAPHICS DESIGNER, COVER AND IMPLEMENTATION**  
Gaël Nicolet  
La Cote Bleue  
10-12 place Vendôme - 75001 Paris  
Tel. 01 44 76 85 85  
www.lacotebleue.fr

**PRINTER**  
Kava  
42, rue Danton - 94270 Le Kremlin-Bicêtre  
Tel. 06 14 32 96 87



## Socially responsible investment : a new standard for private equity ?

### SRI IS BECOMING A MAJOR ISSUE FOR PRIVATE EQUITY IN FRANCE

Based on an interview with Vanina Forget and on the paper by Patricia Crifo and Vanina Forget, "Think Global, Invest Responsible : Why the Private Equity Industry Goes Green", published in The Journal of Business Ethics, August 2012.

How does the French private equity market, the world's third largest, perceive the question of corporate social responsibility (CSR) ? The paper by Patricia Crifo and Vanina Forget, based on an in-depth study of the sector's actors, shows that CSR is of growing interest to managers, who intend giving it a central place in the development of their portfolios. It is perceived as a differentiating tool by those willing to become more involved in this area. Knowing how to manage CSR becomes a comparative advantage, with the expectation of higher returns from investments.

Socially responsible investment (SRI) in listed companies is a market that is growing rapidly and has been the subject of numerous studies. But what about SRI in unlisted companies, particularly small and medium enterprises, that are financially backed by the private equity industry ? The paper by Patricia Crifo and Vanina Forget is the outcome of a systematic study on how Corporate Social Responsibility (CSR) is viewed by the private equity sector.

#### A mainstream movement

On listed markets, SRI has been tending to grow from a niche market of

individual ethical investors to embrace more traditional actors, for example investment funds and large pension funds, increasingly involved in activities with better social and environmental performance. The incorporation of CSR considerations into the investment strategy of private equity firms has benefited from this shift and seems also to follow this "mainstreaming" movement, Vanina Forget says. In other words, conventional private equity actors are improving their standard investment process by adding to it an extra-financial analysis of environmental, social and governance performance (so-called ESG crite-

ria). Though by no means all private equity investments take ESG issues into account, an increasing number of actors appear to be interested in them. Thus among the great majority of French private equity firms who received the questionnaire of this study (see Methodology), a quarter of them showed interest and answered it, a response rate that would have been unlikely in 2009 (at the time when the Charter of the United Nations Principles for Responsible Investing, UNPRI, was beginning to diffuse in the private equity sector).

#### Three factors relevant to corporate social responsibility

Three factors can be put forward to explain the interest of the private equity industry in CSR and ESG issues.

##### 1- A need for differentiation

First, there is a need for differentiation. Under the effect of the economic and the financial crises, competition for fundraising is intensifying, and developing responsible practices may serve as a differentiation tool to attract investors sensitive to these issues. Thus the authors observe that independent private equity funds are more likely to communicate their commitment to CSR than funds associated with large financial institutions ("captive funds"). As fundraising competition is likely to be tougher for independent funds than captive funds, they might indeed be more induced to differentiate by offering CSR attributes to their investors. Contrary to popular belief, responsible private equity firms do not exclusively belong to a niche market but rather tend to integrate ESG issues into mainstream business. In fact, the probability of being a UNPRI signatory increases with workforce size.

However, only 10 % of private equity actors in France in 2011 had signed this charter.

##### 2- Real monitoring of portfolio companies

Second, the capacity to manage ESG risks and to ensure close monitoring of these issues in the companies in which one invests, is viewed as an important comparative advantage – and one that the private equity sector seeks to emphasize. Structurally, these investors are significant shareholders in the companies they fund. Moreover, their investment horizon is usually four to six years, which is relatively long (benefiting in particular from a favourable tax regime). In addition, the private equity sector manages simultaneously two types of informational asymmetries : upstream with investors and downstream with the management of the company. The latter has received considerable attention in the literature, resulting in a real "organizational engineering" aiming to incentivise, monitor and advise managers. Taking into account ESG issues therefore has an important potential role in this agency relationship with companies. The survey shows in particular that 53 % of asset management firms exercise direct control over ESG performance at the level of portfolio companies. In addition, 26 % of private equity investors visit the factories and other facilities of these companies.

##### 3- CSR stands for value creation

Finally, a third factor promoting CSR may be the search for financial performance. Survey data reveal that almost half of respondents think that ESG issues are important for enhancing economic performance, but only 12 % of them are able to assess the financial impact of CSR on the firm's value.

## Recommendations

Consider CSR as a structural evolution for the private equity industry. Being unable to evaluate companies according to these criteria will, in the future, be a disadvantage.

- Know how to transmit ESG information to institutional investors.
- Develop expertise of ESG issues and acquire the corresponding human capital.



- Crifo P., and Forget V.D., 2012. "Think Global, Invest Responsible : Why the Private Equity Industry Goes Green". Journal of Business Ethics. <http://link.springer.com/article/10.1007%2Fs10551-012-1443-y>
- Cumming D. J., and Johan S. 2007. "Socially responsible institutional investment in Private Equity". Journal of Business Ethics, 75(4), 395–416.
- Cumming D. J., and Zambelli S. 2012. "Private equity performance under extreme regulation". Journal of Banking and Finance. doi : 10.1016/j.jbankfin.2012.04.002.

Find the Vanina Forget's article on [www.louisbachelier.org](http://www.louisbachelier.org)

## BIOGRAPHY



### Vanina Forget

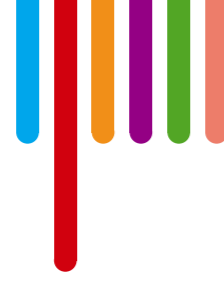
An engineer at AgroParisTech and with the Corps des Ponts, des Eaux et des Forêts (Bridges, Water and Forest corps), Vanina Forget holds a doctorate in economics from the Ecole Polytechnique. Her research focuses on corporate social responsibility and private equity. She is responsible for negotiations with the OECD in the Ministry of Agriculture on agricultural, trade and environmental issues.

## METHODOLOGY

The study focuses on the French private equity market, the world's third largest after the United States and Britain. The authors built a database describing the organisation, operations, management, financing and SRI practices of 309 private equity firms operating in France. Thus the study covers almost all French players. Data was collected in the public domain (websites of management companies, press releases, articles in the trade press) and was subjected to an econometric analysis. This data was supplemented by a survey, carried out in collaboration with Novethic (Caisse des Dépôts et Consignations). A quantitative questionnaire on environmental, social and governance practices was sent to 308 companies, with a 24 % response rate. The answers to the survey allowed a more detailed analysis of SRI practices in French private equity firms and their motivations.

## KEY POINTS

- Socially responsible investing is becoming a mainstream movement for dynamic unlisted SMEs, supported by private equity.
- Private equity managers are gaining a real comparative advantage by evaluating CSR in their portfolio companies.



## Pricing the future, a crucial choice for society

### WHAT DISCOUNT RATE SHOULD BE USED TO PRICE INVESTMENTS PROFITABLE IN THE LONG TERM ?

Based on an interview with Christian Gollier and on his book "Pricing the future, the economics of discounting and sustainable development".

Whether for a business or a government, determining the discount rate of future earnings, or of a long-term damage caused to the environment, involves a fundamental choice. Using a high interest rates implies that the wealth of future generations, helped by growth, does not justify making further sacrifices on their behalf. On the other hand, a low rate should be used if future prosperity is not assured, given uncertainty with regard to growth, not to mention the future state of the planet. Christian Gollier advocates the latter choice.

## BIOGRAPHY



### Christian Gollier

Christian Gollier holds a Ph.D in Economics, and a M.Sc. in Applied Mathematics from the University of Louvain. He is currently Director of the Toulouse School of Economics (TSE), one of the best European department of economics. Prior to TSE, he held positions at the University of California at San Diego (postdoc in 1988-89), and at HEC Paris (assistant then associate professor, 1989-1994). He holds an advanced grant of the ERC entitled "Evaluation and management of collective long-term risks". He is recognized as one of the best international specialists of the economics of climate change.

The issue is important. Although it never makes the front pages, it is a nevertheless a major concern, both in government and in business : what price do we assign to the future ? Or, more precisely, how do we discount, that is, how do we determine what value to attribute now to the profit or collective well-being that an investment made today will bring in the long term ? In business, such calculations are made every day. Any investment must generate sufficient returns, once their future value is discounted, to be viable. But what should the interest rate be for discounting these future returns ?

#### A key question for public investment...

The question also arises for governments – in a very practical way. When

deciding to build a new railway line (Lyon-Turin, for example), whose profitability will be measured over dozens of years, an interest rate must be chosen, which will determine the future of the project. If the rate is high, the investment will have little appeal, since the future returns will be too low.

#### ... and for sustainable development

Similar considerations apply to sustainable development. For if it is possible to estimate the present value of a future profit, it is also necessary to discount the cost of future environmental damages. One can thus calculate the future environmental impact of a ton of CO2 emitted today. Because the impact is effective in the very long-term, the current value will depend very much on the interest rate adop-

## METHODOLOGY

Christian Gollier's book aims at establishing a theory of the discount rate by reviewing previous contributions and enriching them. He thus returns to the Ramsey rule, which first theorized ways for determining an optimal discount rate. But he enriches this theory by applying it to uncertain or risky environments and what cannot be foreseen. Christian Gollier also takes into account so-called tail-end events. In particular, he calls into question the central assumption of all the literature on the issue of discounting, namely a steady, long-term increase in consumption of 2 % per annum, as observed over the last 200 years.

ted. Using a discount rate of 5 %, the economist William Nordhaus in 2008 estimated the discounted damage of a ton of CO2 emitted into the atmosphere today to be eight dollars. Using a much lower rate, 1.4 %, Nicholas Stern arrived at a price of \$85. This changes everything : the damage is then so high that policies to reduce emissions become a priority.

#### Are we too selfish ? Or not selfish enough ?

Christian Gollier's book presents the debates on the determination of the discount rate. And it raises a fundamental question : are we too selfish, investing insufficiently for the well-being of future generations, or are we, on the contrary, too virtuous ? Instead of thinking about people who will be alive several decades from now, should not the present generations consume more today, so as to eradicate poverty in the world, for example ?

The question may be legitimately asked. For if high positive economic growth is expected for the coming years, then investing in collective projects that will bear fruit in the long term, or making every effort to reduce public spending, comes down to depriving ourselves today in order to further enrich people tomorrow, who will be much better off than we are. In this case, a high discount rate is justified. Let us not forget that, thanks to an average increase of 2 % per year, consumption of goods and services is now 50 times higher than in the Napoleonic era.

This is what economists call intertemporal inequality, which is one of the

three determinants of the discount rate according to the rule established by the economist Frank P. Ramsey. The other two determinants are impatience – the fact that everyone prefers having a good immediately rather than in a few years time – and the growth rate of the economy.

#### Major uncertainties on growth justify a reduced discount rate

But can we really count on an indefinite continuation of economic growth, which is the assumption that justifies a high discount rate ? This is doubtful, especially for the long term, given the great uncertainty about the future in general and future innovations in particular. Prudence and the accumulation of uncertainty about the level of prosperity of distant generations justify using two discount rates. The first would apply to a time horizon of a few years, for which we can still expect growth of about 2 % or a little less. In this case, a discount rate of around 3.5 % can be used after adjusting for short-term growth prospects. However, in the very long run, nothing says that this growth rate will be achieved. For most of human history, it was at a much lower level. In addition, growth is subject to various shocks, which make it uncertain. This is especially true at a time of climate change. For very long time horizons, therefore, a discount rate of around 1.5 % is appropriate. Christian Gollier has contributed to the dual discount rate system that the French government has adopted since 2005 : a 4 % rate discounting the return on investment up to 30 years, and a 2 % rate thereafter.

## Recommendations

- Take into account the major uncertainty, over the century to come, surrounding both economic growth and life conditions on the planet.
- Consequently discount the anticipated long-term flows with a relatively low real interest rate of 1 or 2 %.



### Further reading...

- Diamond J., (2005), "Collapse : How Societies Choose to Fail or Succeed", New York : Viking Books.
- Gollier C., (2007), "Comment intégrer le risque dans le calcul économique ?", Revue d'Economie Politique, 117 (2), 209-223.
- Gollier C., (2008), "Discounting with fat-tailed economic growth", Journal of Risk and Uncertainty, 37, 171-186.
- Nordhaus W. D., (2008), "A Question of Balance : Weighing the Options on Global Warming Policies", Yale University Press, New Haven, CT.
- Ramsey F. P., (1928), "A mathematical theory of savings", The Economic Journal, 38, 543-59.
- Stern N., (2007), "The Economics of Climate Change : The Stern Review", Cambridge University Press, Cambridge.
- Weil P., (1989) : "The equity premium puzzle and the risk-free rate puzzle", Journal of Monetary Economics, 24, 401-421.
- Weitzman M. L., (2007), "Subjective expectations and asset-return puzzle", American Economic Review, 97, 1102-1130.

## KEY POINTS

- The choice of discount rate for public investment reflects our vision of the future.
- A high rate, indicating a high preference for the present, leads to the refusal of important investments for future generations, on the supposition that they will be the beneficiaries of strong growth.
- Since economic growth is at risk of becoming very weak, a discount rate of around 2 % seems appropriate for taking future generations into account.

Find the Christian Gollier's article on [www.louisbachelier.org](http://www.louisbachelier.org)



## Boards of directors : the myth of independence

### IS THE INDEPENDENCE OF DIRECTORS A GUARANTEE OF EFFICIENCY AND PERFORMANCE ?

Based on an interview with Edouard Challe and on the report "Conseils d'administration et performance des sociétés cotées" for the Institut CDC pour la Recherche.

Pressure has been growing in recent years to increase the number of independent directors on the boards of the largest companies. Indeed, their proportion has increased significantly, first in the United States and then in Europe. What is the effect of this change ? For the first time, a study of major listed French companies attempts to assess the impact and effectiveness of boards that are more independent. With a surprising result: the greater the number of independent directors, the lower is the short-run financial performance.

It seems an obvious enough idea, with regard to listed companies : a board composed in part of independent directors is a guarantee of superior economic performance. By drawing on external expertise, the chances of good strategic choices are increased and the glaring mistakes that a wholly internal management board might make are avoided. Hence higher profits.

The report, submitted to CDC Recherche by Sandra Cavaco, Edouard Challe, Patricia Crifo and Antoine Reberioux, has the great merit of assessing this idea for the first time, in the case of France. Arising in the United States in the mid-1980s, the idea led to the requirement, for

pension funds in particular, that at least two thirds of the board members be independent. The Enron case in the early 2000s, strengthened this requirement. Listed companies were now obliged to comply. Whereas in the United States in the 1950s only 20 % of the directors were independent, almost all listed companies now have a board of directors composed of a majority of independent members.

Is the structure of governance the same in France, the United States and the United Kingdom ?

What about France ? Although the legal status of large firms differs

significantly in France, Britain and the United States, they usually all have a board of directors, which is ultimately responsible for managing the company's assets and monitoring management. Another type of organization is possible in France, similar to that practised in Germany, where the company has an Executive Board and a Supervisory Board, the one separate from the other. But only 22 % of companies in the sample under consideration (constructed with the help of the firm Proxinvest, see methodology) have adopted this structure. Boards of directors include, on average, 10 members (14 for CAC 40 companies), with a mean age of 58 years. With what proportion of independent directors ?

#### More independent directors in CAC 40 companies

In 2003 MEDEF and AFEP established a benchmark for the governance of listed companies. This text does not set a norm with regard to independent directors, but it requires that their number be published – a way of encouraging companies to increase their proportion.

The idea is generally accepted, however, that major French companies were subject to set standards in the 2000s, thus increasing the "independence" of their boards. What is the situation in reality ?

In fact, the proportion of independent directors barely changed during the 2000s. For all the companies in the sample, independent directors made up 27.8 % of boards in 2003 and 28.9 % in 2012. Strong growth is found only in 2011, and then solely for CAC 40 companies, where the proportion of independent members rose from 34.3 % in 2010 to 40.3 % in 2011. This change is linked to

the greater proportion of women on boards since 2011.

Negative correlation between independence and financial performance, but positive correlation between independence and non-financial performance

How have companies which have chosen "independent" directors performed ? Two financial criteria may be used : Return on Assets (ROA), measured by the ratio between the company's gross profit (excluding financial charges) and all of its assets (equity and debt) ; and Return on Equity (ROE), which adopts the perspective of shareholders. The latter is a matter of knowing what profit (net of financial expenses) the company's equity generates. Irrespective of whether the first or the second criterion is chosen, econometric analysis shows a negative correlation between profits and the degree of independence of boards.

Why does independence of boards lead to poorer outcomes ? It could be linked to an information deficit from which independent directors might suffer, in the context of their changing role. They would then not be able to play their advisory role in relation to the company's strategy, for want of sufficient information.. Note that the worst "accounting" performance of these companies does not affect their valuation by investors. The Stock Exchange, which prices in all present and anticipated future performance, thus views the "independence" effect as likely to be smoothed out over time. In contrast, a greater degree of independence seems to be associated in the long term with better non-financial performance of companies, particularly in terms of human resource management and environmental protection.

## Recommendations

- Implement the current regulations, which lead to diversity on boards of directors. Listed companies are required to have 20 % women on the board in 2014 and 40 % in 2016. The growth pact derived from the Gallois report is expected to lead to the opening up of boards to two employee representatives (with voting rights).
- Investors and other stakeholders should think about what composition of the board is best suited to their company's business model, while complying with the rules in place.



### Further reading...

- Bhagat S. and Black B., 2002, "The Non-Correlation Between Board Independence and Long Term Firm Performance", Journal of Corporation Law, vol.27, pp.231-274.
- Gordon J., 2007, "The Rise of Independent Directors in the United States, 1950-2005: Shareholder Value and Stock Market Prices", Stanford Law Review, vol.59(6), pp.1465-1568.
- Hermalin B. and Weisbach M., 2003, "Boards of directors as an endogenously determined institution : A survey of the economic literature", Economic Policy Review, vol.9, pp.7-26.
- Jo H. and Harjoto M.A., 2012, "The causal effect of corporate governance on corporate social responsibility", Journal of Business Ethics, 106, pp. 53-72.

## BIOGRAPHY



### Edouard Challe

Edouard Challe is a research fellow at the CNRS and a lecturer at the Ecole Polytechnique. Before joining the Ecole Polytechnique, he taught at the University of Cambridge and the University of Paris-Dauphine. His research focuses on speculative bubbles, precautionary savings behaviour, and corporate governance.

## METHODOLOGY

The authors drew on data from Proxinvest, the French agency specializing in investment fund consultancy, regarding voting policy at general meetings. The sample comprises 341 listed companies, tracked for at least two years over the period 2003-12. It covers a large proportion of the companies in the SBF 250 index (80 % from 2006) as well as some smaller companies. The definition of independent director used by Proxinvest is more restrictive than the Financial Markets Authority (AMF) definition. For Proxinvest, a director is considered independent, if, in particular, he or she has not been on the board for more than nine years, does not belong to the management of the company (or of another company in which a member of the management of the target company would participate), has no more than 3 % of the voting rights, and is not in a business relationship of any kind with the company of which he or she is a director.

## KEY POINTS

- The diversity of boards of listed companies tends to increase with a higher proportion of independent directors and more women on boards.
- A higher proportion of independent directors and women is not a guarantee of better short-term economic performance ; indeed analysis of company results in France in recent years shows the reverse.



Find the Edouard Challe's article on [www.louisbachelier.org](http://www.louisbachelier.org)



## Why governments go too far in the use of the precautionary principle

### DO ENVIRONMENTAL POLICIES IMPLEMENTED IN THE NAME OF THE PRECAUTIONARY PRINCIPLE CORRESPOND TO SOCIAL DEMAND ?

Based on an interview with Nicolas Treich and on his paper “The value of a statistical life under ambiguity aversion”, published in The journal of environmental economics and management, January 2010.

Governments and government-dependent authorities invest a lot in the fight against risks that are hard to quantify, such as health or environmental risks (e.g. mad cow disease, H1N1 flu, soil pollution, etc.). In the name of the precautionary principle, there is a tendency to overweight these poorly measured threats compared to conventional risks such as work or road accidents. Using the Value of a Statistical Life technique, Nicolas Treich suggests that this preference does not necessarily reflect most people’s wishes.

#### Precaution and social responsibility

Established by extra-financial rating agencies, assessments made in relation to CSR (Corporate Social Responsibility) offer diverse information. They cover, for example, safety at work (accidents), the quality of products sold, and CO2 emissions stemming from the company’s industrial activity. The idea is now well established that the environmental and social consequences of economic activity in general and of the production of individual

companies must be taken into account. But how do we value safety at work, for example, from a social point of view ? Such an assessment is necessary if we want to be able to compare the social and environmental impact of two companies: for example, a company generating a lot of CO2 compared to another less polluting company where accidents are still very frequent. Such an assessment may be attempted using a cost-benefit analysis. This assessment alone allows valid comparisons to be made.

### METHODOLOGY

The study is based on the use of the method of cost-benefit analysis. The cost of a risk – health, environmental, etc. – is known, similarly to the costs of a prevention policy to reduce it. The question is then to evaluate the benefit, for the population concerned, from the reduction of this risk. To this end, one can determine what people would be prepared to pay to finance a prevention policy, leading to the reduction of the risk. The technique used is the value of a statistical human life (VSL). For example, imagine a population of a million people, to whom a measure is proposed to improve safety, enabling the probability of death to be reduced by a factor of three. By reducing the death rate from 3/100,000 to 1/100,000, twenty lives will be saved. A study then shows that people are willing to pay 100 euros on average to achieve this goal. Taken as a whole, the population is willing to pay 100 million euros for this safety policy, representing five million euros per life saved. This figure of 5 million is the VSL.

#### Assessing willingness to pay

Which method is most appropriate ? To determine the extent of a risk in the eyes of a population, we can find out what people are willing to pay to eliminate it or at least reduce it. It will then be possible to estimate the benefit, in people’s opinion, of a policy to prevent this risk. This method is known as VSL (Value of a Statistical Life), and has been the subject of numerous studies in the United States (see Methodology). This approach complements the human capital approach, which measures the cost of a death only in terms of the loss of future earnings, without taking into account preferences with regard to risk. The value of a statistical life varies greatly according to the domains and the risks involved and, of course, from one country to another. It is usually put at between 1 million and 10 million dollars.

#### Ambiguity aversion and the value of a human life

One factor that may increase VSL is ambiguity aversion. Various events that have had extensive media coverage in recent years – in France, for example, the episode of vaccination against the H1N1 virus, in 2009 – testify to this phenomenon: in general, people are more concerned about health and environmental crises when they have difficulty in measuring their precise scope and consequences. Logically, faced with this uncertainty, such behaviour should result in an increase in the value of a statistical life. People are likely to be willing to pay more to reduce a poorly measured risk that worries them. Nicolas Treich shows that the VSL increases with this ambiguity. But a

calibration procedure also suggests that this increase is likely to be minimal. In other words, the estimated difference between the VSL in the face of a well-understood risk and the VSL in the face an ambiguous risk is not very large, and the VSL should continue to lie between 1 and 10 million dollars.

#### Governments overweight uncertain risks

This finding has important implications for public policy given that most governments and agencies give a prominent place to reducing ambiguous risks. American studies reveal, for example, a tendency on the part of the health authorities to overestimate poorly measured environmental risks (e.g. the risk of cancer associated with food colouring) compared to other more clearly established risks. Faced with uncertainty, managers and specialists in risk analysis often rely on the most extreme scientific and medical data to determine policy. As a result, most of the standards and regulations imposed by regulatory agencies for the protection of the environment often have an implicit cost well above \$10 million per life saved, that is to say, much higher than the maximum values estimated for the VSL.

Nicolas Treich points out that people’s expressed preferences, measured by the VSL technique, do not seem to justify the overweighting often given by politicians to ambiguous risks. In fact, in the name of the precautionary principle, we spend a lot of money to combat environmental crises with very uncertain consequences, rather than investing in reducing well-known and more problematic risks such as work or road accidents.

### Recommendations

- To estimate the value of a socially responsible investment, it is advisable to use cost-benefit analysis.
- Determine the social value of an avoided death by means of an assessment of the value of a statistical life.
- Give less importance to the precautionary principle, which does not always justify the current massive investments.



#### Further reading...

- Andersson Henrik and Nicolas Treich. 2011. “The value of a statistical life”. The Handbook of Transport Economics.
- Klibanoff Peter, Massimo Marinacci, and Sujoy Mukerji. 2005. “A smooth model of decision making under ambiguity”. *Econometrica* 73, 1849-1892.
- Sunstein Cass R. 2002. “Risk and Reason : Safety Law and the Environment”. Cambridge University Press.

Conference held on October 2012 on the topic “Behavioural environmental economics”, programme available at : <http://idei.fr/display.php?a=25378>

Find the Nicolas Treich’s article on [www.louisbachelier.org](http://www.louisbachelier.org)

### KEY POINTS

- Policies based on the precautionary principle, aiming at reducing uncertain risks, are preferred by governments, and are very costly.
- The preferences expressed by citizens do not always justify such overinvestment.

## BIOGRAPHY



### Nicolas Treich

Nicolas Treich is INRA-LERNA director of research at Toulouse School of Economics. His research covers the application of microeconomic theory to questions at the junction of risk, public policy and environmental considerations. His publications include work on the precautionary principle, risk aversion and consent for the reduction of physical risk (mortality, health) as well as on paternalistic public policies. His applied work mainly concerns cost-benefit analysis of risk prevention decisions.



## Socially responsible investment short of labelling

### TO BE MORE ATTRACTIVE TO INDIVIDUAL INVESTORS THE SOCIALLY RESPONSIBLE INVESTMENT MARKET (SRI) NEEDS WELL ESTABLISHED LABELS

## BIOGRAPHY



### Jean-Pierre Ponssard

Jean-Pierre Ponssard is emeritus research director at CNRS and associate research fellow at CIRANO. His fields of research concern economics of environment, industrial organization, game theory. He published numerous articles and co-edited two books on Corporate Social Responsibility: *The Growing Impacts of Institutional Investment Funds on the Strategy of Firms* (with Dominique Plihon, La Documentation Française, 2002) and *Corporate Social Responsibility: from Compliance to Opportunity* (with Patricia Crifo, Editions de l'École Polytechnique 2010). Jean-Pierre Ponssard was professor of economics at Ecole Polytechnique and the head of the Laboratoire d'économétrie. He currently leads the "Business Sustainability" Research Project at Europlace Institute of Finance (EIF). In 2010 he received the excellence award from CNRS. He holds a PhD from Stanford University, California, and an engineer degree from Ecole Polytechnique.

Based on an interview with Jean-Pierre Ponssard and on the paper "Le rôle stratégique d'un label dans la formation d'un marché : le cas de l'ISR en France" by Samer Hobeika, Jean-Pierre Ponssard and Sylvaine Poret.

Socially responsible investing has been growing fast in France since the mid-2000s. While many individual investors are interested in SRI, their share remains marginal relative to that of the institutional investors. Labels have emerged to make this market more attractive. They have been designed from the perspective of the asset management companies that develop new SRI funds. The distribution of these funds to individual investors is not a strategic priority for the bank and insurance networks. Under these conditions labels can hardly make SRI attractive to individual investors.

The Socially Responsible Investment (SRI) market is unquestionably growing in France, and at great speed. SRI assets increased from €16.8 billion in 2005 to €68.3 billion in 2010. And in 2011, the figure grew by an astonishing 69 %. Despite this enthusiasm, SRI still represents only a small proportion of the total funds open to public savings (less than 7 %). The development of this market is hampered by several factors, among which lack of publicly available information to individual investors is the most significant. As the paper by Samer Hobeika, Jean-Pierre Ponssard and Sylvaine Poret shows, labels exist, and these ought to provide guidance to individual investors and help structure the market. But they have difficulty in fulfilling their role.

#### Credence goods and the strategic role of labelling

Consumer goods can be classified into three categories: search goods, which the consumer can evaluate before purchase, if necessary by carrying out time-consuming and costly research ; experience goods, which the buyer gets to know and appreciate through repeated purchases ; and credence goods. In the last case, the consumer does not have any way of knowing whether the intended purchase really corresponds to the qualities sought. He has to rely on third-party expertise, which can take the form of a label. This is the case with the SRI market : the individual investor is unable

## METHODOLOGY

The authors have developed an analytical framework to identify the strategic role that labelling can play in structuring a market. Firstly, the characteristics of the labels (relevance, the criteria to be selected, conditions for their effectiveness). Secondly, the underlying goals of the organizations producing the labels (NGOs, businesses, government, private organizations). This provides the background to explore possible scenarios resulting from the competition between labels.

to determine for himself whether the fund in which he would be willing to invest meets the standards of SRI. He therefore needs a label and specific guidance to help him in his choice. It is subject to these conditions that the SRI market can be structured and continue its development. Are these conditions met ?

#### Fair trade and organic farming : two examples of structuring labels

Before specifically addressing the case of ISR, the authors develop an analytical framework for the role of labelling (see Methodology). Two sectors illustrate the momentum generated by the introduction of labels and the role they can play in structuring a market : fair trade and organic food. In the first case, after a period of intense competition and failed state intervention, one label dominates the "market", namely Max Haavelar, alongside of which other labels with less stringent or more specific requirements coexist. Buyers of a Max Haavelar labelled product, a brand of coffee for example, know that the entire production chain meets strict environmental and social norms.

In the case of organic food, on the other hand, it was the French state which, confronted by a situation of destructive competition and considerable confusion, created the AB (agriculture biologique) logo, the first such public standard in Europe. This label has had a positive effect on the market, by bringing standardization of organic agriculture and leading to the entry of new agrifood businesses into the market. It meets the need for consumer information, and enables sales to grow.

#### The three existing SRI labels have had a limited impact

With regard to SRI, the situation is much less clear. Three organizations have produced labels or taken equivalent initiatives. The Comité Intersyndical de l'Épargne Salariale (CIES) is distinctive in aligning the governance of SRI funds with the objectives of workers. The Association Française de Gestion Financière (AFG) has developed a process insisting on transparency. Novethic (Caisse des dépôts) launched a Novethic SRI Label in 2009 in which the investment process has to follow certain established rules.

It is unclear that these labels really meet the needs of individual investors. For instance the funds certified by Novethic have been most often designed on the basis of a "best-in-class" approach : they are invested in all economic sectors, selecting companies in any sector as long as they improve their environmental and social practices. Individual investors, who are most familiar with solidarity and ethical issues, would prefer thematic approaches, favouring certain sectors and excluding others : for instance, they might exclude sectors such as tobacco, defence or oil companies, or utilities which operate nuclear plants, etc.. This generates some misunderstanding between the existing labels and the expectations of "individual consumers".

#### The role of the distribution networks

For bank and insurance networks the distribution of SRI funds is not seen as source of competitive advantage. Their agents lack the underlying knowledge to promote these "sophisticated" products to their customers.

## Recommendations

- Labels providing a form of horizontal differentiation in the market may be beneficial to meet the variety of objectives pursued by individual investors.
- The distribution of SRI products would benefit from this differentiated approach, enabling better targeting of customers by the different networks.
- A form of collaboration between labelling organizations and distribution networks may be necessary to make this scenario credible.



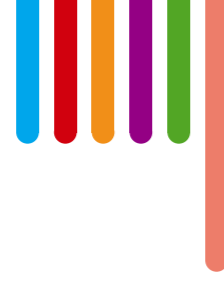
### Further reading...

- Crifo P. and Mottis N. (2010). "SRI Analysis and Asset Management : Independent or Convergent ? Corporate social responsibility : from compliance to opportunity ?" Eds. Crifo, P. and J.-P. Ponssard, Éditions de l'École Polytechnique, Palaiseau.
- Plihon D. and Ponssard J.-P. (2002). "La montée en puissance des fonds d'investissement : quels enjeux pour les entreprises ?" La Documentation Française, Etudes collection.
- Poret S. (2010). "Mainstreaming Fair Trade : A Discussion Through the Lipton Tea Case. Corporate social responsibility : from compliance to opportunity ?" Eds. Crifo, P. and J.-P. Ponssard, Éditions de l'École Polytechnique, Palaiseau.

Find the Jean-Pierre Ponssard's article on [www.louisbachelier.org](http://www.louisbachelier.org)

## KEY POINTS

- SRI is growing fast, but the market could grow even more if individual investors were better informed.
- Labels would be useful in this process. Labels, which currently focus on the production side of SRI by asset management companies, would benefit from taking into consideration individual investors' expectations about SRI. Labels would also benefit from a greater involvement of the distribution networks interested, so as to make SRI funds a source of competitive advantage.



## An engagement strategy for SRI

Based on an interview with Sébastien Pouget (Toulouse School of Economics and IAE) and on his paper "Asset prices and corporate behavior with socially responsible investors" co-authored with Christian Gollier (Toulouse School of Economics), December 2012.

**Socially responsible investment (SRI) attracts retail investors, especially for ethical reasons. But what about its return on investment ? Going beyond the traditional view which argues that the performance of SRI has no reason to exceed so-called conventional investments, Christian Gollier and Sébastien Pouget have developed an investment strategy based on engagement and dialogue with businesses. The idea is to invest in non-responsible (and therefore undervalued, according to the authors) companies, then to improve their social responsibility and resell them at a premium to other socially responsible investors. This analysis shows under what conditions it is possible to successfully adopt such an investment strategy.**

## BIOGRAPHY



### Sébastien Pouget

*Sebastien Pouget is Professor of Finance at IAE Toulouse and member of the Toulouse School of Economics (Université Toulouse 1 Capitole). In 2010-2011, he was a visiting Professor of Economics at Princeton University where he taught asset management and behavioral finance. His research studies financial markets with a multidisciplinary approach combining insights and methods from Economics, Psychology and History. His research has been published in international academic journals such as the Journal of Finance, the Review of Economic Studies, and Econometrica. Sebastien Pouget is co-director of the research center "Chaire Finance Durable et Investissement Responsable" (Chaire FDIR).*

Although still accounting for a relatively small percentage of assets under management, around 5 % in Europe, socially responsible investment (SRI) is growing fast. Investors who opt for SRI are making a long-term choice and taking into account the corporate social responsibility (CSR) of the companies in which they invest. It is clear that CSR can be a contributory factor in companies' economic performance, thanks in particular to larger margins, easier recruitment and greater innovation capacity. But is it possible for SRI to also be more profitable for the investor than conventional investments ? The paper by Christian Gollier and Sébastien Pouget aims to demonstrate that it is, and in particular to describe under what conditions SRI portfolios can "outperform" traditional management.

### The standard theory : SRI is not more profitable than traditional investment

The standard theory teaches that if markets are efficient, there is no reason for the performance of SRI funds to be any better than that of conventional investments. Indeed, if CSR is really more profitable for the company, all investors anticipate this, prices rise, and the expected returns for socially responsible companies fall and are not different from those of non-responsible companies.

### New approaches : under certain conditions SRI can perform better

There are nevertheless three reasons why SRI can outperform the market if sufficient financial and human resources to achieve this are employed.

The first is that traditional funds may miss certain information on environmental, social or governance (ESG) issues that can significantly affect business activity. SRI funds, by contrast, have analytic methodologies that help them to be very aware of such information and to understand its implications. They would therefore be in a better position to select the most promising stocks.

The second reason pertains to the existence of enthusiasm for CSR related to awareness of the importance of environmental and social issues such as global warming or forced labour. Share prices of companies deemed, from this standpoint, to be virtuous have increased significantly with the increase in importance of various CSR issues. SRI funds, which would be very much in a position to detect new trends in environmental, social and governance matters, and to analyse the performance of companies in these areas, could anticipate market movements.

### Changing a company so as to enhance its SRI : the engagement strategy

There is a third reason why responsible investment can offer higher returns, and this is the main focus of the study by Christian Gollier and Sébastien Pouget. Their idea is that an SRI fund can invest in a so-called "dirty" business, that very much does not conform to the standards of CSR, and can transform it so that it strictly adheres to these standards. The financial advantage of this "washing machine" strategy seems clear : whereas it is initially neglected by the market, and therefore undervalued, the company, once transformed, will

instead be attractive and highly valued.

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

### A potentially profitable strategy

The washing machine strategy can be implemented solo by funds such as private equity or hedge funds, which can take control of the companies in which they invest. It can also be used by a group of funds such as mutual funds or pension funds on condition that they have a sufficiently coordinated engagement policy (e.g. voting at general meetings). In such cases it is important to properly evaluate the risk of concerted action, which could be prejudicial to the success of the strategy. Empirical studies reveal that investment strategies based on engagement around ESG issues are potentially profitable. The attractiveness of the washing machine strategy will ultimately depend on the ratio between the abnormal return obtained in the financial markets and the cost of the resources deployed to obtain it.

## METHODOLOGY

In a given market, responsible and conventional investors coexist. Both affect asset prices through their bids and offers with regard to securities. They can also influence the strategy of the companies in which they invest by engaging in dialogue with company management, electing directors and voting at general shareholder meetings. Christian Gollier and Sébastien Pouget analyse the impact of investment and influence strategies by building a financial evaluation model that goes beyond the Capital Asset Pricing Model (CAPM). They take into account non-financial motivations and the commitment of responsible investors to better environmental and social performance. Their model goes further on another point as well : the buyers of a business anticipate its strategy, but they also help, as we have seen, to change it – whence a loop system that the authors take into account using the theory of rational expectations.

## KEY POINTS

- A socially responsible investment strategy can bring higher returns than conventional fund management.
- To be successful, this strategy requires strong commitment from managers, with a view to improving the social responsibility of companies in which they invest.
- This choice may generate short-term gains, but its success is based on a long-term outlook and on a stated non-financial orientation.

## Recommendations

- To be successful, the strategy of investing in a company that does not apply CSR criteria must be accompanied by strict monitoring of the cost of transforming the company and bringing it into compliance with standards.
- Funds can intervene individually. But they may also do so on a combined basis. It is then necessary to implement a coordinated policy of engagement, in order to truly influence the strategic orientations of companies.



### Further reading...

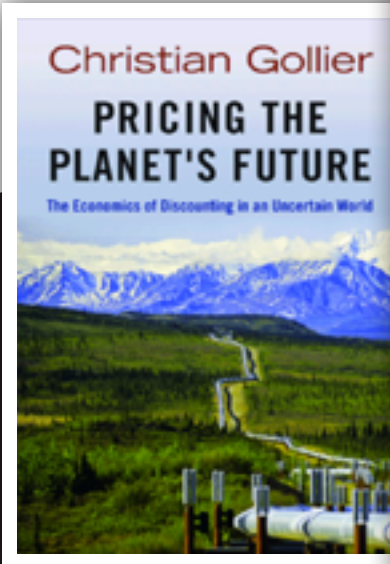
- Bauer R., J. Derwall and D. Hann, (2009), "Employee Relations and Credit Risk", Working Paper available at SSRN.
- Bauer R. and D. Hann, (2010), "Corporate Environmental Management and Credit Risk", Working Paper available at SSRN.
- Chava S., (2011), "Environmental Externalities and Cost of Capital", Working Paper available at SSRN.
- Edmans A., (2011), "Does the Stock Market Fully Value Intangibles ? Employee Satisfaction and Equity Prices", Journal of Financial Economics, 101, 621-640.
- Heinkel R., A. Kraus and J. Zechner, (2001), "The effect of green investment on corporate behavior", Journal of Financial and Quantitative Analysis, 36, 431-449.
- Hong H. and M. Kacperczyk, (2009), "The price of sin : The effect of social norms on markets", Journal of Financial Economics, 93, 15-36.

Find the Sébastien Pouget's article on [www.louisbachelier.org](http://www.louisbachelier.org)





Chaire Finance Durable  
et Investissement Responsable



### **Pricing the Planet's Future :**

The Economics of Discounting in an uncertain world

Christian Gollier, Princeton University Press, 2012

Many books have described how civilizations 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, analyzing 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 that 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.

## **ANNUAL CONFERENCE PRI-Chaire FDIR** November 13, 14 & 15, 2013

<http://www.idei.fr/fdir>

### **Green economy against the crisis**

30 propositions for a sustainable French economy

P. Crifo, M. Glachant, S. Hallegatte, E. Laurent & G. Raphaël,  
Presses Universitaires de France, 2012

This book builds upon the observation that we are experiencing a sustainability crisis - that is a financial, social and ecological crisis. Because the environmental transition is by nature at the forefront of sustainability, it may guide us from one growth model to another. But we have to be realistic: environmental arguments will be heard only if they propose a strategy of recovery from the crisis. The strength of the green economy is to offer both a tactical alternative and a strategic vision against current problems. Developing the green economy means using environmental constraints as engines of economic and human development of a country, by favoring economic activity and employment on the one hand, and improving welfare and reducing inequality on the other hand. Social justice, employment, re-industrialisation, globalisation: here are the real stakes of the green economy.

