Workshop Jeunes Docteures et Docteurs en Économie de l'Environnement

GAEL, Grenoble – 8 avril 2025

Programme

------- 08:30 – 08:50 (salle cafeteria de GAEL, deuxième étage du BATEG)
Accueil – Café de bienvenue

08:50 – 09:00 (salle 227, deuxième étage du BATEG)
Introduction

09:00 – 09:30
Marie Lassalas (GAEL, Grenoble)
The Technical and Economic Effects of Biodiversity Standards on Wheat Production

09:30 – 10:00
Mathilde Aubouin (GAEL, Grenoble)
Regulating the Environmental Footprint of Data Consumption: Efficiency and Distributional Effects of Taxation and Quotas

------- 10:00 – 10:15 Pause café

10:15 – 10:45
Julien Thavard (BETA, Université de Lorraine)
How Climate Physical Risks Affect Banking Stability? The Latin American Experience with Strong ENSO Events

10:45 – 11:15
Maria Montoya Villalobos (IESEG et LEM, Lille)
Levels of Uncertainty and Charitable Giving

------- 11:15 – 11:30 Pause café

11:30 – 12:00

Capucine Chapel (CERDI, Université Clermont Auvergne)

Which Size for Urban Green Parks? French Evidence from the Rental Market

12:00 – 12:30

Léa Munich (GATE, Université Jean Monnet)

Sharing the Cost of Cleaning up Non-point Source Pollution

------- 12:30 – 13:30 Déjeuner (cafeteria)

13:30 – 14:00

Nicolas Hatem (PSE, Paris)

Ground-mounted Solar and the Impact of Land-use Planning: Evidence from France

14:00 – 14:30

Ivan Mitrouchev (GAEL, Grenoble)

Measuring Hearts and Minds: A Validated Survey Module on Inequality Aversion and Altruism

------- 14:30 – 14:45 Pause café

14:45 – 15:15

Mouhamed Zerbo (CERDI, Université Clermont Auvergne)

Does log export ban policy a good strategy to fight deforestation? Lessons from developing countries

15:15 – 15:45

Annie Krautkraemer (BETA, Université de Lorraine)

Developing New Markets for Forest Ecosystem Services: Assessing Buyers' Preferences

------- 15:45 – 16:00 Pause café

16:00 – 16:30 (salle 227, visio)

May Attallah *(BETA, Université de Lorraine)*

Adoption Drivers and Future Market Prospects for Alternative Fuel and Hydrogen Vehicles

16:30 – 17:00 (salle 227, visio)

Jacqueline Offele (en visio) (Université Marien NGOUABI, Congo Brazzaville)

Changement climatique et inégalités de revenu : Quels enseignements pour les pays de la CEMAC?

Résumés

Marie Lassalas - GAEL, Grenoble

The Technical and Economic Effects of Biodiversity Standards on Wheat Production

Our paper assesses the technical and economic effects of adopting environmental standards aimed at favouring biodiversity on wheat production. We consider two standards with different levels of environmental stringency. We use data on French wheat production at the plot level from the period 2014–2020. We implement an endogenous switching regression model taking into account two sources of endogeneity, environmental standards adoption and inputs quantity use. Our results indicate that adopting the more stringent standard slightly decreases wheat yield and quality. In contrast, it induces a low increase in wheat price. The price premium of the more stringent environmental standard merely compensates for the negative effect of the standard's adoption on quality.

Mathilde Aubouin - GAEL, Grenoble

Regulating the Environmental Footprint of Data Consumption: Efficiency and Distributional Effects of Taxation and Quotas

Digital production and consumption represent 3.2% of the French greenhouse gas emissions. This paper seeks to analyze the distributional effects and efficiency of a tax on mobile internet to limit the environmental impact of digital. To this aim, we theoretically study the reaction of a monopolist selling mobile data subscriptions to two types of consumers. We demonstrate that in a market with price discrimination, the monopolist responds to the tax by lowering both the price and the data allowance of these subscriptions. Then, we empirically study the French households' reaction to the tax implementation according to the market structure. We find that, unlike a tax on goods sold at unit price, a tax on mobile data subscriptions is not necessarily regressive.

Julien Thavard - BETA, Université de Lorraine

How Climate Physical Risks Affect Banking Stability? The Latin American Experience with Strong ENSO Events

This paper investigates how climate shocks affect banking stability in a large panel of 1208 banks observed at annual frequency over the period 2005-2019 for 16 Latin

American countries. We use strong El Niño Southern Oscillation (ENSO) events as a natural experiment for climate shocks related to climate change, as they produce quasi-periodic climate oscillations that can lead to unpredictable natural disasters. Our results show that, when considering Latin American countries, weather shocks associated with strong ENSO events can have adverse financial consequences that lead to a decline in banking stability. We also reveal that strong El Niño and La Niña shocks have asymmetrical effects on banking stability. Strong El Niño shocks are associated with lower banks' stability, resulting from decreased performances associated with increased credit and liquidity risks. In contrast, strong La Niña shocks appear to have economic benefits, with no significant impact on banking stability, but higher banks' performances and lower credit risk. Finally, further estimates identify some key characteristics of "climate-resilient banks". Banks with a larger size, a higher capital ratio, and less market-oriented activities are more resilient to adverse climate shocks resulting from ENSO events. As climate change should intensify the frequency and magnitude of ENSO's cyclical pattern, these findings can help estimate the potential adverse effects of climate change-induced physical risks on banking stability and inform future mitigation and adaptation policies.

Maria Montoya Villalobos - IESEG School of Management, Lille
Levels of Uncertainty and Charitable Giving

This study investigates the impact of uncertainty and attitudes toward uncertainty on environmental charitable donations through a theoretical model and an experimental approach. Specifically, we propose a neo-additive capacities model (Chateauneuf, Eichberger and Grant, 2007) and conduct a laboratory experiment to test its predictions. The experiment employs a modified dictator game in which donations are made to environmental NGOs, with the donations exposed to varying types of uncertainty: risk, low ambiguity, and high ambiguity. Using a Bayesian hierarchical model, we estimate ambiguity parameters and find that differences in donation behavior across types of uncertainty depend on individuals' pessimism. These results suggest that pessimistic individuals tend to donate less as uncertainty increases, whereas optimistic individuals do not donate more after an increase in uncertainty. We add evidence about the effect of ambiguity based on heterogeneous ambiguity attitudes, exploring how they shape donation behavior. This study highlights the nuanced relationship between uncertainty and prosocial behavior, offering new insights into the role of ambiguity in decision-making contexts.

Capucine Chapel - CERDI, Université Clermont Auvergne
Which size for urban green parks? French evidence from the rental market

Faced with increasing urbanisation and the climate crisis, the development of green spaces in cities has become a major issue for urban planners. While the benefits of having housing close to green spaces have been widely established in the literature, the question of the size to allocate to the latter becomes crucial in a context of intense land-use pressure. This paper explores this question, in the case of France, by leveraging databases of the local rent observatories for rental prices and OpenStreetMap for parks. Using a generalised propensity score weighting method, it uncovers the preferences between different typologies of park sizes in the private rental market of the largest French urban areas in 2017 and 2018. The results show that, on average, individuals value large parks more, followed by small and lastly by medium-sized parks. There are variations in this hierarchy of preference depending on flat size and its location. These findings are of interest not only to property investors looking to increase their rental income, but also to political decision-makers looking to improve existing parks and propose new urban park development projects.

Léa Munich - GATE, Université Jean Monnet
Sharing the cost of cleaning up non-point source pollution

We address the issue of allocating the costs of cleaning non-point source pollution originating from industrial sites among the firms responsible for these sites. The bilateral liabilities between firms are depicted by an undirected graph. We introduce and axiomatically characterize two cost allocation rules, which are inspired from the Polluter-Pays and Beneficiary-Pays principles commonly referenced in environmental law. The first rule allocates the cleanup costs of a site equally among the firms potentially contributing to the environmental damage. In contrast, the second rule assigns each firm the full cost of cleaning its own production site. Furthermore, we establish links with cooperative game theory to demonstrate the stability of these allocation rules.

Nicolas Hatem - PSE, Paris
Ground-mounted Solar and the Impact of Land-use Planning: Evidence from France

This paper provides novel evidence on how spatial planning regulation impacts the deployment of solar photovoltaic installations in France. Solar energy projects must

meet eligibility criteria to participate in national public auctions, based on the land used by the installation. Eligibility criteria, in turn, are transposed in land-use planning at the municipality level. Using a quasi-experiment, I study how this interaction impacts the amount of land allocated to solar at the municipality level. My findings suggest that the heterogeneity in administrative frameworks to define land-use planning distorts the spatial deployment of solar facilities. Municipalities with more detailed land-use planning frameworks increase the amount of land allocated to solar by an average of 100 m^2 per km^2. Conversely, more recent land-use planning and frameworks integrated at the inter-municipality level reduce the amount of land by 50 m^2 and 100 m^2 per km^2 due to stricter restrictions on new land developments.

Ivan Mitrouchev – GAEL, Grenoble

Measuring Hearts and Minds: A Validated Survey Module on Inequality Aversion and Altruism

Social preferences, including trust, altruism, and reciprocity, are widely studied in behavioral economics, with validated survey modules available to measure these traits. However, despite growing interest in inequality aversion—defined as an individual's dislike of disparities in outcomes—there is no dedicated and validated module to assess this specific social preference. Moreover, the relationship between inequality aversion and altruism is not always explicitly addressed in existing frameworks. To bridge these gaps, we introduce a novel survey module that captures general attitudes toward altruism while integrating measures of inequality aversion, reflecting the inherent connection between these two factors. This module was developed and validated through an experimental study with a representative U.S. population sample (n = 502). Our results demonstrate that the proposed module effectively captures variations in both inequality aversion and altruism, with consistent reliability across individual heterogeneity. This new tool offers researchers a standardized and generalizable approach for measuring inequality aversion and altruism, paving the way for future studies in these areas across diverse contexts.

Mouhamed Zerbo - CERDI, Université Clermont Auvergne

Does log export ban policy provide a good strategy to fight deforestation? Lessons from developing countries

The log export ban (LEB) policy is an environmental, trade-restrictive, and industrialization measure adopted by many forest-rich developing countries. One of

the primary reasons for implementing this policy is to combat deforestation, though its effectiveness remains debated. This paper evaluates the impact of LEB adoption on deforestation in developing countries through two main channels. Firstly, LEB adoption intensifies land competition between agriculture and forestry, leading to agricultural expansion and subsequent tree cover loss. Secondly, it reduces log prices, boosting wood utilization by the wood processing industry and exerting additional pressure on forest resources. This study is the first to establish LEB policy as a significant factor in deforestation within developing countries. Analyzing data from 124 developing countries with forest resources exceeding 100 km^2 from 2001 to 2019, we utilize an entropy balancing approach to address the self-selection biases associated with LEB adoption. Our findings indicate that LEB adoption leads to a significant 22.3% increase in deforestation compared to non-LEB countries. These results remain robust across various tests, including alternative measures of LEB and deforestation. Additionally, addressing potential endogeneity issues does not alter the policy's impact. We further explore an alternative methodology for staggered difference-in-differences, which confirms the positive and significant effect of the policy. These findings support the conclusion that the LEB policy exacerbates deforestation, leading to two distinct recommendations: first, the removal of the LEB policy; and second, the implementation of complementary measures, such as reinforced sustainable forest management and mechanized agriculture.

Annie Krautkraemer - BETA, Université de Lorraine
Developing New Markets for Forest Ecosystem Services: Assessing Buyers' Preferences

Forest ecosystems are rich in biodiversity and provide many services that contribute to human well-being. However, biodiversity and forest ecosystem services are not sufficiently taken into account in forest management decisions due to a lack of knowledge about their economic value. While this is typically explained by the lack of markets for many of these services, there are currently many efforts to develop new market-based instruments to enhance the provision of non-marketed ecosystem services. These new instruments are being developed by a variety of intermediaries, including existing certification schemes (e.g., FSC for biodiversity), government agencies, and start-ups that connect sellers (forest owners) with buyers (companies, citizens, foundations). However, few studies have explicitly addressed how potential buyers prioritize different services provided by forests. In this paper, we use a choice experiment in the Grand Est region of France to assess the willingness-to-pay (WTP) of the general population for biodiversity and specific forest ecosystem services, namely wood provision, climate regulation through carbon sequestration, access to private

forests for recreational activities, and water quality regulation. Using a mixed multinomial logit model, we find that WTP is highest for improved water quality, followed by recreational access to private forests, biodiversity, and carbon sequestration. In addition, we find negative WTP for both a decrease in water quality and an increase in wood production. A high degree of preference heterogeneity was observed for all attributes except water quality. These findings provide valuable insights for the design of a market mechanism for payments for environmental services (PES) and for prioritization in public decision-making.

May Attallah - BETA, Université de Lorraine

Adoption Drivers and Future Market Prospects for Alternative Fuel and Hydrogen Vehicles

The transition to cleaner transportation systems is crucial for addressing air pollution and mitigating climate change. Despite technological advancements, the adoption of alternative fuel vehicles (AFVs), including hydrogen fuel cell vehicles (HFCVs), remains limited, particularly in markets like France. This study investigates consumer attitudes and preferences toward AFVs, focusing on hydrogen vehicles as a promising solution for sustainable mobility. By analyzing survey data from 4,593 French respondents, we evaluate the factors influencing consumer choices among electric, hybrid, and hydrogen vehicles. Using Bayesian Model Averaging (BMA), LASSO, and multinomial logit (MNL) regression techniques, the study identifies the determinants of vehicle adoption, including vehicle price, fuel price, brand preference, and environmental concerns. The results reveal that high vehicle prices and fuel price sensitivity are significant barriers to hydrogen vehicle adoption, while CO2 emissions strongly drive preferences for electric and hybrid vehicles. Additionally, the preference for foreign brands highlights the need for domestic manufacturers to improve competitiveness in the hydrogen vehicle market. The findings suggest that targeted subsidies, infrastructure development, and educational campaigns are essential to overcoming these barriers. In particular, expanding hydrogen refueling stations and raising awareness about hydrogen’s environmental benefits could foster broader consumer acceptance. This research contributes to the design of effective energy transition policies, emphasizing the role of government support, industry innovation, and consumer education in advancing the hydrogen vehicle market in France.

Jacqueline Offele - Université Marien NGOUABI, Congo Brazzaville
Changement climatique et inégalités de revenu : quels enseignements pour les pays de la Communauté économique et monétaire de l'Afrique centrale (CEMAC)

L'objectif de ce travail a été d'analyser les effets du changement climatique et des inégalités de revenu dans les pays de la CEMAC sur une période allant de 2000 à 2022. Pour y parvenir, nous avons utilisé la technique des PCSE (Panel Corrected Standard Errors). Les résultats indiquent que les inégalités de revenu constituent un facteur qui ne favorise pas le changement climatique dans la zone CEMAC. De ce fait, les autorités de la zone doivent concilier les politiques climatiques avec l'atteinte d'objectifs de développement durable, de réduction de la pauvreté et des inégalités.