Events

March

Workshop > Wednesday 30th
Workshop in honor of Didier Laussel
Aix-en-Provence, Institut d’études politiques (IEP)
Organized by Tanguy Van Ypersele

Conference > March 31st-April 1st
The Sixth Euro-African Conference in Finance and Economics (CEAFE)
Marseille, Vieille-Charité, cinéma le Miroir
Organized by Didier Laussel and Tanguy Van Ypersele

April

Globalization Lecture > Monday 18th - 2:30-4:30 pm
Richard Blundell, University College London
Marseille, Vieille-Charité, cinéma le Miroir
Organized by Yann Bramoullé

Public Lecture > Wednesday 27th
«Littoral : faut-il protéger à tout prix?»
Dominique Ami, Greqam-AMSE, Samuel Robert, ESPACE (UMR 7300)
Cycle de conférences A l’écoute des sciences sociales
Marseille, Bibliothèque départementale des Bouches-du-Rhône (ABD Gaston Defferre)
Organized by Idép, Greqam and Centre Norbert Elias in partnership with the ABD Gaston Defferre

May

Workshop > Friday 20th - Saturday 21st
AMSE Workshop in Development Economics
Aix-en-Provence, Maison de la Recherche
Organized by Habiba Djebbari and Roberta Ziparo

Conference > Thursday 26th - Friday 27th
The Dynamics of Inequalities and their Perception (DynlPer) Conference
Marseille, Vieille-Charité, cinéma le Miroir
Organized by Michel Lubrano and Thomas Seegmuller

June

Conference > June Thursday 2nd- Friday 3rd
4th European Meeting on Networks
Aix-en-Provence, Hôtel Le Roy René
Organized by Yann Bramoullé

Workshop > Thursday 9th-Friday 10th
3rd Scientific Symposium - AHEAD Network
Marseille, Vieille-Charité, cinéma le Miroir
Organized by Mohammad Abu-Zaïneh

Conference > Monday 13th-Tuesday 14th
Journées Louis-André Gérard-Varet #15
International conference in Public economics
Aix-en-Provence, Conservatoire Darius Milhaud
Organized by Olivier Bargain

Conference > Wednesday 15th-Thursday 16th
3rd International Conference Economic Philosophy
Aix-en-Provence, Conservatoire Darius Milhaud
Organized by Gilles Campagnolo

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• Optimal Student Loans and Graduate Tax under Moral Hazard and Adverse Selection
• Effect of a Community-led Sanitation Intervention on Child Diarrhoea and Child Growth in Rural Mali: A Cluster-Randomised Controlled Trial

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p.10 Food for Thought / Recent Publications
Siwan Anderson is a professor at the Vancouver School of Economics in Canada. She obtained her PhD in 1999 at the University of British Columbia. She has previously held academic positions at Tilburg University and the University of Melbourne. She is currently an associate of the Canadian Institute for Advanced Research (CIFAR), a Fellow of the Bureau for Research and Economic Analysis of Development (BREAD), and an Associate of Theoretical Research in Development Economics (ThReD). Siwan is a development economist whose research focuses on micro-level institutions and gender.

Seminal work in development economics over the last decade has demonstrated the importance of institutions in explaining differences in income levels across the world. This macro focus has more recently led to more micro-level analysis of institutions to complement the empirical work that has examined cross-country differences in institutions. One main strand of Siwan’s research falls into this theme - an analysis of micro-level institutions in poor countries. To this end, she is currently involved in two large-scale data collection projects in the state of Maharashtra in India. The focus is on village-level governments and the implementation of key poverty alleviation schemes.

A second main research focus is on women in developing countries. Siwan’s research has addressed the issue of “missing women” in the developing world and explored key determinants of excess female mortality. Another focus is women’s access to property rights and the subsequent economic implications at both the household and political level. A very recent project aims to combine the two focuses of gender and institutions and directly study traditional female political institutions in rural Africa.

Siwan is delighted to be visiting AMSE for the academic year (2015-2016) and to be interacting with the growing group of micro-development economists within the faculty at AMSE. This is a group of mainly young scholars with exciting research projects currently being conducted in parts of India and Africa. Their interests are directly related to Siwan’s and there is much research overlap. There are also a number of PhD students and Post-docs working on related issues and Siwan is enjoying engaging with them at the different stages of their research.

Patrick François received his PhD in Economics from the University of British Columbia in 1995. He has held positions at Queen’s University, Tilburg University, The University of Melbourne and since 2001 The University of British Columbia. He is a fellow of BREAD, ThRed, CMPO, CEPR, CIFAR and is in his second three year term as a Co-Editor of the Journal of Development Economics.

Patrick’s research focuses on development economics, concerned mainly with institutional issues - extending from political economy, to norms of cooperation and trust. He is an applied theorist, often working with complementary researchers that have the skills he lacks: i.e., econometrics and formal proofs without hand-waving.

His main collaborator at AMSE is Tanguy VanYpersele, with whom he has been working on establishing that competition across firms builds trust across people. This research aims to shed light on one of the main questions in the social sciences: why are humans able to sustain such high levels of pro-sociality amongst non-genetically linked individuals relative to other animals? He is excited to interact with the large number of like-minded researchers and PhD students at AMSE.
External Shocks, Internal Shots: The Geography of Civil Conflicts

Nicolas Berman and Mathieu Couttenier


The research program

Since World War II, civil wars have affected more than a third of the countries in the world. An extensive research has tried to study the deep determinants of internal conflicts, focusing in particular on long-term institutional problems, ethnic fractionalization, inequalities or resources abundance. A strand of this research has also focused on the impact of income variations on conflict. The literature has faced important identification challenges, as: (i) all these determinants might also be consequences of wars; (ii) many of these factors are correlated with each others at the country-level, which makes it difficult to disentangle their respective contributions; (iii) many of these factors might affect conflicts through multiple channels. The paper discussed here belongs to a general project which tries to overcome these various issues and to provide a deeper understanding of the economic causes of civil conflicts through the use of extremely disaggregated and detailed data.

Paper’s contributions

The relationship between income and conflicts is especially difficult to address causally. To identify exogenous variations in income, some papers have used rainfall as an instrument for income in agriculture-based economies. Others have considered commodity prices variations as a proxy. The results have been mixed results at the very least, and, with few exceptions, these papers have failed to properly document the channels through which income variations affect conflict risk.

Theoretically, changes in income have an ambiguous effect on conflicts. On the one hand, a higher income might decrease the risk of conflict, either by reducing the individuals’ opportunity cost of insurrection or by increasing the capacity of the state to prevent rebellion. On the other hand, positive income shocks might impact positively the likelihood of conflict by increasing the value of resources to fight over.

The idea of our paper is to use detailed information on the precise location (longitude and latitude) of violent events in Sub-Saharan African countries to assess the effect of external income shocks on the likelihood of violence. We make the following contributions. First, we propose a number of alternative ways to identify exogenous income variations based on international trade patterns. In particular, we combine original region-specific measures of agricultural specialization with temporary fluctuations in world demand for agricultural goods. We also go further than the existing literature by considering a number of longer-lasting external demand shocks, such as financial crises or changes in foreign trade policy. Second, we assess the effect of income shocks both at the micro and macro levels, and investigate how these shocks affect conflict incidence, and how their effects vary across locations. In particular, we combine our shocks with location-specific information reflecting their “natural” level of trade openness, proxied by the relative distance to the nearest major seaport.

Our analysis yields several results. First, the incidence, intensity and outbreak of conflicts are generally negatively and significantly correlated with external income shocks within locations. Second, this relationship is significantly weaker for the most remote locations, i.e. those located away from the main seaports. Third, at the country-level, only large, long-lasting shocks - financial crises, trade policy - have an effect on the outbreak and location of new conflicts. More generally, our results therefore suggest that external income shocks are important determinants of the intensity and geography of conflicts within countries, and provide support in favor of the opportunity cost theories of war. Our paper also contributes to the literature documenting the effect of trade and globalization on political instability.

Research process and future research

The process of research, writing and revision of this paper went quite smoothly. The data construction was an important part of the work, on which we capitalize in current research projects. We are now working with an extended team on various papers related to the determinants of civil conflicts. A first project (with Mathieu Couttenier, Mathias Thoenig and Dominic Rohner from the University of Lausanne) tries to understand how natural resources (specifically, minerals’ extraction) affect and diffuse conflicts over space. Another (with Mathieu Couttenier and Raphael Soubeyran from INRA-Montpellier) studies how changes in soil fertility affect conflicts over land in Sub-Saharan African countries.
Reinforcement Learning with Restrictions on the Action Set


The broader research program

A very general question in game theory can be formulated as follows. Given some fixed game that is infinitely repeated over time, what is the long-term outcome of repeated interactions when, at each stage, agents simultaneously choose their actions according to a given rule, or “learning process”? Most of the literature on the subject focuses on finite games, namely games where agents have finite action sets. Depending on the information the agents have access to - i.e. what they observe at each step before choosing their next move - the learning rules can differ greatly. For instance in Fictitious Play, one of the most widely studied and debated procedures in game theory, players at each stage play a best response to the opponent’s empirical average play. Clearly, agents need to observe other agents’ actions to be able to follow this learning rule, as they need to compute best responses.

We are mainly interested in so-called payoff-based procedures, where agents only observe their own payoff at each stage and have no information on other agents’ payoffs and actions. In this context, lack of observation of the opponent’s play prevents the player from using rules that involve computing best responses. The natural way to construct learning procedures, therefore, is by playing more often - i.e. “reinforcing” - actions that induced higher payoffs in the past.

The paper’s contributions

This is a theoretical paper constructed around the following question. Consider a finite game at each stage of which agents only observe their realized payoff, and have restrictions in the sense that their choice is limited to a subset of their actions, which depends on their last realized action. Can we design a learning procedure that guarantees convergence to Nash, at least in certain classes of games? We answer positively by constructing a sophisticated learning process that converges to Nash in zero-sum and potential games. We also provide simulations that illustrate our results.

The research process

This work was originally inspired by a paper by Benaïm and Raimond (SIAM Journal on Control and Optimization, 2010) introducing the idea of restricted actions, but with full monitoring of the opponent’s moves. The question of whether the same results can be obtained when the assumption that agents observe their opponents’ moves is dropped was initially raised by Drew Fudenberg. The main difficulty was finding the “right” procedure, which proved to be very tricky. The principal problem we ran into is the fact that the set of actions a given player can choose depends on the action he chose in the previous stage. This implies that for some agents, some actions can remain unplayed for a very long time, even though they can potentially lead to very high payoffs. To overcome this, we introduce a parameter in our learning process that represents how often an action should have been played so far; this quantity replaces the usual parameter used in reinforcement learning, which counts how often an action actually has been played.

The proofs of convergence for our learning process heavily rely on stochastic approximation theory, which establishes strong results on the asymptotic behavior of a class of stochastic process through the analysis of a deterministic ordinary differential equation. To prove our results, we also prove some new theoretical results in stochastic approximation theory, which may be useful for further research.

Mathieu Faure has been maître de conférences at Aix-Marseille University since 2011. He obtained his PhD in probability theory in 2002 at the university of Marne-la-Vallée. He was a postdoctoral fellow at the mathematical institute of Neuchâtel, Switzerland in 2008 and 2010, and at the department of Evolution and Ecology at the University of California, Davis in 2009.

This paper leaves some questions open, but we do not currently have any promising leads to follow towards answers. On the more general topic of learning in games, however, we are now tackling a very interesting problem. Together with Sebastian Bervoets, we are exploring a similar question, but in a very different context: games with continuous action sets, which are better suited to modeling economic situations. Again, we assume that agents are unsophisticated and know nothing about the game. We cannot apply the same kind of learning procedure as in the above paper, because the action sets are infinite. We thus construct a learning procedure where agents update their actions taking into account how their payoff has varied in the previous stages. Surprisingly, in the continuous action setting and using mild and natural assumptions on the payoff functions, we derive strong and fairly general results, for more general classes of games than in the finite case.
Star Wars: The Empirics Strike Back

The broader research program
The idea of writing this paper was generated around the coffee machine, as we were all PhD candidates at the Paris School of Economics. Three of us worked in the very same office at the Paris School of Economics, while the fourth was next door. We were all conducting empirical research and realized that we all spent quite a lot of time selecting which empirical evidence to present in our papers. It was obvious that nearly all published empirical evidence is selected according to a paper’s angle and, of course, their statistical significance. But we realized that we had no clue of the extent to which publication incentives distort empirical work, nor of how scrupulous researchers are in selecting empirical evidence. We therefore decided to provide a means of capturing and quantifying behavioural distortions imposed on empirical work by publication incentives.

The paper’s contributions
This paper takes the existence of a publication bias as a hypothesis and seeks to assess how it distorts researchers’ behaviour. We collected all the p-values published between 2005 and 2011 in the American Economic Review, the Journal of Political Economy, and the Quarterly Journal of Economics and show a strong empirical regularity: the distribution of p-values has a two-humped camel shape with a first hump for high p-values, missing p-values between 0.25 and 0.10, and a second hump for p-values slightly below 0.05. Our accounting framework allows us to show that the valley between the two humps cannot be explained by the publication alone, and that about 20% of the p-values are misallocated: they should have been between 0.25 and 0.10, but can in fact be below 0.05. We also collected lots of information about authors’ and papers’ characteristics and find that the size of the misallocation correlates with publication incentives: for example, the misallocation is lower for older and tenured professors than for younger researchers. The misallocation also correlates with the relative importance of the empirical result for prospects of publication: in papers that offer a theoretical contribution, the empirical analysis is less crucial and the misallocation is much lower.

The research process
Writing this paper was first and foremost an enjoyable collective project for young academics. It all started in summer 2011 with a round of time-consuming data capture to collect nearly 50,000 test-statistics. We then began presenting the first draft of the paper at conferences, which led to pleasant and exhilarating experiences, as the paper turned out to be quite popular. We submitted the paper to the three journals from which we collected p-values during summer 2012. They all desk-rejected the paper, but some editors encouraged us to proceed with it.

The paper generated discussions in the academic community, but we never experienced hostile or negative reactions from academics. At worst, some people argue that the quantification we provide shows that the behavioural bias is not too severe. Rumour even has it that the publication of this paper is not absolutely unrelated to the fact that journals published by the American Economic Association have explicitly recommended no longer using stars to denote statistical significance since the beginning of 2016.

Our presentations, which we usually started with a picture inspired by Star Wars, produced lots of suggestions. We decided to engage in a second round of data capture to collect detailed information about authors of published papers. This allowed us to further decompose the misallocation along authors’ characteristics, which proved to be a major improvement of the paper. We ran a new submission campaign in spring 2013 after suitable revision, and the paper was finally accepted for publication two years later.

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Optimal Student Loans and Graduate Tax under Moral Hazard and Adverse Selection


The broader research program

The economics of tertiary education explores issues at the frontiers of fields such as public economics, labor economics and theory of contracts, and even credit and banking. Both Robert Gary-Bobo and I had our interest aroused by our experience managing the Department of Economics in the 90s at the newly created University of Cergy-Pontoise, where we were professors. The French higher education system remains puzzling to outsiders and to insiders as well. French universities are among the few advanced country universities that can neither select students nor charge tuition fees. French grandes écoles have the right to select students; in general, however, tuition is free. Finally, French business schools both select students and make them pay. Interestingly, these three systems manage to coexist in France, and in a previous paper published in the JEEA (Efficient tuition fees, examinations and subsidies) we try to determine when it is better to select students through fees rather than through tests. If students are not constrained by financial markets, there are cases where sorting mechanism errors are lower under tuition fees than under tests. This arises when the student receives a fairly clear signal regarding her/his future cognitive talent. The question remains of how to organize student loans so as to overcome financial constraints, and this is the goal of this paper.

The paper’s contribution

Income contingent loans are loans without collateral, which are repaid only if the alumni’s income is sufficiently high. They have long been proposed as a way to finance tuition fees, and have been implemented at a large scale in Australia (quite successfully) and the UK. However, a sound theoretical foundation for this type of loan was not available in the literature. We provide this foundation within the broad framework of contract theory. We build a model where risk aversion, moral hazard and antiselection are present. This kind of model is known to be difficult to handle, so our work contributes both to general contract theory and to a better understanding of the role of income-contingent loans as debt contracts in university finance. More precisely, we characterize the set of second-best “menus” of student-loan contracts in an economy with risky labor-market outcomes, adverse selection, moral hazard and risk aversion. Our major finding can be called a property of non-separability between debt contracts and income tax. In the case of student loans, it is not optimal simply to add income tax and a commercial loan. The second best optima are hybrids combining student loans with optimal income taxation. In other words, optimal repayments must be income-contingent, or the income tax must comprise a graduate tax. The graduate tax is a form of income tax, only paid by alumni, which is added to standard income tax; the proceeds go towards funding universities. There are other properties of these second best optima. They provide incomplete insurance because of moral hazard. Moreover, individuals are ex-ante unequal because of differing probabilities of success, and ex-post unequal, because taxation trades off incentives and redistribution. In addition, second-best optima exhibit an interim equalization property: the post-study but pre-work expected utilities of new graduate types must be equal. In summary, then, we are the first to prove in a rigorous way that income-contingent loans are second best optima. The surprise is that the graduate tax is also a second best instrument. Either one works.

Implications for economic policy

We are trying to disseminate among decision makers, journalists and the general public the general idea that both the student contingent loan and the graduate tax are good instruments to finance public universities or public grandes écoles. Our opinion is that France is in a position to introduce these instruments, because it has the right institutions to shelter them: a public bank, the Caisse des dépots, and an efficient tax-collection system.


Effect of a Community-led Sanitation Intervention on Child Diarrhoea and Child Growth in Rural Mali: A Cluster-randomised Controlled Trial


The broader research program

1 billion people worldwide still practice open defecation. Of the 2.5 billion people without access to an improved sanitation facility, 70% live in rural areas. Progress in gaining access to improved sanitation has been slowest in sub-Saharan Africa, where sanitation coverage only increased by 5% between 1990 and 2012.

In this paper, we evaluate the effectiveness of a community-based sanitation program in rural Mali, focusing on its potential impact on health. We ran a randomized controlled trial across 121 villages (about 4500 households) in the region of Koulikoro over a two-year period.

The program’s objective is to help villagers abandon poor sanitation practices through community mobilization. This approach contrasts with the traditional policy solutions involving subsidies or hardware provision, which are plagued with low take-up. Community-based programs that aim to foster ownership of policy issues and help communities find local solutions are considered by many (especially outside the field of economics) to be cheap and effective ways to obtain sustainable change. Community-based sanitation programs operate in over 20 countries with the support of the main international organizations.

The paper’s contribution

It is biologically plausible that poor sanitation, through unsafe disposal of human excreta, increases the risk of infections and leads to poor health outcomes, especially among young children. In rural Mali, where sanitation infrastructure is not publicly provided, health outcomes may be endogenous to sanitation choice. Before the start of this study in 2011, there was no clear-cut evidence on the impacts on health of sanitation interventions. Since then, six other randomized experiments have been completed. However, in all these cases, adherence to the program, as measured by change in sanitation practices, was weak, and no effect was ultimately found on health outcomes. In contrast, we find that access to private latrines was almost twice as high in intervention villages (65%) compared to the control villages (35%).

Biological pathways from poor sanitation to growth faltering in children are becoming the object of fierce debates among public health experts. Rather unexpectedly, we contribute to this debate by offering the first piece of evidence suggesting that sanitation may prevent growth faltering through pathways other than diarrhoea reduction. Indeed, we found no effect on diarrhoea incidence. Yet there were significant improvements in child growth, particularly in children under 2 years of age. Children in intervention villages were taller, less likely to be stunted and less likely to be underweight compared to children in control villages.

The research process

This work is the result of an inter-disciplinary collaboration led by Maria Laura Alzua who is an economist at Universidad Nacional de la Plata, in Argentina, and myself. The project stems from discussions with UNICEF policy experts from headquarters in West Africa. We are grateful to the PEP network, which gave us the opportunity to meet and engage in these discussions (3 of the coauthors are members of PEP). We convinced UNICEF to go beyond the usual monitoring approach and to provide us with the necessary support to conduct a randomized control trial. The research project also benefited from input and support from Nicolas Osbert, at that time manager of the water, sanitation and hygiene division at UNICEF in Mali, and of Moussa Cissoko, head of the Department of Sanitation in Koulikoro.

We were lucky to learn that the Bill and Melinda Gates foundation were looking to fund a series of research projects in the area of sanitation, and even more lucky to learn that ours was being funded! Fieldwork came with its own lot of surprises. But, despite the conflict in Northern Mali that erupted between our two rounds of data collection, the project was successfully completed (with the added advantage that we had more time to conduct the experiment than the Gates foundation initially allowed us to take).

Future research

We are now interested in understanding how this program has led so many households to change their behavior without providing them with financial support or hardware. From an economist’s point of view, this intervention can be seen as providing information and educating villagers on the returns to better sanitation practices. But this may not be all. Indeed, besides being practical, conducting the intervention at community level rather than at individual household level may stimulate social stigma against the old practices, and in turn explain the massive change in behavior.


Recent Publications


Faure, M.; Schreiber, S. Convergence of generalized urn models to non-equilibrium attractors. *Stochastic Processes and their Applications* 2015, 125, 3053–3074.


Food for Thought

“Even if altruism were confined to the family, it would still direct the allocation of a large fraction of all resources. Families in all societies, including modern market-oriented societies, have been responsible for a sizable part of economic activity - half or more - for they have produced much of the consumption, education, health, and other human capital of the members. If I am correct that altruism dominates family behavior to the same extent as selfishness dominates market transactions, then altruism is much more important in economic life than is commonly understood.”


Recent Publications


Paraponaris, A.; Davin, B. Economics of the Iceberg: Informal Care Provided to French Elderly with Dementia. *Value in Health* 2015, 18, 368–375.


