Events

January

Workshop > 28th-30th
Interdisciplinary challenges in wellbeing research: Definitions and methods.
Marseille, Vieille-Charité, room A
Organized by Miriam Teschl

February

Public Lecture > Wednesday 3rd - 6:30 pm
Roger Guesnerie, PSE, Collège de France - « Au-delà de la COP21, rafraîchir le débat sur le climat »
Cycle de conférences A l’écoute des sciences sociales
Marseille, Bibliothèque départementale des Bouches-du-Rhône (ABD Gaston Defferre)
Organized by Idep, Greqam and Centre Norbert Elias in partnership with the ABD Gaston Defferre

Public Lecture > Wednesday 24th - 6:30 pm
Emmanel Pedler, EHESS - « Capitales européennes de la culture : dynamiques urbaines et mutations culturelles »
Cycle de conférences A l’écoute des sciences sociales
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March

Workshop > 10th-11th
Innovation and competition: Being assertive in France and Japan
Marie Curie IRSES LIBEAC projec
Marseille, Vieille-Charité, cinéma le Miroir
Organized by Gilles Campagnolo

Workshop > Wednesday 30th
Workshop in honor of Didier Laussel
Sciences Po Aix
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

News

ANR - Labour Market

A team formed by AMSE researcher Christian Schluter, Mélanie Arntz from the Center of the European Economic Research in Mannheim and Mark Trede from the University of Münster obtained an ANR grant in the French-German program on human and social sciences. With a budget of 606 k€, for a term of three years, they propose to study spatial differences in individual performances on the labor market in France and in Germany.

The broader research program

The research program was stimulated by a question from the United-Nations about the macroeconomic impact of the response to the HIV-AIDS epidemics. UNAIDS was worrying about the possible negative effects of public-health aid transfers in Africa (large inflows of foreign assistance could create a ‘Dutch Disease’ phenomenon on such small and weak economies, shall these inflows not be followed by supply-side improvements). Therefore, UNAIDS asked our team of AMSE economists to study the consequences of an increased funding for HIV-AIDS drugs, in a macroeconomic perspective. We adopted a methodological mix of microsimulation methods, epidemiological models and labor-supply econometrics, based on nationally representative populations. We evaluated three scenarios of HIV-AIDS drugs access: universal coverage S1, limited scaling-up of treatment S2, no-intervention S3. An important value added of the work was to make the dynamics of the epidemics endogenous to the scenarios, in light of recent results in the medical literature on the collective benefits of access to treatment (people under treatment are less infectious for their sexual partner). We introduced Markov processes to model individuals’ future health status and studied the outcomes on three dimensions: the macroeconomic impacts; the number of new infections; and health inequalities.

The paper’s contributions

In the paper, we examine the consequences of the three scenarios on the evolution of health inequalities. We identify and address an important methodological issue: How to account for deaths in these evaluations? In fact, we were surprised by the first preliminary results obtained … by which the scenario S3 with no intervention creates the less unequal situation in year 2020. To solve this paradox, a mathematical model is first proposed, showing that the usual welfare-in-health metrics are sensitive to a population-size effect. Most metrics (as Gini index) generate rankings which are sensitive to the past mortality trajectories of the countries. Imagine two countries, A & B, which share identical rates of prevalence for a given lethal disease. Assume that A decides to treat every sick individual while B does not. In B, all sick individuals rapidly disappear from the population while in A sick individuals survive with a chronic condition. The cross-sectional indicator measuring health inequality is then typically in favor of B …the country with no-intervention! - unless the planner also values the counterfactual welfare of dead people. By chance, the micro-simulation framework allows comparing indicators of health inequality, dynamically and in actual sizes, with and without including deaths in the assessments. We demonstrated that this macabre accounting can lead to reversals in the ranking of the policies.

Future research and a word on the research process

This paper could have in our view three types of implications. First, it gives a new rational for the use of microsimulation methods, particularly in the assessment of health policies in which you have to control for changes in population sizes and need to evaluate alternative healthcare programs as if mortality would have not changed from one scenario to the other. The traditional use of microsimulations in taxation studies did not take advantage of this in silico property to be able to “rise again from the dead” parts of the human population; probably because tax policies have not the same direct impact on the survival probability of people. One limitation of this strategy is that we have to give a “welfare” valuation to dead people which is necessary arbitrary. In the paper we choose the conservative assumption of a “zero-value”. The second implication is a precautionary statement on the use of welfare indicators in cross-sectional comparisons: rankings of countries could be biased by the past mortality trajectories of the countries. An anonymous referee of the paper made the comment that the Great Famine in Ireland probably reduced the inequality and even increased the GDP per capita. Indeed, a census after the famine in 1851 evaluated a demographic drop of over 20% in 10 years, both by mortality and migration of the most deprived. Good rankings in international comparisons can be obtained by dissimulation of the most fragile…

Last the third implication is about the relationship between health and development. After a short period of net positive cost for the country, the financing of the most generous option (S1, universal access) can be sustained by the GDP gains which are generated domestically by a healthier population. This suggest that investing in health is valuable for African countries and that the current trapping of some in a situation with low growth and bad health is not a fatality.
Partial enclosure of the commons

The broader research program in which this study is placed focuses on natural resource management, with a particular emphasis on spatial mobility of the resource and its effects on management decisions and private behaviors. Indeed, natural resources can rarely be contained within boundaries; they typically circulate over long distances and are exploited by many agents. This raises difficult problems of coordination and cooperation and complicates the implementation of first-best solutions. This research program addresses these issues and specifically aims to explore (1) whether second-best instruments may lead to positive economic and ecological outcomes, (2) how economic incentives can be designed to solve these problems, and (3) how the decisions of private property owners depend on specific environmental features and on the behavior of other landowners. Our paper attempts to answer the first question by examining the rationality to enclose only part of the resource domain.

The paper’s contributions are to analyze the efficiency, distributional, and environmental consequences of assigning spatial property rights to *part* of a spatially-connected natural resource while the remainder is under competition by an open access fringe. Indeed, we tend to observe cases where only part of the resource is subsumed within a market structure because many issues (wealth redistribution, heterogeneity, high political and economic costs...) can impede the performance of traditional economic instruments (taxes, effort restrictions, tradeable permits). *Partial enclosure of the commons* refers to a situation where part of the domain is owned and managed by a single agent, while the remaining area is unregulated and the resource may circulate over many patches. Owing to spatial movement, behavior in the open access region has important consequences for the sole owner, and vice versa. Beyond spatial effects and strategic interactions, the selection of the region in which property rights are assigned is an important issue.

We consider a discrete-time dynamic game with many agents who harvest a natural resource in different heterogeneous parts of the domain. The dynamics of the natural resource are both temporal and spatial, with patch-specific growth conditions and species migration from patch to patch. We obtain the following sharp analytical results. (1) While second best, partial enclosure typically improves welfare relative to no property rights; (2) all resource users can be made better off; (3) positive rents arise in the open access area; and (4) the resource maintains higher stocks. Under spatial heterogeneity, ideal candidates for partial enclosure are patches with high environmental productivity and high self-retention, but whether high economic productivity makes a patch more attractive for regulation depend on the specific social objective.

The research process
Meeting my co-authors was the cornerstone of our research process. While I already worked with Nicolas Quérou during my post-doc fellowship at Lameta, Christopher Costello from the University of California, Santa Barbara spent a sabbatical year there. We shared common interests and started to get to know each other. This friendly relationship resulted in an effective and pleasant collaboration, leading to the writing of three papers. Even if our ideas converged rapidly, it was still a long way before celebrating the final version of our manuscript. Indeed, the way to answer our research questions revealed differences in the American vs. the French approach. While Nicolas and I went ahead to solve optimization problems, derivatives and other equations, Christopher organized brainstorming sessions in order to think hard about the intuitions behind those computations, the interpretations of the results and so on... We often made fun of that. Nevertheless, our differences were finally our strength since both approaches were fully complementary to answer our research questions.

Agnès Tomini

Agnès Tomini is a CNRS chargé de recherches at GREGAM since 2014.

She obtained her PhD from Université de la Méditerranée in 2009.

She was a post-doc fellow at LEM in Lille in 2010, at Lameta in Montpellier in 2011-2012 and at the Bren School in the University of California, Santa Barbara in 2013.

Future research pursues the objective of the research program, that is, the analysis of the impacts of spatial externalities on management practices, and the design of appropriate public policies. In a second paper, we propose instead to study a situation where property rights may be assigned in all patches by granting spatial concessions over a finite-time horizon. Renewal is then conditioned on the fact that the stocks in all patches reach specific threshold levels. The main objective is then to analyze the conditions under which the socially optimal outcomes arise. Finally, we want to extend this analysis for different types of commons. In particular, much of the research done in this area has been on public goods, leaving public bads aside. The next challenge is thus to characterize management practices and agents’ behaviors considering invasive species or epidemics. We notably aim to analyze if eradication could be both a socially-optimal and an individually rational outcome.
Goodness of Fit: An Axiomatic Approach

The Research Program

In many empirical studies, the fit of an appropriate parametric distribution is a preliminary step to the analysis of interest. However, such a preliminary step doesn’t necessarily share the same foundations as the following analysis, and thus may give misleading guidance. For instance, let us consider measuring income inequality on the basis of a parametric distribution: we first select an appropriate parametric distribution based on a goodness-of-fit statistic, and then we compute an inequality index. The two steps are independent and do not share the same foundations. Indeed, standard goodness-of-fit statistics - such as Anderson-Darling, Cramer-Von Mises, Kolmogorov-Smirnov and Pearson chi-square statistics - have statistical foundations, while the inequality index has axiomatic foundations. In particular, the inequality measure may be more sensitive to the upper part of the distribution, while the goodness-of-fit statistic makes no distinction between different parts of the distribution. Our approach here is to motivate the goodness-of-fit criterion in the same sort of way as is commonly done with other measurement problems in economics and econometrics.

Contributions of This Paper

An axiomatic approach is used to develop a one-parameter family of measures of divergence between distributions. These measures can be used to perform goodness-of-fit tests with good statistical properties. Asymptotic theory shows that the test statistics have well-defined limiting distributions which are however analytically intractable. A parametric bootstrap procedure is proposed for implementation of the tests. The procedure is shown to work very well in a set of simulation experiments, and to compare favourably with other commonly used goodness-of-fit tests. By varying the parameter of the statistic, one can obtain information on how the distribution that generated a sample diverges from the target family of distributions when the true distribution does not belong to that family. An empirical application analyses UK income data on households with below average incomes.

The Research Process

The first version of the paper was the fruit of a collaboration of Manu Flachaire and Frank Cowell, of the London School of Economics and Political Science, to give the LSE its full name. It almost made it into Econometrica, but the editor wanted a proper statistical discussion of the properties of the family of tests. Russell Davidson was called on to provide this, and found that it was necessary to develop some new statistical tools in order to do so.

Despite this, the revision was rejected by Econometrica, but finally was tentatively accepted by the Journal of Business and Economic Statistics, subject to a few clarifications. Providing these was rather hard, and led to a prolonged exchange of emails between Marseille and London, until all three authors were finally satisfied with the mathematics of the axiomatic foundation. Fortunately so were the reviewers at JBES! The finished paper thus proposes a new family of tests for goodness of fit, with innovative approaches in both the statistical and mathematical background for the tests.

Future Research

The analysis of the steadily growing number of rich data sets on income and wealth distribution, the incidence of poverty, often combined with information about the health of the people sampled in these data sets, is a considerable task for the future. The necessary research should be undertaken in a rigorous scientific spirit, as political opinions are often sharply divided on issues related to income and health. Solid and reliable statistical information is the only rational way to resolve these divisions.
The research process was pretty long. Combining a rigorous theoretical analysis of the model and a successful confrontation to the data was not easy. A formal analysis implies that any change in the model must be associated with a complete recalibration of the local stability properties. At the same time, introducing sufficient degrees of freedom in the model’s specification was a key ingredient to improve the empirical results compared to the previous literature. Thus, it took us some time to obtain a convergence between these two steps. But in the end, it was worthwhile and we are very satisfied with the results!

The broader research program

We explore the idea that waves of pessimism and optimism of economic agents may be a significant driver of the business cycle. A requirement from the rational expectation assumption is that such exogenous changes in agents’ “sentiments” must be self-fulfilling. For example, negative expectations of consumers and firms - leading them to reduce consumption and investment - must induce a decrease in output consistent with the initial expectations. In dynamic macroeconomic models, a simple way to introduce self-fulfilling changes in expectations is to consider models that are locally indeterminate. This means that, for a given economic environment, there are several equilibrium trajectories converging to the steady-state. In this case, agents’ expectations play the role of a coordination device that selects one trajectory among many possible, and changes in expectations generate endogenous economic fluctuations. Our broad research program is thus to propose and analyze models that feature this local indeterminacy property, and to investigate whether models of this kind can account for salient features of observed business cycles when submitted to random shifts in expectations.

The paper’s contribution

A major difficulty with one-sector growth models with endogenous labor supply is that they tend to require implausibly large degrees of Increasing Returns to Scale for the local indeterminacy property to emerge. By contrast, two-sector growth models require much lower degrees of increasing Returns to Scale. At the same time, when we started working on the paper, these models were believed to have very poor business cycle properties. One contribution of this paper is thus to show that these beliefs were wrong. If we consider a class of individual preferences consistent with low income effect on labor supply, we can prove that two-sector models not only feature the local-indeterminacy property easily (i.e., for a large set of empirically credible calibrations of structural parameters), but also that they generate business cycle properties that are consistent with observed stylized facts. Our paper thus combines a theoretical analysis of two-sector models and a successful confrontation to data. In the end, we solve several empirical puzzles previously associated with two-sector models driven by expectations.

Future research

We have developed tools that enable us to get the most of this mix between theoretical analysis and confrontation to data. These tools can be applied to a large set of models. We are now planning to continue improving the predictions of expectation-driven stochastic growth model by using more challenging data confrontation strategies such as direct matching of impulse response functions, Bayesian estimation, etc. Our aim is to progressively raise the standards imposed on such models in their ability to account for observed business cycles, and to make them more and more competing as an alternative explanation to models in which economic fluctuations are entirely driven by exogenous shocks on economic fundamentals.

Frédéric Dufourt joined GREQAM as a professor at Aix-Marseille University in 2012. He obtained his PhD in 2001 from Université Paris 1. He was maître de conférences in Strasbourg from 2002 to 2006 and then professor from 2006 to 2012.

Alain Venditti is a CNRS directeur de recherches at GREQAM since 2003 and an associate professor at EDHEC in Nice since 2009. He obtained his PhD from Université de la Méditerranée in 1994. He was a CNRS chargé de recherches at GREQAM between 1995 and 2003, an associate professor at Université du Littoral, Boulogne-sur-Mer in 1995-96 and associate professor at Ecole Supérieure de Mécanique de Marseille in 1996-97.
Research Highlights

Child Labor, idiosyncratic shocks, and social policy, Alice Fabre and Stéphane Pallage

The broader research program

There is a recent, and large, literature on child labor, initiated by the seminal works of Kaushik Basu. A lot of policies have been implemented in the field in order to fight against child labor, with the support of the International Labor Organization (ILO), NGOs and other international institutions. These policies notably include bans, conditional cash transfers, and schooling policies. Nevertheless, more than 168 millions of children are still child laborers in the world. The research program linked to this paper studies more specifically the dynamics of a child labor trap, and investigates different incentive mechanisms that may act on child labor, and may enable to better understand its determinants and the associated market failures. Special attention is paid on child labor as an insurance mechanism against shocks.

The paper’s contributions

Labor market risks in some countries, like South Africa, can be very important and have strong adverse welfare effects. If individuals subject to employment shocks face borrowing constraints, they will try to self-insure using any possible means: savings, child labor,... The paper studies the impact of idiosyncratic shocks to employment on child labor and welfare, in the context of a developing country with or without unemployment insurance. It links two strands of literature: the literature on child labor and the literature on the optimality of unemployment insurance. It provides an original dynamic model with heterogeneous agents in employment status and assets. Parents and children are hit by employment shocks. They receive job offers randomly according to a Markovian stochastic process that reflects the labor market dynamics of the economy, parametrized to mimic those of South Africa in the 1990s. The model is solved numerically, and several experiments are conducted to test and to compare the responsiveness of child labor to various policies, such as universal basic income, unemployment insurance and cash transfers, and their welfare implications. It is shown that households facing adverse shocks may use child labor as a buffer to smooth consumption. The introduction of unemployment insurance helps to eliminate child labor and to improve welfare, even in the presence of moral hazard. Interestingly, both unemployment insurance and universal basic income do better than a ban in terms of welfare. The paper brings new insight on the link between child labor and social policy and provides a framework to theoretically investigate the response of child labor to idiosyncratic shocks, and to quantify the generosity of social programs needed. The approach puts emphasis on theory and measurement, and contributes to show that social policies could be viewed as credible ways to address child labor in the context of idiosyncratic risks.

The research process

The paper is a joint work with Stéphane Pallage from Université du Québec à Montréal (UQAM). It was first started when Stephane was visiting Aix and was motivated by our common interest on child labor and economic policies. This first work has given us the opportunity to explore different issues in a variety of venues - in Aix, in Montréal when I was visiting UQAM, abroad during conferences; by working by skype, or also by cycling or during productive coffee breaks - such as child labor viewed as an insurance mechanism (the heart of this paper), informality and child labor, or the effective role of a child labor ban. One issue here is that economic models tell us that a ban on child labor is not always efficient, and may even be counterproductive. This finding sometimes generates strong emotional reactions from the floor, and makes the economic research on the understanding of its impact even more important and challenging.

Future research

We have started to work on several projects on child labor as an insurance mechanism, including a paper with income shocks - to consider a broader definition of a shock - and access to credit, in an agricultural setting, a paper on banning child labor in a world with education and idiosyncratic shocks, in particular to compare the impacts of a ban and of self-insurance, and a paper in a two periods framework with child labor and cooperatives. The research has also been extended to the study of more general informal mechanisms, with Stéphane Pallage and Christian Zimmermann from the St Louis Fed, oriented towards issues of universal basic income and informal markets. In these different approaches, the objective remain to explore and to better understand the incentives and mechanisms at work behind child labor in a dynamic framework.

Short Biography

Alice Fabre

Alice Fabre is maître de conférences at Aix-Marseille University since 2001.

She obtained her PhD in 2000 from Université de la Méditerranée. She was ATER at Université de la Réunion in 2000-01.
Recent Publications

Publications published in 2015 by AMSE researchers and extracted from Repec on November 2nd 2015.


Food for Thought

“Essentially, all models are wrong, but some are useful.”


Recent Publications


