## Workshop projets de these

### 26 janvier 2016

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Andrea Aguirre: *Homicides in Ecuador: a spatial economic analysis*

The world development implies economic growth, urbanized cities, more quality jobs, etc. However, the urban development also generates large and dense cities, with high inequalities and more criminal activities. The criminality undermines development in countries, and also it generates physical and psychosocial costs for people. Indeed, people and enterprises will prefer not to invest their lives and money where they are insecure.

Given the above facts, governments are looking for policies that would improve the conditions for public safety and economic development. Designing the most efficient policy requires a better identification of crime determinants. This thesis project is aimed at exploring these determinants, using data on criminality in Ecuador.

Therefore, this project will focus on the analysis of the spatial distribution of crime rates, in order to identify both the socio-demographic and economic determinants of this spatial distribution at two geographic scales, the province and city levels.

This thesis analyzes the statistics on crime; it verifies the existence of correlation between crime and population density and it tests for the presence of spatial autocorrelation to figure out whether or not criminality in one region can exert an influence on criminality in their geographic neighbors. Given the results above, this project will apply econometric tools to test the main predictions of the literature, regarding the influence of socio-economic determinants of homicide at a given spatial scale.

Julien Flaig: *Diffusion of Smart Grid Innovations: from Consumer Behavior to Macro Effects*

“Smart grid” is a blanket term encompassing a wide range of technologies and business models. Their shared objective is to use recent breakthroughs in the field of information and communication technology (ICT) so as to coordinate the energy market actors and thus improve the performance of the electric grid. The efficiency of the smart grid depends fundamentally on the adoption by households of smart grid technologies such as heating systems including consumption optimization and control, or standalone electric consumption display and control appliances.

Our objectives are to draw scenarios for the diffusion of new smart grid technologies by pointing out its decisive factors, and to estimate impacts at the energy production and distribution system level.

Addressing these questions requires a simulation based approach because historical data would have little informational value with regard to future developments in our case. We choose to focus first on an aspect of smart grid technologies which makes them peculiar: the fact that they are devised to work in a complementary way. Other aspects of the diffusion of smart grid innovation, such as consumer life cycles or network effects, are to be considered.

Our model is a demographic model inspired by structured population models used in biology, and by compartmental models used in epidemiology. It will contribute to the understanding of the diffusion of such complementary technologies.

Charlotte Saucet: *Motivated beliefs in groups: overconfidence, denial of information and wishful thinking*

My Ph-D project aims at studying the mechanisms and the impacts of motivated beliefs on decisionmaking, both in individuals and in groups. In standard economics, individuals are expected to make their decisions subsequent to a rational processing of available information\(^1\). However, many evidences show that often beliefs are not formed and revised in a neutral / objective manner but in part to serve important psychological or emotional needs. Individuals tend to form and revise beliefs in a distorted way to serve their interests and increase their motivation or their satisfaction. From this statement, beliefs can be considered as no more fixed or hold but rather as an “asset that people invest in” (Bénabou, 2014).

\(^1\) The rationality criteria here is the conformity between a belief and a reason to believe it given by the fully use of information.
At the individual level, selective memory or wishful thinking are illustrations of motivated beliefs based on either ex-ante or ex-post distortion of information. At the group level, stylized facts show that organizations, markets, and groups in general can enroll in collective delusion to sustain favorable beliefs about the group future prospects. In both cases, motivated beliefs might get the decision-makers away from efficient decisions.

My reflection will be conducted around three questions. First, which mechanisms drive the formation of motivated beliefs? Second, what are the impacts of these motivated beliefs on the decisionmaking efficiency? Third, depending on whether they have a context-dependent negative or positive impact, how to fade them away/enhance them?

**Alain N’Ghauran : Essays on the spatial dynamics of collaborative innovation**

Innovation has been extensively studied over the last decades both by scholars and practitioners. It is agreed since Solow (1957) that technological change and innovation are the primarily driving force behind growth and competitiveness. Several policies aim at strengthening the potential of innovation in companies and, more broadly, in the territories. Among these policies, those that support collaborative research are essential and generate collaborative networks that are able to affect the research and innovation landscape in the territories. However, depending on networks characteristics, territories have different paths. In a context where innovation is at the core of an area’s competitiveness, policy makers are concerned about the actual impacts or consequences of the collaborative innovation support programs on the territories. It is in this vein that this doctoral research aims at analyzing impacts of collaborative innovation on the dynamics of innovation within the territories. On the one hand, that requires the analysis of the architecture of collaborative networks resulting from collaborative innovation support programs and the evaluation of the impacts of this architecture on spatial dynamics of innovation, on the other hand. In fine, the doctoral research will have to allow the design of a counterfactual methodology in order to identify the most efficient networks resulting from collaborative innovation support programs. This methodology will be applied on France’s “Investments for the Future” program (PIA).


Quelques années après la mise en place de nouveaux dispositifs d’aide à l’innovation, l’heure est à présent à l’évaluation. Il manque encore toutefois un cadre adapté, notamment pour étudier l’impact des politiques fondues sur les transferts science-industrie. La thèse visera donc à construire une méthodologie d’évaluation counterfactual permettant d’analyser les différentes facettes potentielles des retombées socio-économiques (emploi, innovation, dynamisme entrepreneurial, etc). Plus précisément, la thèse entend évaluer non seulement les retombées directes auprès des bénéficiaires mais aussi indirectes. Il s’agira, conformément aux recommandations du CGI et aux standards internationaux, de comparer les performances des organismes bénéficiaires des dispositifs d’aide aux performances d’organismes similaires mais non bénéficiaires du dispositif. La question sera adressée au travers de l’analyse de deux IRT Rhône-Alpins : Nanoecle, Grenoble et Bioaster, Lyon. La méthodologie mise en place aura cependant un caractère suffisamment générique pour être appliquée à d’autres dispositifs et pour permettre la comparaison des performances des IRT Rhône-alpins avec ceux localisés ailleurs en France.

**Mengbing Zhu : Migration, consumption patterns and consumption inequality in rural China**

With the huge population movement of rural migrants in China, I want to analyze the effect of migration, especially how consumption, consumption patterns and consumption inequality are affected by migration in rural China. Based on empirical evidence from individual level cross-sectional data from the 2002 China Household Income Project (CHIP2002), the 2007 China Household Income Project (CHIP2007) and the 2013 China Household Income Project (CHIP2013), the research analyses will cover: a) the impact of migration on consumption patterns in rural China, especially on
individuals left-behind in rural areas; b) the changes of consumption inequality caused by migration; c) the relation between migration and consumption/investment trade-off behavior.

The research project aims at answering the following three research questions, each of which will be covered by one of three main chapter of the thesis:

(1) Consumption patterns related to nutrition, education and health issues: does migration serve as an insurance mechanism to maintain food security and basic needs for education and health care of the rural household, particularly for vulnerable and poor households? Do migrant households have a different consumption pattern from that of non-migrant households in rural China?

(2) Consumption inequality: how does migration affect consumption inequality in rural areas, across groups of households? Does migration reduce consumption inequality between migrant households and non-migrant households? Does migration contribute to rising consumption inequality among migrant households?

(3) Consumption/investment trade-off: does migration change investment behavior of rural households? Do migrant households have a different consumption/investment trade-off behavior compared to non-migrant households?

Marc Zingbagba: *Econometric modelling of risk in emerging countries: the case of distribution contracts in high-value food markets*

An important characteristic of emerging economies is the changing trend in their food markets, where long-term consumer spending mirrors a declining share of expenditure on staples and an increasing share on high-value food items. This trend emanates from the fact that increased income levels associated with economic growth lead to a changed consumption pattern (Bennet’s law, Bennet 1941). Associated with this changing trend is the increasing number of wholesalers and retailers in the agricultural sector of emerging countries. My doctoral research seeks to model the risks associated with distribution contracts regarding wholesalers and retailers in the high-value food markets, in emerging countries.

This research is important because an efficient distributional system is relevant in ensuring that produced agricultural products reach final consumers. With respect to the distribution of high-value foods in emerging markets, wholesale and retail lines mostly established by companies in developed countries serve as the main channels of distribution. Generally, there exist vertical contract arrangements between wholesalers and retailers and this arrangement determines the efficiency of food distribution. Knowing the risks in this distributional pattern will inform better contractual arrangements that promote a more efficient linkage between producers and consumers, an important ingredient for the attainment of the global food security agenda in emerging economies.

Existing literature on contracts in the agricultural sector has focused primarily on the production side of the supply chain. Contract farming through the principal-agent modelling framework has emerged dominant in this arena. The few studies on distribution contracts have focused on the relationship between small-scale farmers and buyers. This study is, therefore, unique in that it assesses distribution contracts between wholesalers on one hand and retailers on the other in the agricultural sector.