

Research Statement

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My main fields of research are experimental economics and behavioral economics with the scope of development economics. The bulk of my research to date has concentrated on evaluating the impact of monetary incentives on individual behavior that enhances the common good within a community or group. Additionally I have explored applications of experimental economics in the field, in particular different dimensions of prosocial behavior: leadership, social norms, reciprocity, cooperation, trust are some examples.

I find the assistant professor in Economic Development at ARE as my best opportunity to work on what led me to choose the academia ten years ago. In Colombia, with Juan Camilo Cardenas, I contributed in the design of different economic experiments in the field with a dynamic component that were very similar to the irrigation systems, watersheds, fisheries and forests. I am also looking forward to work with the California Agricultural Experiment Station (AES) team. As my research experience is related to develop environmentally sound policies and provide human and community development opportunities. My research would focus in the analysis and design of institutions that promote sustainable, efficient and fair use of our environment and provision of local public goods.

In my job market paper [Disentangling Social Capital: Lab-in-the-Field Evidence on Coordination, Cooperation and Networks](#) I analyze the individual behavior by 714 beneficiaries of a Conditional Cash Transfer (CCT) program in Colombia. I conducted and designed an artefactual field experiment that included a ‘Weak-link’ Coordination game and Public Goods game with communication. I examine the role of the program on the ability to coordinate, by accounting for different dimensions of social capital: cooperation is an individual other-regarding preference; social norms stem from beliefs about others’ behavior; and individual connections arising in networks allow us to build such beliefs. I estimate a structural choice model of the individual decision to coordinate, which highlights the role of beliefs about others’ behavior: high effort is only sustained under high beliefs. The analysis suggests that the CCT program helps overcome the coordination failure through different channels, and the structural model points to the beliefs channel.

Workfare programs are another common monetary incentives that provide a low paid employment guarantee to individuals in selected public works. They are designed to self-select the poor and provide insurance against job losses by informal sector workers at the possible cost of crowding out private labor effort. In a related paper [Work pays: different benefits of a workfare program in Colombia](#). With Prof. Orazio Attanasio (UCL), Prof. Costas Meguir (Yale University), Prof. Marcos Vera-Hernandez (UCL) and Arthur Alik (Toulouse University), we analyze the impact of a Colombian workfare program called Job in Action [*Empleo en Acción*] to shed light on the following issues in the particular context of a middle-income economy: (1) whether the program crowds out labor effort by members of the household different from the participant, (2) whether there are gains in household labor income, but also in consumption, which is important to assess the role of the program as an insurance mechanism and (3) whether there are some gains from participating in the program six months after the program has finished. Our results show no evidence of the program crowding out private labor effort by other household members. In addition, we find that the program had large positive transfer benefits, as the program increased individual’s labor income and labor supply in large urban as well as small rural municipalities. There is a positive significant impact in small municipalities on consumption which is doubled when focusing only on food consumption. Finally, we do find that the program had a positive effect on individuals’ outcomes as well as on households’ monthly labor income per capita in small rural municipalities six months after the program ended. We shed light on the potential channels explaining this novel result in the literature on public work schemes.

Promotion of pro-social behavior in social dilemmas has been subject to an increased interest among social scientists and policy makers due to the relevance of Common Pool Resources (CPR) in long-run human well-being. Although economists know a lot about the effect of incentives on pro-social behavior, we understand very

little about how to promote pro-social behavior efficiently. For example, we accept that monetary incentives sometimes are less effective than would be predicted for entirely self-regarding individuals but we are unable to identify the mechanisms by which these crowding effects may occur. In [Prosocial behavior, Heterogeneity and Incentives: Experimental evidence from the local commons in Colombia](#). I examine a unique experimental data set of a CPR game with 1095 individuals (21% students and 79% are CPR users that are closely related to a real resource). Our purpose is twofold. On one hand, it goes ahead on the experimental analysis by accounting for unobserved heterogeneity of individuals' social preferences and group composition of types within each group. On the other hand, it explores the role of heterogeneity of pro-social preferences on achieving the most efficient economic incentive. First, I drop the assumption that all individuals are all self-regarding and develop several models of pure Nash strategies for our CPR game when individuals are motivated by a combination of selfinterest and preferences for altruism, reciprocity or inequity aversion. Second, I estimate individual heterogeneity by using a random coefficients model approach and classify individual social preferences (according to their behavior in the baseline phase) by assigning a type to every participant. Third, we compare the role of heterogeneity of preferences in social efficiency across incentives and confirm the existence of different effects of incentives on each type; the subsidy is found to be the most socially efficient incentive. Finally, I obtain exogenous determinants of individual type such as level of education, perceptions on the CPR, perceived interest in cooperation among the community, whether the participant does volunteer work and whether the CPR is the household main economic activity of the household; we also obtain endogenous determinants such as the composition of types in the group and their demographic characteristics.

Social preferences have been important to the explanation of deviations from Nash equilibrium in game outcomes. An enduring challenge in any model of other-regarding preferences is to identify heterogeneity within the population. In [Identification of Other-Regarding Preferences: Evidence from a Common Pool Resource Game in Colombia](#). With David Echeverry. We use the same data from our common pool resource (CPR) game in the field with 1095 individuals and we estimate a structural model including preferences for altruism, reciprocity and equity and allows us to identify behavioral types using a latent class logit model. Exogenous determinants of type are examined such as socio-economic characteristics, perceptions on the CPR, perceived interest in cooperation among the community, whether the participant does volunteer work and whether the CPR is the household main economic activity of the household. A competing explanation of deviations from Nash equilibrium is the existence of a cognitive factor: the construction of a best reply might make rational expectations about other players' mistakes (e.g. quantal response equilibrium). Whilst a cognitive aspect would help the model better fit the data, we do not find much evidence for cognitive heterogeneity, and instead a great deal of behavioral heterogeneity. Choice prediction based on types is robust out of sample.

In addition to my publications and these papers in progress. I am currently working on two projects. In [Leading by non-example: do leader's social preferences matter for cooperation? Experimental evidence from Colombia](#), I analyze individual behavior of 500 beneficiaries of a CCT in Colombia in a public goods game that I designed and conducted in 2014. I examine whether how powerful leaders are determines their decision to free ride and the relationship between individual willingness to cooperate and the presence of an empowered leader in the group. The preliminary results show that the presence old leaders are a positive influence to the followers' behavior but these old leaders free ride more than new leaders.

Economic research examining how parent-child interaction-ECD intervention programs affect economic wellbeing focuses largely on quantitative outcomes; instead, attitudes of the beneficiaries that may determine the impact of these programs across children remain unexplored. Although this has been identified as one of several behavioral channels, it has been acknowledged that it presents a measurement challenge. In [Parental generosity and early child development: an experimental approach](#). I design an economic experiment (based on the Becker-DeGroot-Marschak Mechanism) to measure parents' willingness to make a specific human capital investment (WTI) on their 3 to 5-year old child, of which the positive effect on the child's development has been acknowledged by the literature. Then, relate this measure to an Early Childhood Development (ECD) intervention with a known positive impact and obtain the ex-post correlation between WTI and the ECD impact. The main hypothesis is that parent attitudes towards the child's human capital, taking into account their expectation about children's future returns, explain heterogeneity in ECD program outcomes across children. We will look at impacts of the program on WTI that could be one of the mechanisms that delivers the impact.