Research Statement

Francisco Poggi

I'm a microeconomic theorist. My research interests lie mostly on applied economic theory. I do take applications seriously: for any relevant economic force it should be possible to find a real-life application where it is the main force. I do not see intrinsic value in generality or elegance of results. However, I do believe general results have more value when this generality helps understand the underlying forces that drive the phenomenon of study.

Next, I provide a summary of my current research agenda and future plans.

Information shapes decision-making by shedding light on the relationship between actions and outcomes. When constructing institutions that align private incentives with social objectives, information can also be used *directly* in the generation of incentives by making outcomes a function of information. A patent can be granted to someone that discovered a relationship between two variables (such as the relationship between a gene and a disease). Liability can, in principle, depend on the information that the injurer had before the damage occurred (how safe the injurer though their actions were).

In my research, I study situations where information that agents acquire and use to inform their actions (whether and how to continue doing research, whether to launch a product) is also used as an input to affect incentives (patents and liability). I'm interested in how the interrelationship between information and actions affects the way firms are organized, how research and development is conducted, and the legal and economic institutions that prevail.

Stronger patent rights boost the incentives to innovate, but patents are only granted to "successful" innovations. Similarly, liability induces firms and individuals to take more precautions and acquire more information about the potential hazards of an activity. Liability, however, is only triggered when

there are actual damages. These asymmetries reflect constraints in the set schemes that the principal can use.

In my job market paper, I study the dynamic allocation of costly and scarce resources across different R&D projects. There is uncertainty about the projects' feasibility and difficulty, but this uncertainty is gradually resolved while the agents work on the projects. I analyze the efficient allocation of resources for complementary projects and characterize the situations where it is optimal to work on the projects in sequence and simultaneously. I then switch to study whether efficiency is achieved in the context of patent races.

Limited liability induces firms and individuals not only to take higher risk that what is socially optimal but also to acquire less information about these risks. In joint work with Bruno Strulovici we consider the design of liability schemes when part of the information acquired by the injurer can be used as a part of the mechanism. The process, however, is only triggered if there is a damage. We compare the optimal scheme under different scenarios of the observability of the information held by the injurer at the time of their decision.

In the previous papers information is acquired dynamically over time. With Quitzé Valenzuela-Stookey we take a step back and look at a setting were information is desegregated in the economy. The principal in this case cannot observe the individuals' information, but observes market outcomes that, in equilibrium, might reveal the aggregate information. The principal commits to a decision rule that maps the market outcome to an action. We characterize the set of distributions of states, actions and outcomes that is implementable.

Looking forward, I plan to continue working on the implications of information on the the design of laws that induce more efficient societies and within organizations to increase profits. In particular, I'm interested in pursuing several research avenues related to my job market paper: organizations are sometimes composed of different units working towards a joint goal. With complementary projects, what is the optimal information scheme for a manager that controls both units? Winter studies the optimal information about the actions of agents working on complementary tasks, but what about information about the progress or outcomes of these projects? In which contexts is transparency optimal?