*Field experiment on the behavioural foundations of inter-group discrimination and its effects on public good provision in India – Contextual Information*

Jan Auerbach, Miguel A. Fonseca

Background to Project

Many countries' civil courts experience long delay and large case. The time and resources it takes to enforce contracts may discourage investment into profitable business and impede economic prosperity. Slower courts and larger case backlog have been linked to more breaches of contract and less investment (Chemin, 2012), less lending and tighter credit constraints (Jappelli et al., 2005), higher firm financing costs and smaller firms (Fabbri, 2010). So, what reforms can help speed up the courts?

Among other things, some have suggested that fewer cases for the courts to look at can help reduce the time it takes to resolve civil disputes (see, e.g., Palumbo et al., 2013). To this end, we propose a procedural rule that aims at reducing the number of court case filings associated with a category of contracts of particularly low profile. The implied reduction in the overall caseload should speed up the courts. As the empirical evidence suggests, faster courts in turn are likely to encourage more investment into profitable business of higher profile---business that is more economically significant and legally complex---leading to more lending, more investment, and more firm growth.

To reduce the caseload, we focus on low-profile cases for breach of contract with a sure outcome in court, which make up the bulk of the caseload at civil courts. For example, in some U.S. state courts in 2012--13, almost two-thirds of all non-domestic civil cases were contract disputes; when recorded, damage awards in those disputes averaged at less than \10,000. These cases mostly consist of debt collections, landlord-tenant disputes, and foreclosures They are brought to secure a sure ruling, which then allows the claimant to initiate the legal enforcement of a payment (see Agor et al., 2015).

With this focus, we suggest to induce unraveling effects of the kind that have been described to be at work in many contexts in law and economics (e.g., Bar-Gill and Ben Shahar 2009; Dari-Mattiacci and De Geest, 2010). Specifically, we propose to preorder the service of such low-profile contract cases at the courts, replacing sequential service, which processes them in order of arrival. If nobody wants to be first in line at the courts, then unraveling reduces the number of such low-profile contract cases being filed. As a consequence, more resources can be allocated to the speedier resolution of higher-profile disputes. The reliance of preordered service on unraveling may undermine its performance in practice (e.g., Nagel, 1995; McKelvey and Palfrey, 1992). Could it have an effect? We provide proof of concept in the context of a population of low-profile contracts, in theory and in an experiment.

Detailed Research Questions

The fundamental research question underpinning this project is:

* Does preordered service lead to lower caseload than sequential service?

For the sake of exposition, suppose that all contracts are low-profile and have a sure outcome in court if breached. Suppose further that every entity can be party to at most one contract so that every contract can be uniquely identified using any of the parties to it. Preordered service then requires the judiciary to list all entities that may enter contracts in some order, using some uniquely identifying information, like taxpayer numbers. It makes publicly known that it will serve court cases for breach of contract filed within an ex-ante specified period of time in the order of that list, using the listed entities to identify contracts and thus cases. Courts then collect all cases filed during the specified time period. At the end of it, they order the collected cases according to the list and serve the first ones in line first

We present preordered service of such low-profile contract cases at the courts in a stylized economy. We interpret this economy as an extreme version of a richer environment with two features that preordered service uses. First, every contract can be associated with a uniquely identifying label. Second, the prospect of a potential court case being served first, rather than somewhere down the line, tips agents over from breaching the contract to honoring it.

Our stylized economy consists of many investors and many entrepreneurs. While entrepreneurs have productive projects, investors are endowed with the capital required to implement them. Investors and entrepreneurs are randomly matched with one another and can enter a contract to use the investor's capital in the entrepreneur's project. After production, however, the entrepreneur can breach the contract and keep all the output, in which case a claim is filed with the court. For simplicity, we assume that the court can serve exactly one claim, in which case the respective breaching party incurs a cost; all other claims go unenforced. This simplification is an extreme version of costs and gains to the respective parties to a breached contract that are associated with long court delays.

In this environment, we represent sequential service by a random draw of one breached contract for service. This assumption captures the idea that civil cases queue randomly when filed, and only the first in line is served. Modeled in this way, sequential service can lead to inefficiencies: some investors do not invest because all contracts are breached, but not all are enforced. In contrast, we model preordered service using an ad hoc label to represent some uniquely identifying information relating to the contract or the parties to it. This way we capture the idea that, to do its job the best it can, the judiciary could in principle make use of the identities of the parties to a dispute. The ranking of potential contracts by these labels is announced before they are signed. The judiciary then serves the highest-ranked contract that is breached. In this environment, preordered service achieves efficiency. The intuition is that no entrepreneur wants to be associated with the highest-ranked contract that is breached. Thus, in equilibrium, no entrepreneur breaches the contract and all investors safely enter contracts with entrepreneurs, which maximizes aggregate production and consumption.

This theoretical success of preordered service builds on iterated elimination of dominated strategies and backward induction. Experimental evidence suggests that this fact may undermine its effectiveness in practice (e.g., Nagel, 1995, McKelvey and Palfrey, 1992 respectively), which we cannot examine in the field as preordered service is counterfactual. Therefore, we test its performance in a laboratory experiment. We implement our environment and undertake ceteris paribus comparisons of individual and aggregate behavior with preordered and sequential service. We find that, over the course of the experiment, the court caseload is more than 40 percent lower with preordered service than it is with sequential service. In the last round of the experiment, preordered service results in half as many court cases as sequential service. While investment levels do not differ across both rules, with preordered service, as fewer contracts are breached, investors on average secure a higher payoff.

Research Methods

Over the last thirty years, experimental methods have gained prominence within economics. By studying behaviour in controlled experiments, the researcher can strip out the decision process of any superfluous element. Therefore, one can study the interaction between individual preferences and the desired institutional feature in a relatively clean way. By carefully setting up incentive structures and ensuring subjects’ decisions carry salient financial consequences, the experimenter can infer individual preferences from the actions taken by subjects (Smith, 1976). A large volume of literature has developed showing that paying subjects according to their actions reduces variability in the data (Fiorina and Plott, 1978; Smith and Walker, 1993; Holt and Laury, 2002). On an ethical note, the two fundamental principles of experimental methodology in Economics are that subjects should be paid on the basis of their decisions and that experimenters should not employ deception. As the proposed experiments are simple decisions, there is no threat to subjects’ psychological or physical wellbeing. In all experiments, subjects are always allowed to abandon the session, should they wish to do so. Furthermore, the University of Exeter monitors ethical standards in all areas of research, which will include this research project.

Traditionally, social psychologists and economists relied on university students as their subject pool. Recently, experimental economists have turned to specific subject pools outside universities to test particular hypotheses (Harrison and List, 2004). The rationale is that university students may not be fully representative of society as a whole or they may not have the adequate experience to test a particular hypothesis. This is the case in the present project: to study the effects of social fragmentation, we are taking the laboratory methods to the field to increase the external validity of any inferences we make. Combining the experimental data with the already existing household survey will generate an extremely rich dataset, which in turn will allow for a deeper level of analysis than either instrument in isolation would permit.

The Games

Our experiment has three treatments that implement our theoretical model, comprising a population of the game described in Figure 1. The exogenous contract terms allow us to focus on the strategic interaction the different procedural rules give rise to. The payoffs to both players are equal when there is no investment, as well as when the investor enters the contract and the entrepreneur honors it. Thus, aversion to inequality in payoffs cannot be a potential motive for investors' actions. The binary action set of both players lends conceptual simplicity. If the investor had a continuous investment decision as in the standard trust game, then the entrepreneur would have to have a choice to decline the contract: the entrepreneur's payoff in the case of no investment might be greater than the payoff implied by a very small investment. Such additional complications would be a distraction.

Chart, diagram, radar chart

Description automatically generated

When describing the game in the experimental materials we avoided the terminology used in the paper. Instead, we used generic labels for both players, as well as their actions. In all experimental sessions, we randomly assigned subjects to one of two roles: Player A and Player B. Each Player A was given a label, A1 to A8, which he or she kept for the duration of the experiment; Player Bs had no labels. At the start of each experimental round, Player B was told the label of the Player A he or she was matched with. Player A had the option to Enter or to Stay; in the latter case, both players got a payoff of 1 Experimental Currency Unit (ECU). If Player A chose Enter, then Player B had the option of either Send or Keep. The former option gave each player 2 ECU; the latter option gave 0 ECU to Player A and 4 ECU to Player B if the contract was not enforced, and 2 ECU to Player A and 1.8 ECU to Player B if the contract was enforced. In terms of our model, this corresponds to w=2 and c=0.2, or 10% of Player B's share of the surplus.

The three treatments differ in the way we operationalize the probability of enforcing a claim in the event of Player B choosing Keep. Our baseline condition is the None treatment, in which the probability of enforcement, p, is set to zero. This treatment corresponds to the case where there is no contract enforcement. Its purpose is to establish the baseline level of investment and compliance---the extent to which entered contracts are being honored---in our sample. The SeqServe treatment introduces enforcement of exactly one claim, which is chosen at random from the pool of claims in a given experimental round. This treatment captures sequential service at courts: claims are processed on a first-come-first-served basis and a claim's spot in the queue is random. Finally, the PreOrder treatment implements preordered service. All pairs in which Player B chose Keep in a given round are ranked in descending order of Player A label. The pair whose Player A has the highest label is selected for enforcement with certainty, and all others are not selected. Table 1 outlines the experimental design, and the sample size in each treatment. The unit of observation is an economy, which consists of eight investor-entrepreneur pairs. We collected six economies per treatment.

Table

Description automatically generated

Research Materials

We now describe the research materials used in our instructions and the decision forms.

*“experimental\_instructions\_seqserve.pdf”,*

*“experimental\_instructions\_none.pdf”,*

*“experimental\_instructions\_preorder.pdf”,*

These files contain the instructions that subjects read before the start of the experiment.

*“experimental screenshots.pdf”*

This file contains the screenshots from the experimental software subjects used to make decisions and to get feedback on the outcome of the experiment.

**References**

Bar-Gill, O., & Ben-Shahar, O. (2009). The Prisoners'(Plea Bargain) Dilemma. *Journal of Legal Analysis*, *1*(2), 737-773.

Chemin, M. (2012). Does court speed shape economic activity? Evidence from a court reform in India. *The Journal of Law, Economics, & Organization*, *28*(3), 460-485.

Dari-Mattiacci, G. and G. De Geest (2010). Carrots, Sticks, and the Multiplication Effect.

The Journal of Law, Economics, and Organization 26 (2), 365–384.

Fabbri, D. (2010). Law enforcement and firm financing: Theory and evidence. Journal of the European Economic Association, 8(4), 776-816.

Fiorina, M.P. and Plott, C.R. (1978). Committee Decisions under Majority Rule: An Experimental Study American Political Science Review 72(2), 575-598.

Harrison, G.W. and List, J.A. (2004). Field Experiments. Journal of Economic Literature 42, 1009-1055.

Holt, C.A. and Laury, S.K. (2002). Risk aversion and incentive effects. American Economic Review 92(5), 1644-1655.

Jappelli, T., Pagano, M., & Bianco, M. (2005). Courts and banks: Effects of judicial enforcement on credit markets. *Journal of Money, Credit and Banking*, 223-244.

McKelvey, R. D., & Palfrey, T. R. (1992). An experimental study of the centipede game. *Econometrica: Journal of the Econometric Society*, 803-836.

Nagel, R. (1995). Unraveling in guessing games: An experimental study. *The American Economic Review*, *85*(5), 1313-1326.

Palumbo, G., Giupponi, G., Nunziata, L., & Mora-Sanguinetti, J. S. (2013). Judicial performance and its determinants: a cross-country perspective.

Smith, V.L. (1976). Experimental Economics: Induced Value Theory. American Economic Review 66(2), 274-279.

Smith, V.L. and Walker, J.M. (1993). Rewards, Experience, and Decision Costs in First Price Auctions. Economic Inquiry 31(2), 237-244.