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Fragile markets: An experiment on judicial independence☆

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ABSTRACT

Contract enforcement does not only affect single transactions but the market as a whole. We compare alternative institutions that allocate enforcement rights to the different parties to a credit transaction: either lenders, borrowers, or judges. Despite all parties having incentives to enforce and transact, the market flourishes or disappears depending on the treatment: paying judges according to lenders' votes maximizes total surplus and equity; and a similar result appears when judges are paid according to average earnings in society. In contrast, paying judges according to borrowers' votes generates the poorest and most unequal society. These results suggest that parties playing the role of borrowers understand poorly the systemic consequences of their decisions, triggering under-enforcement, and hence wasting profitable trade opportunities.

1. Introduction

Markets are fragile because contract enforcement has immediate consequences for those who have entered contracts in the past but also has systemic consequences for all future potential contracts. Consider weak foreclosure enforcement. In the short run, it relieves borrowers; in the long run, it hinders mortgage lending and hence is prone to damage total surplus. Field evidence abounds: Field and Torero (2006) and Galiani and Schargrodsky (2010) documented several cases in developing countries and Alston (1984) illustrated the 1930s farm foreclosure moratoria adopted in 25 US states.

Through an experiment, we study third-party enforcement in impersonal exchanges under alternative enforcement institutions. If the party that controls enforcement has a poor understanding of the systemic consequences of its decisions, it may trigger insufficient enforcement, and hence waste exchange opportunities. At the heart of this study lies a question

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about social preferences. Do-gooders may jump in and redistribute the surplus in favor of those in need; or, they may take a cooler approach and consider the long-term welfare of those they want to benefit. Other-regarding concerns applied short-sightedly may cause overall damage to those who are supposedly the beneficiaries of decisions. This argument also involves issues of rationality. Laboratory experiments allow for investigation of these issues.

The experimental treatments we consider represent three institutional arrangements in which different classes of individuals hold the key decision rights. In the "GDP" treatment, we pay judges proportionally to the aggregate income of the economy. In contrast, in the "Lender constituency" and "Borrower constituency" treatments, we pay judges according to how close to the average vote of the constituency class they rule. In all treatments, judges have formal enforcement powers, as they are free to enforce or not, but in constituency treatments it is a different class of subject that controls enforcement. We therefore talk of allocating *enforcement rights* to different classes of subjects: to judges in the GDP treatment,[1] to lenders in the Lender constituency treatment and to borrowers in the Borrower constituency treatment.

We report that simple experimental credit markets where parties interact repeatedly can flourish when enforcement is controlled by lenders or by a third party with an interest in aggregate surplus, but markets dry up when enforcement is controlled by borrowers. This result is a paradox because when borrowers are in control *their* earnings are *lower* than when lenders are in control.

In the GDP and Lender Constituency treatment, judges' enforcement is high and the number of loans is close to optimal. But, when borrowers control judges, enforcement falls below the threshold that would make lending profitable, and very soon no loans take place and the market disappears. In an attempt to appropriate more surplus, borrowers discourage future loans and end up damaging their own earnings. The paradox is that borrowers end up better, in terms of both absolute and relative income, when lenders control judges because lenders encourage enforcement and the economy achieves its full potential.

We explore three possible explanations for this stark contrast in outcomes: other-regarding preferences, bounded rationality, and coordination failures. To this end, the design was extended in two directions. First, we incorporated independent measures of individual rationality and other-regarding preferences that could be related to enforcement decisions. Second, there were design variants where some decision-makers were replaced by robots. In one variant, borrowers were human while lenders and judges were robots; in another variant, judges were human, while lenders and borrowers were robots. The purpose of robot treatments was to simplify the coordination of decisions, remove any possible influences of other-regarding concerns, and retain instead issues of bounded rationality. Although none of the three explanations mentioned above can be entirely ruled out, the evidence suggests that bounded rationality was the most relevant factor in the low performance of Borrower Constituency. We claim that subjects found it difficult to understand the systemic effects of their choices because of cognitive limitations. Given that Borrower Constituency is the most cognitively "difficult" treatment, we have the paradox of borrowers ending up worse off when they are most able to influence the action of judges.[2]

One feature of the study is its focus on impersonal exchange, e.g. transactions where parties do not rely on information about the reputation and solvency of the other party. This type of transaction often relies on the support of institutions, in particular, State enforcement delivered by the judicial system (North, 1990; pp. 34-35, 1991; North et al., 2009). The widespread lack of enforcement in developing economies compels traders to rely on personal exchange, which requires weaker institutional support than impersonal exchange and makes some transactions unfeasible, hence wasting opportunities (de Soto, 2000). The experiment rules out by design the possibility of personal exchange, for instance in the form of relational contracts (Johnson and McMillan, 2002), by hiding subject identifiers. Hence, if impersonal exchange cannot be sustained, markets collapse. This is intended to reflect the crucial role that impersonal exchange plays in economic development. The possibility to engage in impersonal exchange expands market size and hence opens new specialization opportunities, which are essential for economic growth (North and Thomas, 1973; Granovetter, 1985; North, 1990; Seabright, 2004).

Others have studied credit markets experimentally from different angles. Brown and Zehnder (2007) looked at the impact of individual records in relation to access to credit and repayment rates. Sharing information made a difference in one-shot transactions but not in repeated settings. Fehr and Zehnder (2009) showed that relational contracts were effective for the existence and performance of credit markets. They also showed that, in some ways, legal enforcement of repayments was a substitute for relational incentives. Instead, here we study a simpler version of credit markets with no uncertainty in project returns and no possibility of relational contracts. Bohnet et al. (2001) also studied a modified trust game in which failing to return triggers a costly litigation procedure with random ruling. In contrast, in our set-up decisions have no cost but are at the discretion of a human judge.

The paper is structured as follows. Section 2 presents the experimental design. Section 3 presents some theoretical considerations, detailing the different equilibria in both the one-shot and the indefinitely repeated game. Section 4 presents the main results of the experiment, chiefly that when borrowers enjoy enforcement rights they are trapped in an inferior

[1] For simplicity, we talk about "judges", but the members of this class have a position that is also close to that of legislators.

[2] There is evidence that people suffer cognitive failures in different domains (Camerer, 2003). If enforcers suffer similar failures, the allocation of enforcement rights may matter. This concern may seem minor since enforcers are experts, such as judges and politicians. However, experts in other fields also suffer biases (McNeil et al., 1982). Furthermore, some studies find that judges suffer from "anchoring," "hindsight," "overconfidence," "framing" and "representativeness" biases (Guthrie, Rachlinksi and Wistrich, 2001). As for politicians, their possible biases are added to those of citizens (Westen et al., 2006), who ultimately drive the incentives of politicians. Furthermore, it is politicians who design the incentives of judges. Thus, the cognitive dimension of the contract enforcement problem is ultimately defined by the ability of non-expert citizens to understand the problem.