On the External Validity of Corruption Lab Experiments

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Corruption Lab Experiment: Basic Design

- A bribery game can involve 3 subjects:
  - a private firm (the briber)
  - a public official (the bribee)
  - a third player representing the victim of corruption.
- The game typically consists of two stages:
  - In stage 1, the briber chooses whether and how much to offer the official.
  - In stage 2, the official decides whether or not to accept this offer. If the offer is accepted, then the official must decide whether or not to reciprocate by taking an action favorable to the briber.

Why Study Corruption in the Lab?

- Naturally-occurring data are scarce, or do not vary along certain desired dimensions.
- To be able to identify the micro-determinants of corrupt behavior.
- A cost effective wind tunnel to test potential policies aimed at curbing corruption (Dusek et al. 2005 and Abbink 2006).

Some Concerns …

- The stakes in the lab might differ from those in the field.
- The game played in the lab and in the field may be different (e.g. non anonymity).
- The subject pool may be different in the lab and in the field.
- Lab subjects know that their decisions are being scrutinized.
- Lab experiments are typically conducted in developed countries, but understanding and fighting corruption are generally considered crucial for developing countries.

Definition and Importance of External Validity

A Definition of External Validity

- "An experiment result is internally valid if the experimenter attributes the production of an effect B to a factor (or a set of factors) A, and A really is a cause of B in the experimental set-up E.
- Furthermore, it is externally valid ... if A causes B not only in E, but also in a set of other circumstances of interest F, G, H, etc."

  Guala (2002)

Importance of External Validity (1)

Arguably depends on the specific goals of the experiment (Kagel and Roth 1995) :

- "Speaking to Theorists" aims at testing the predictions of theoretical models.
- "Searching for Facts " attempts to establish empirical regularities in situations where economic theories are scant.
- "Whispering in the Ears of the Princes " aims at advising policy makers.

Importance of External Validity (2)

Two types of external validity (Camerer 2011, Kessler and Vesterlund 2011):

- Qualitative external validity implies that the direction of a causal effect generalizes beyond the lab
- While quantitative external validity also requires the causal effect to be of similar magnitude inside and outside the lab

Importance of External Validity (3)

- The issue of external validity is not a concern unique to lab experiments.
- It is relevant for any empirical results obtained from the analysis of data collected in a specific context (Falk and Heckman 2009, Kessler and Vesterlund 2011).
- Each method has its specific advantages and possible limitations.

Assessing External Validity

Assessing External Validity (1)

- "In order to argue that result A cannot occur outside the "artificial" experimental set-up E_1, one must point to a "background" factor K that is not present in E_1, but is at work in some other situation of interest (in the wild).
- One way to test this claim is to construct an experiment E_2 incorporating K as part of its design."

Guala (2002)

Assessing External Validity (2)

- Six factors proposed by Harrison and List (2004) :
  - the nature of the subject pool
  - the nature of the information that the subjects bring to the task
  - the nature of the commodity
  - the nature of the task or trading rules applied
  - the nature of the stakes
  - the nature of the environment that the subject operates in.

Assessing External Validity (3)

Based on the previous factors, Harrison and List (2004) propose to partition experiments into four broad classes:

- A *conventional lab experiment* employs a standard subject pool of students, an abstract framing, induced valuations, an imposed set of rules … and is conducted in a developed country.
- A *framed experiment* is conducted with field context in the commodity, the task, or the information set that the subjects can use.
- An *artefactual experiment* employs non-standard subjects in the laboratory.
- A *natural field experiment* takes place in the field with the subjects unaware that they are taking part in an experiment.

Assessing External Validity (4)

- **Strategy 1: Direct comparisons**

  Compare the results obtained in experiments that vary one or several factors as part of the design.

- **Strategy 2: Indirect comparisons**

  Compare the results obtained across different types of experiments not directly related.

Direct Comparisons

Framing

- The intuitive argument in favor of loaded instructions, is that the moral and ethical considerations, which are likely to affect attitudes toward corruption in the field, may be neutralized with neutral framing.
- Direct comparisons between context-free and in-context experiments suggest that the level of corruption may be insensitive to framing (Abbink and Hennig-Schmidt 2006), but only when subjects can relate directly to the situation presented (Barr and Serra 2009).

Subject Pool

- Alatas et al. (2009) conduct a corruption experiment to compare the behavior of Indonesian public servants with the behavior of Indonesian students.
- Indonesian public servants are significantly less likely to tolerate and engage in corruption than Indonesian students.
- There is no evidence that these differences can be explained by a selection effect. Instead, the authors conjecture that the difference in behavior is driven by the difference in real life experiences accumulated by the two groups of subjects.

Country Effects

- Cameron et al. (2009) conduct the same corruption experiment with university students in Australia and Singapore; and in India and Indonesia:
  - Consistent with the hypothesis that tolerance toward bribery is positively related to daily life exposure to corruption, Indian (respectively Australian) subjects are most (respectively least) likely to engage in corrupt activities.
  - In contrast with this hypothesis, subjects in Singapore are found to be more tolerant toward corruption than subjects in Indonesia.
- Barr and Serra (2010) using a sample of students born in forty different countries, find that a subject's probability to offer and to accept bribes is positively related to the level of corruption in his country of origin.

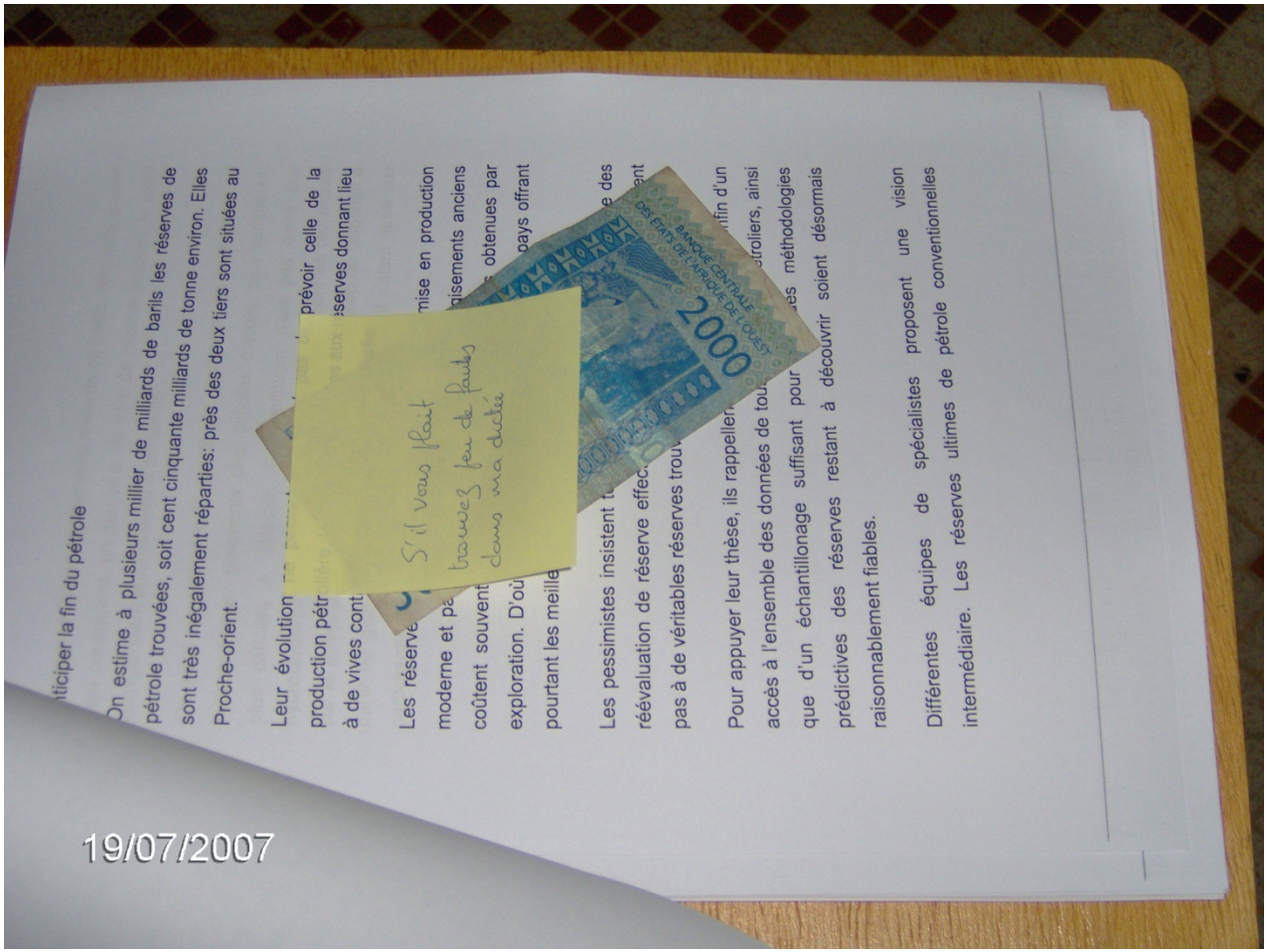
Scrutiny effects: Comparing lab and field

- Armantier and Boly (2012) conducted a lab experiment in Montreal (Canada), a lab experiment in Ouagadougou (Burkina Faso), and a field in Ouagadougou.
- The key difference between the lab and the controlled field experiment is that subjects in the field acted without knowing they were participating in an experiment.

Scrutiny Effects: Design

- The experimental design essentially reproduces a corruption scenario in which a candidate offers a bribe to a grader to obtain a better grade.
- Subjects were asked to grade 20 exam papers. The 11th paper came with a money offer (bribe) and a message saying: “Please, find few mistakes in my exam paper.”
- The frequency with which the bribe was accepted and the number of mistakes the subjects reported for the bribe paper was then recorded.

Bribe in an Exam Paper in the Field…



Scrutiny Effects: Results

- The level of corruption in each of the four treatments is virtually identical in the lab and in the field in Ouagadougou suggesting no “experimenter’s scrutiny”.
- Once observable differences between lab subjects in Montreal and Ouagadougou (e.g. gender, age, grading ability) are controlled for, the direction and the magnitude of several treatment effects are statistically indistinguishable across the two countries:
  - paying higher wages reduces the probability that a bribe is accepted, but also appears to promote reciprocation toward the briber.
  - Female accepters are found to respond to monitoring and punishment by reporting more mistakes for the briber.
  - Doubling the amount of the bribe has no effect in Montreal, while in Ouagadougou, it increases bribe taking and promotes reciprocation.

Indirect Comparisons

Monitoring and Punishment

- Conventional lab experiments suggest that the possibility to blow the whistle lowers the probability to engage in bribery (Serra 2011), but it may be used as a threat to encourage reciprocation (Schikora 2011).
- Banuri et al. (2008) find that:
  - in the U.S., the threat of costly punishment by the victim of corruption lowers significantly the propensity to engage in corruption
  - while the probability to initiate corruption remains virtually unchanged in Pakistan, the Pakistani public officials are found to be less likely to reciprocate after they accept a bribe.

Wages

- Conventional lab experiments suggest that higher wages may curb down corruption, only if the wages are explicitly selected by the employer (Abbink 2005, Jacquemet 2007).
- Barr et al. (2003) also examine whether public servants are less corruptible when they are paid more. They find that multiplying the wage of the public official by three only produces a 30% reduction in resource expropriation.
- Consistent with lab experiments, when set exogenously, the wage paid to public officials has little or no influence on corrupt behavior.

Gender Effects

- Rivas (2008) tests whether women are less corruptible than men. The results indicate that:
  - women offer bribes less often, and when they do, the size of the bribe is smaller.
  - no evidence of gender differences is observed with regards to the propensity to accept bribe.
  - Finally, corrupt women are found to reciprocate less.
- In their one-shot framed experiment, Frank and Schulze (2000) found that the propensity to take bribes is no different for men and women, consistent with Rivas (2008).
- Alatas et al. (2009) that:

– women in Australia are less likely to initiate a corrupt transaction. Moreover, Australian women appear to be significantly less inclined to accept bribe.

– More importantly, none of these gender effects emerge in the experiments conducted in the three developing countries (India, Indonesia and Singapore).

Conclusion

- Some determinants of corrupt behavior are relatively well characterized (e.g. exposure to corruption, culture, gender) across types of experiments. If confirmed, these determinants can be used (e.g. by controlling them econometrically) to facilitate the generalizability of corruption experiments.
- Although not systematic, several treatment effects seem to emerge in all four classes of experiments:
  - Professionals and university students in developing countries generally respond to the same stimuli as university students in developed countries.
  - There is no conclusive evidence that framing a lab experiment with neutral or loaded terms produces different treatment effects.

Conclusion

- These results, however, are in no way definitive. To better establish the external validity of lab experiments on corruption, more direct comparisons are warranted.
- Furthermore, little is known about the empirical relevance of lab experiments to study other forms of corruption in particular “grand” corruption which arguably has a more important economic impact than petty corruption.

THANKS FOR YOUR ATTENTION

a.boly@unido.org