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**Article**

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## Effective anti-corruption policy-making: What can we learn from experimental economics?

By Amadou Boly and Robert Gillanders

### Key Points

- Experimental studies have shown that deterrence (monitoring and punishment) can be an effective anti-corruption policy.
- Even when they themselves stand to lose, policymakers may enact deterrence policies with real teeth...
- ... However, policymakers' legitimacy is crucial: a given deterrence policy is more effective when chosen by an honest policymaker as opposed to a corrupt one.

Corruption is still a serious problem in many countries around the world. For example, in Niger almost 84% of surveyed firms feel that corruption is a major obstacle to their operations according to the World Bank's Enterprise Surveys. It is important to note that this is not just a Sub-Saharan African phenomenon. On average, the problem is worst in the Middle East and North Africa region (57%) and even in high-income OECD economies corruption is perceived to be a significant issue by 14% of surveyed firms. A large literature exists that seeks to document the costs of corruption as a prerequisite for deriving effective anti-corruption policies. Corruption has been shown to be undesirable in terms of development outcomes such as growth [e.g. Mauro (1995)], inequality and poverty [e.g. Gupta, Davoodi and Alonso-Terme (2002)], environmental policy [e.g. Fredriksson and Svensson (2003)], inflation [e.g. Al-Marhubi (2000)] and attitudes to the political system [e.g. Anderson and Tverdova (2003)].

Given the illicit and secretive nature of corruption, researchers interested in uncovering what works in terms of anti-corruption policy-making have increasingly turned to the methods offered by experimental economics, in particular laboratory experiments. The external validity of such experiments is often called into question: are the results obtained in a lab context applicable in the field? Several considerations should be kept in mind. First, qualitative external validity is all that is needed for a lab experiment to be useful. In other words, it is only required that the direction, and not necessarily the magnitude, of a causal effect extend beyond the lab (Camerer 2014; Kessler and Vesterlund, 2014). In addition, there is evidence giving support to the quantitative external validity of lab

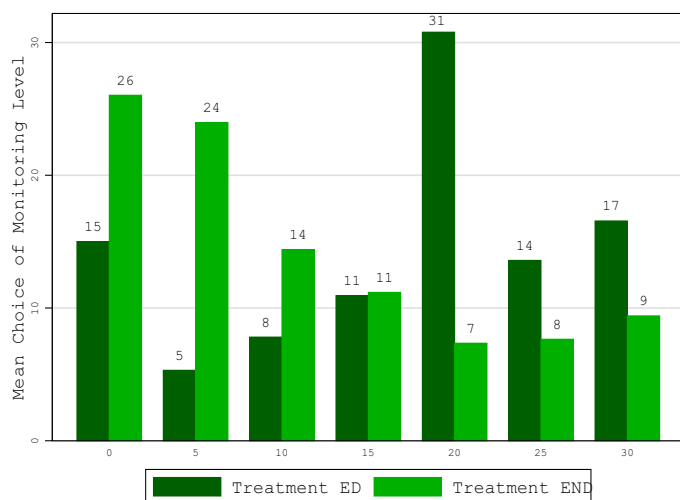
experiments on corruption (Armantier and Boly 2012). Secondly, external validity problems are not unique to lab experiment results as they can apply to all empirical studies that are conducted in a specific context (Falk and Heckman 2009). Third, the nature of corruption makes it difficult to collect data and evaluate anti-corruption policies in a field setting. Laboratory studies can therefore constitute a cost effective "wind tunnel" for anti-corruption policymaking (Abbink, 2006). Finally, when designing an experiment, trying to replicate every aspect of the field in the lab is futile (Friedman and Sunder, 1994, p.11). The focus should be on the simplest lab environment with the most interesting aspects of the field, as when building theoretical models.

This approach to the problem has yielded many important insights. A path-breaking study by Abbink et al. (2002) demonstrated that even a small probability of detection and punishment can serve as an effective deterrent to engaging in bribery. Serra (2012) provides another fascinating contribution. She finds that low-level monitoring is effective when combined with a top-down accountability system. These two papers, and many others, point to a clear role for monitoring and punishment in anti-corruption policy-making. Models of rational criminal behaviour can explain these results. These models assume that an illegal act, such as corruption, is preferred and chosen if its net expected benefit (expected gains minus expected costs) is higher than that of legal alternatives (Becker, 1968). As a result, government authorities can increase compliance with the law by increasing the risks (probability of detection) and/or costs (severity of sanctions) associated with illegal transactions.

The literature to date has mostly allowed the



**Figure 1: Detection probability choices, by contexts**



Sources: Boly and Gillanders, (2016)

likelihood of detection and punishment to be set by the experimenter. In two recent papers we have worked on (Boly and Gillanders, 2016; Boly et al, 2016) this choice is endogenised. Our objective was to better understand the incentives facing policymakers and to see if a policy originating from a corrupt policymaker is less effective than one arising from an honest policymaker. In other words, we are interested in the possibility of a legitimacy effect. While long studied outside economics, legitimacy has received attention only more recently in economics (e.g. Basu 2015; Akerlof 2016). Policymakers are considered legitimate when the public views them as having both the legal and the moral authority to make and enforce laws (Tyler, 2006). Legitimacy enhances compliance with the law even when the likelihood of sanctions is low (Tyler, 2006), and the absence of legitimacy can result in non-compliance with the law or even increased criminal behaviour (Fehr and Rockenbach, 2003).

We operationalise the concept of legitimacy in our experiment by allowing the policymakers who choose the strength of the detection policy to be corrupt. These decisions are then observed by other officials who in turn make their own decision regarding corruption. In our experimental design, there are two types of officials: policymakers and lower-level officials. Both types of officials are entrusted with separate funds to be spent on (different) social projects. Each public official can embezzle some of the funds under his/her control. The policymaker can also choose a probability level (between 0 and 30%) for

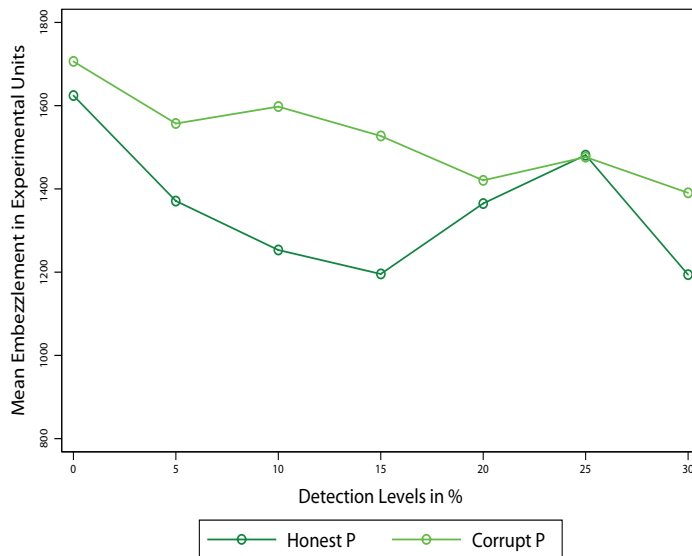
detecting embezzlement, which automatically leads to punishment. An official who is caught embezzling loses both his/her salary and the amount embezzled. This design allows us to study policymakers' incentives to fight corruption and the impact of legitimacy on the effectiveness of their chosen policies.

We vary institutional quality by disaggregating institutional strength along two dimensions – equality before the law and manipulability. Equality before the law (or legal equality) refers to the principle that all persons should be treated the same before the law, irrespective of wealth, social status or political power. Manipulability is simply the extent to which institutions can be manipulated; it acknowledges the fact that elites in developing countries often have the ability to deliberately manipulate institutions to their advantage (Robinson and Acemoglu, 2008). Two main cases are examined. In the first case, the detection probability chosen by policymakers applies to lower-level officials only. This is a case where there is no legal equality between lower-level officials and policymakers and institutions are “manipulable” given that they are chosen by policymakers. This is analogous to a real-world situation in which the judicial and police systems act to serve the governing party. As a result, opposition officials may be jailed while government policymakers are shielded from prosecution, for the same criminal acts. We call the first case “Endogenous and Discretionary” (ED). In a second case, the detection probability chosen by policymakers applies to both officials, reflecting a setting where there is legal equality but institutions are still “manipulable”. We call this second case “Endogenous and Non-Discretionary” (END).

Our results (see Figure 1) suggest that policymakers significantly distort anti-corruption institutions by choosing a lower detection probability when this probability applies to their own actions (legal equality), compared to a setting where it does not (legal inequality). The highest chosen level of monitoring is 31 per cent and the average is 17.21 per cent in the ED treatment and while the highest in the END is 26 per cent and the average is 10.52 per cent. The magnitude of the distortion is considerable, amounting to about 70 per cent (i.e. on average the chosen probability of detection increases from around 10 per cent to around 17 per cent) of the average detection level chosen when the detection probability does not apply to the policy maker. Such a result is unsurprising and reflects one



**Figure 2: Mean Embezzlement of Lower-Level Official - by Detection Level and Policymaker's Type**



Sources: Boly et al., (2016)

of the main difficulties of fighting corruption, which is the neglected fact that “anticorruption strategies are adopted and implemented in cooperation with the very predators who control the government and, in some cases, the anticorruption instruments themselves” (Mungiu-Pippidi, 2006, p.87). Interestingly, policymakers do not choose a zero level of detection on average, and this is true even in a context where detection and punishment apply to them too (see Figure 1). Such a finding is encouraging for those invested in anti-corruption efforts. Even if the policymakers themselves stand to lose, they may still enact anti-corruption policies with real teeth.

Like much of the literature, we find that deterrence matters as higher detection probabilities significantly decrease embezzlement. Crucially, deterrence is more effective in curbing embezzlement when an honest policymaker compared to a corrupt policymaker chooses the level (Figure 2). This finding could reflect a process in which the policymaker is delegitimised in the eyes of the official who is subject to the provisions of his/her policy. This ‘legitimacy effect’ may help to explain why anti-corruption policies fail in countries where the authorities are considered or perceived to be corrupt. In addition to the legitimacy effect, we also find evidence of peer effects in embezzlement as facing an honest policymaker reduces the likelihood and the extent of embezzlement by a lower-

level official significantly. This result relates to studies which show that others’ behaviour can influence an individual’s own attitudes and behaviour, even with regard to criminal behaviour. For example, it has been found that an individual’s tax compliance depends on the behaviour of others in society (Fortin et al., 2007). Other recent work has found that “non-economic” factors matter in terms of determining corrupt behaviour. For example, Makowsky and Wang (2015) demonstrate that the shape of an organisation matters with more tiers leading to more embezzlement. Interesting work that ties into the notion of the “tone at the top” by d’Adda et al. (2014) shows that groups that are headed by dishonest leaders are more likely to cheat.

The institutional framework affects the magnitude and existence of deterrence, peer, and legitimacy effects. When policy makers are exempt from the effects of their own policies (i.e. inequality before the law-ED), we find a strong deterrence effect which does not depend on the behaviour of the policymaker: instead a greater chance of being detected and punished reduces the likelihood and the extent of corruption. In settings in which equality before the law (END) is observed and policymakers are liable to be caught in their own net, we find that detection policies are only an effective deterrent when chosen by honest policymakers.

In summary, experimental economics has helped to give us a better understanding of what works, and why, in anti-corruption policymaking. Simple models of rational criminal behaviour find support in that a greater likelihood of getting caught and being punished leads to less corrupt behaviour. Interested parties in the fight against corruption should keep in mind that the key message of economics is applicable here – incentives clearly matter both in terms of people’s willingness to fight corruption and in terms of their willingness to engage with it. However, the institutional context matters too, and there are many studies that demonstrate that the behaviour of others and the tone at the top are important considerations in the battle to curb corruption. Our findings of a peer effect suggest that creating a culture of honesty amongst the top-rank officials can have knock on, or perhaps trickle down, effects on others within the organisation or society. The observed legitimacy effect adds more weight to the previous argument in that fostering such an honest ethic may result in the same policy being more effective.



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## PEGNet Policy Briefs

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